Certification Memorandum

Completeness and Timely Availability of Instructions for Continued Airworthiness

EASA CM No.: CM–ICA-001 Issue 01 issued 02 May 2017

Regulatory requirement(s): **CS 22.1529, CS 23.1529, CS 25.1529, CS25.1729, CS 27.1529, CS 29.1529, CS 31GB.82, CS 31HB.82, CS 31TGB.82, CS-APU 30, CS-E 25, CS-LSA.30, CS-P 40, CS-VLA 1529, CS VLR.1529, Commission Regulation (EU) No 748/2012, Part 21.A.61, 21.A.107, 21.A.120A, 21.A.449 and 21.A.609**

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Log of issues

Issue	Issue date	Change description
01	02/05/2017	First issue.

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1. Introduction

1.1. Purpose and scope

The purpose of this Certification Memorandum is to provide guidance on the completeness and timely availability aspect ("When") of Instructions for Continued Airworthiness (ICA).

1.2. References

It is intended that the following reference materials be used in conjunction with this Certification Memorandum:

Reference	Title	Code	Issue	Date
AMC 20-20	Continuing Structural Integrity Programme	---	---	---
CS-22.1529	Maintenance manual	CS-22	---	---
CS-2X.1529	Instructions for Continued Airworthiness	CS-23, CS-25, CS-27, CS-29	---	---
CS-25.1729	Instructions for Continued Airworthiness, EWIS	CS-25	---	---
CS-31XXX.82	Instructions for continued airworthiness	CS-31GB, CS 31HB, CS 31TGB	---	---
CS-APU 30	Instructions for Continued Airworthiness	CS-APU	---	---
CS-E 25	Instructions for Continued Airworthiness	CS-E	---	---
CS-LSA.30	Maintenance manual	CS-LSA	---	---
CS-P 40	Instructions for Continued Airworthiness	CS-P	---	---
CS-VLA 1529	Maintenance manual	CS-VLA	---	---
CS-VLR.1529	Instructions for Continued Airworthiness	CS-VLR	---	---
Part 21, Subpart B	Type-Certificates and Restricted Type-Certificates	---	---	---
Part 21, Subpart D	Changes to type-certificates and restricted type-certificates	---	---	---
Part 21, Subpart E	Supplemental Type-Certificates	---	---	---
Part 21, Subpart J	Design Organisation Approval	---	---	---
Part 21, Subpart M	Repairs	---	---	---
Part 21, Subpart O	European technical standard order authorisations	---	---	---

Reference	Title	Code	Issue	Date
Commission Regulation (EU) No 1321/2014 (Part - M, Part - 145)	On continuing airworthiness of aircraft and aeronautical products, parts and appliances, and on the approval of organisations and personnel involved in these tasks	---	---	---

1.3. Abbreviations

A/C	Aircraft
ADOA	Alternative Procedure to Design Organisation Approval
ALS	Airworthiness Limitations Section
AMC	Acceptable Means of Compliance
CofA	Certificate of Airworthiness
CS	Certification specification
CT	Calendar Time
DAH	Design Approval Holder
DAS	Design Assurance System
DOA	Design Organisation Approval
EASA	European Aviation Safety Agency
EIS	Entry into Service
ETSO	European Technical Standard Orders
EWIS	Electrical Wiring Interconnection System
FC	Flight Cycle
FH	Flight Hour
ICA	Instructions for Continued Airworthiness
LOI	Level of Involvement
RTC	Restricted Type Certificate
SB	Service Bulletin
SIL	Service Information Letter
STC	Supplemental Type Certificate
STCDS	Supplemental Type Certificate Data Sheet
TC	Type Certificate
TCDS	Type Certificate Data Sheet
TR	Temporary Revision

1.4. Definitions

Instructions for Continued Airworthiness	Instructions for Continued Airworthiness are the instructions and information that are necessary for the continued airworthiness of the aircraft, engine, propeller, parts and appliances, which must be developed and/or referenced by the Design Approval Holder in accordance with the applicable Certification Basis or Standard.*
Entry into Service	Entry into Service (EIS) is defined in the context of this certification memorandum as the delivery of the first (affected) aircraft, engine or propeller to the owner/operator, or the issue of the first certificate of airworthiness (CofA) of the (affected) aircraft, whichever occurs later.**

*From the ongoing EASA RMT.0252 (MDM.056) rulemaking activity
**Refer to 21.A.61(a), 21.A.107 and 21.A.120A(a)

2. Background

Design approval applicants/holders need to prepare Instructions for Continued Airworthiness (ICA) for the operators/owners as part of the obligations set in 21.A.44, 21.A.109, 21.A.118A and 21.A.451.

21.A.61(a), 21.A.107 and 21.A.120A(a) allow to delay the furnishing of certain parts of the ICA to the operator/owner and any other person required to comply with any of those instructions until EIS or, for 21.A.61(a) and 21.A.120A(a), even beyond EIS for items dealing with overhaul or other forms of heavy maintenance.

In addition, ICA are required to demonstrate compliance with the certification basis as part of the design approval according to 21.A.21, 21.A.103, 21.A.115 and 21.A.437. Furthermore, the approved airworthiness limitation section (ALS) is part of the type design in accordance to 21.A.31.

This means, on one hand, ICA may be delayed until EIS or even beyond, but, on the other hand, the Agency must be satisfied, that sufficient ICA are available at the time of design approval and the remaining ICA will subsequently be provided.

Note: This subject is currently addressed in the EASA RMT.0252 (MDM.056) rulemaking activity which should provide final results in 2018.

3. EASA Certification Policy

The general concepts described herein should be applied, provided there are no dedicated standards for parts of the ICA on the aspect of timely availability (e.g. Early ETOPS Design approval Acceptable Means of Compliance (AMC) 20-6 (validation of maintenance procedures), Electrical Wiring Interconnection System (EWIS) ICA AMC 20-21 or Aging Aircraft AMC 20-20). As generally applicable to any certification requirement, design approval applicants/holders may have also the need to take into account the relevant ICA requirements of applicable validation authority.

Further, it applies if there is no specific request for investigation of parts of the ICA in accordance with 21.A.57, 21.A.120A as part of the Agency investigation and the agreed compliance plan in accordance with 21.A.20(b) and 21.A.114.

The depth of the Agency investigation may vary from no involvement or evaluating a limited sample of the ICA to performing a thorough review of specific parts of the ICA.

Note: This Certification Memorandum does not give further details on the rationale for the Level of Involvement (LOI) EASA may request on the ICA compliance, before granting a design approval.

The policy structure addresses different options for applicants/holders of TC/RTC (section 3.1.), STC (section 3.2.), Minor Change (section 3.3.), Repair Design (section 3.4.) and ETSO (section 3.5.).

3.1. Completeness and timely availability of ICA for Type Certificate (TC) and Restricted Type Certificate (RTC) applicants/holders

An applicant may want to switch between the three options described below. Once the certification programme starts, it may be necessary to modify the initially selected option to accommodate program changes. All such changes shall be coordinated with the agency.

3.1.1. Option 1 – Complete ICA available at time of the design approval (TC/RTC)

a) To minimize the risk of incomplete ICA, the availability of ICA at time of the design approval, especially for changes, is EASA's preferred way for applicants to comply with ICA related requirements.

b) With all ICA available at time of design approval, they are then also all furnished/made available to operator/owner and made available to any other person required to comply with any of those instructions in accordance with 21.A.21(c)4, 21.A.44 and with 21.A.61, but without using the provision to delay certain part of their ICA beyond EIS.

c) Frequently, there is only a short time between the design approval and the EIS, nevertheless, it is acknowledged that applicants/holders may want to apply the option 2 or 3 for a part of their ICA as stated below.

3.1.2. Option 2 – Complete ICA available at entry into service (TC/RTC)

In case the applicant plans for a part of the ICA to be available to the Agency at EIS, the following approach is acceptable:

a) For the ALS, as part of the type design, notwithstanding selection of option 2: The applicant submits the ALS for approval prior to design approval. Any ALS content, which is incomplete, not yet demonstrated, or delayed beyond design approval, requires compensation through an interim limitation to establish compliance within this limitation. The interim limitation is to be published and included in the ALS as a temporary operational limit.

In this paragraph, ALS content is understood as the task method (e.g. a Detailed Inspection), including reference, title and applicability, and associated threshold/interval/life limit. The accomplishment procedure, i.e. how to do the task, is usually described in other parts of the ICA (e.g. in the AMM or NDT manual).

1. A typical application of this policy is when the aircraft 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 limit is assigned and stated in the ALS dependent on the aircraft full-scale fatigue testing progress. The ALS is effectively incomplete beyond this temporary operational limit as the required justification and resulting ICA is not yet available to support operation beyond this limitation.

2. A TCDS notation is not necessary since the product is provided with complete ALS content up to the established temporary operational limit.

b) A compliance plan identifying those parts of the ICA which are only to be provided at EIS is produced, submitted and agreed between the applicant and the Agency prior to the design approval (refer also to para. d) for ICA considered necessary at time of design approval).

c) A commitment is provided to produce, verify and submit (when requested) to the Agency, the relevant ICA prior to EIS. This commitment should be provided in a certification document, (e.g. the compliance plan) and should also be addressed in a more general manner in a DOA procedure for EU holders/applicants in accordance with 21.A.239 and 21.A.263. If the respective DOA Holder has not

exercised before the practice of delayed ICA beyond design approval, in order that the DOA demonstrate this capability in their Design Assurance System (DAS), the required procedural changes need to be addressed via Significant Change to the DAS in accordance with 21.A.247.

d) ICA considered necessary at the time of design approval are provided or made available in a format that adequately defines the data. Furthermore, the way the data is presented at the time of design approval offers the same understanding of the data as in the final published format.

The applicant should agree with the Agency, in a compliance plan, on all ICA necessary at the time of design approval. As indicated under Section 3, the Agency investigation may vary from no involvement or evaluating a limited sample of the ICA to performing a thorough review of specific parts of the ICA.

e) In cases where the Agency has doubts that the applicant/holder can meet the applicable obligations of 21.A.44 to control and support delayed ICA beyond design approval, TC/RTC, but until EIS, the Agency can decide to assign a condition for EIS for non-ALS ICA.

1. As a condition for EIS, a notation should be included into the Type Certificate Data Sheet (TCDS) as a result of these pending issues under the ICA paragraph as follows:

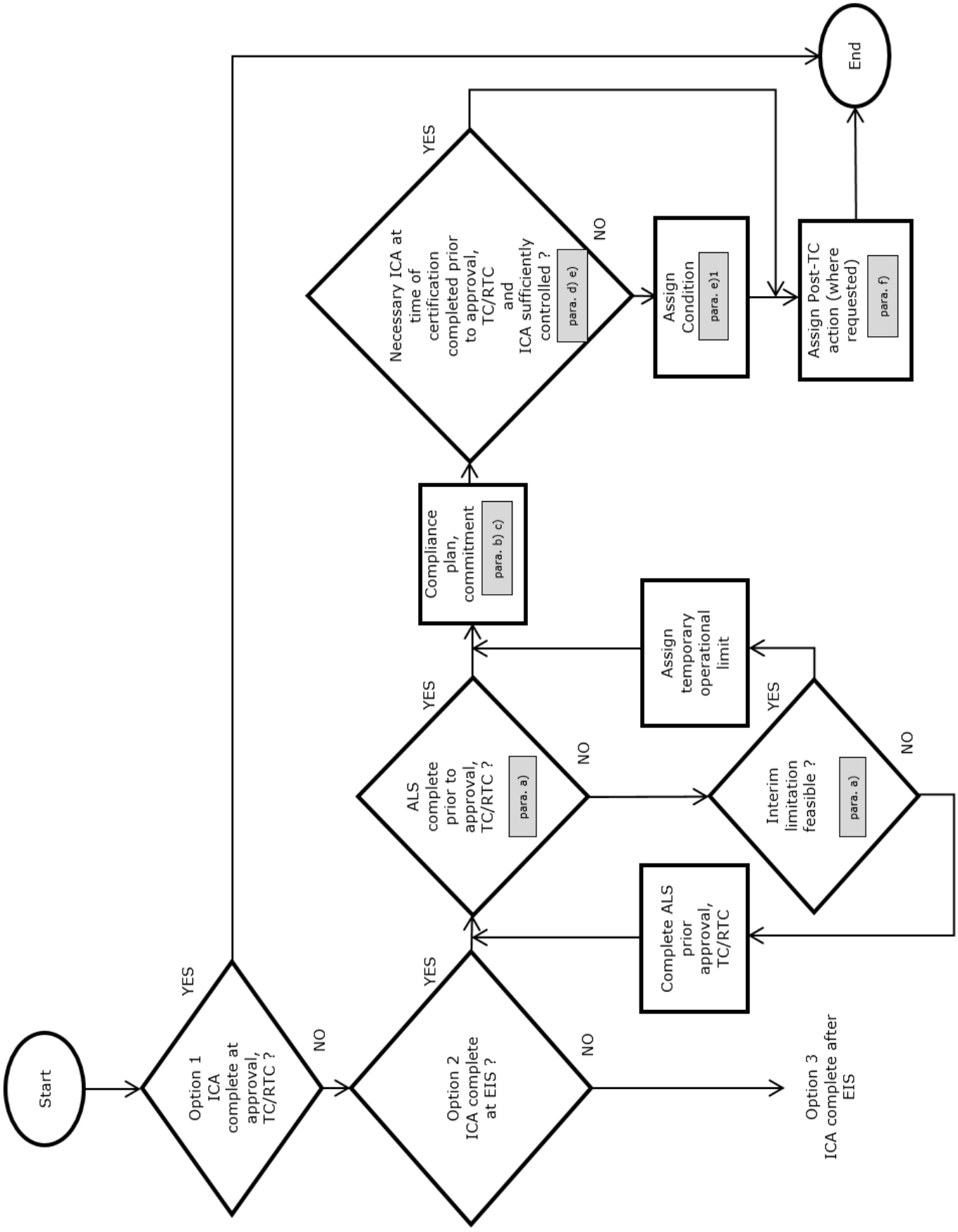
"Note: Complete Instructions for Continued Airworthiness must be furnished per Commission Regulation (EC) No 748/2012, 21.A.61. Contact EASA for information on the status."

The decision to assign a condition may be based on the applicant's performance, e.g. that the applicant has already experienced difficulties providing ICA considered necessary at time of design approval or has failed before on a different project to meet his commitment to complete ICA prior to EIS or that the applicant/holder has no previously experience with the practice of delaying ICA beyond design approval.

f) A Post-TC action is established with EASA to review the ICA status at EIS (when the Agency requests such a review).

g) It is assumed that if all ICA are available at time of EIS to the Agency, they are then also all furnished to operator/owner and made available to any other person required to comply with any of those instructions in accordance with 21.A.21(c)4, 21.A.44 and with 21.A.61, but without using the provision to delay certain part of their ICA beyond EIS. For an EU holder/applicant this should be supported as part of the DOA/ADOA procedure.

Flowchart A, “Completeness of ICA”, Option 1 and 2



3.1.3. Option 3 - Complete ICA available after entry into service (TC/RTC)

21.A.61(a) contains a provision that certain ICA dealing with "overhaul or other forms of heavy maintenance" may be even delayed after EIS. However, although there is no definition of what is meant by "overhaul or other forms of heavy maintenance", the intention of the rule is to provide flexibility to the applicants/holders for long lead ICA of a scheduled nature.

In case the applicant plans for a part of the ICA to be available after EIS, the following approach is acceptable:

a) The ALS, as per Option 2 a)

b) A detailed compliance plan identifying those parts of the ICA that are to be provided prior to and after EIS. For ICA made available after EIS, the plan should account for when the ICA are needed. 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:

   1. The majority of the ICA are of an unscheduled nature, therefore these items should be available at EIS at the latest.

   2. Consideration should be given to the fact, that a number of tasks are used both for scheduled maintenance 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).

   3. For ICA to be made available after EIS, the detailed plan should contain threshold(s) controlled by the applicant/holder, stating the maximum value in flight hours (FH)/ flight cycles (FC) or calendar time (CT), or a combination as applicable, by which point the delayed ICA should be made available.

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

   5. Information on the format in which the delayed ICA after EIS will be made available on time (e.g. regular Revisions or Temporary Revisions (TRs) or service information (SBs, SIL, etc.).

c) A written procedure/programme that ensures a detailed plan is produced and is implemented in the organization, in order to ensure the timely availability (to operator/owner and any other person required to comply with any of those instructions and to the Agency, if involved and when requested). For an EU holder/applicant this should be part of the Design Organization Approval (DOA) procedure in accordance with 21.A.239 and 21.A.263.

d) A commitment is provided to produce, verify and provide the relevant ICA in accordance with the detailed plan. This commitment should be provided in a certification document, (e.g., compliance plan) and should also be addressed in a more general manner in a DOA procedure for EU holder/applicant in accordance with 21.A.239 and 21.A.263. If the respective DOA Holder has not exercised before the practice of delayed ICA beyond design approval, in order that the DOA demonstrate this capability in their Design Assurance System (DAS), the required procedural changes need to be addressed via Significant Change to the DAS in accordance with 21.A.247.

e) ICA considered necessary at time of design approval, as per Option 2 d).

f) In cases where the Agency has doubts that the applicant/holder can meet his obligations as set in 21.A.44 to control and support delayed ICA, the Agency can decide:

   1. For ICA delayed until EIS, to assign a condition/a notation for EIS to be included into the TCDS as a result of these pending issues under the ICA paragraph, as per Option 2 e) 1.

   2. For ICA delayed after EIS, to assign an interim limitation to be published and included in the ALS as a temporary operational limit, also for non-ALS ICA, to compensate for the delayed

ICA. 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 performance, e.g. that the applicant had already difficulties to provide ICA considered necessary at time of design approval or has failed before on a different project to control and support delayed ICA or that the applicant/holder has not exercised before the practice of delayed ICA beyond design approval.

g) A Post-TC action is established with EASA to review the ICA status regularly, when the Agency request such a review, taking into account DOA activities.

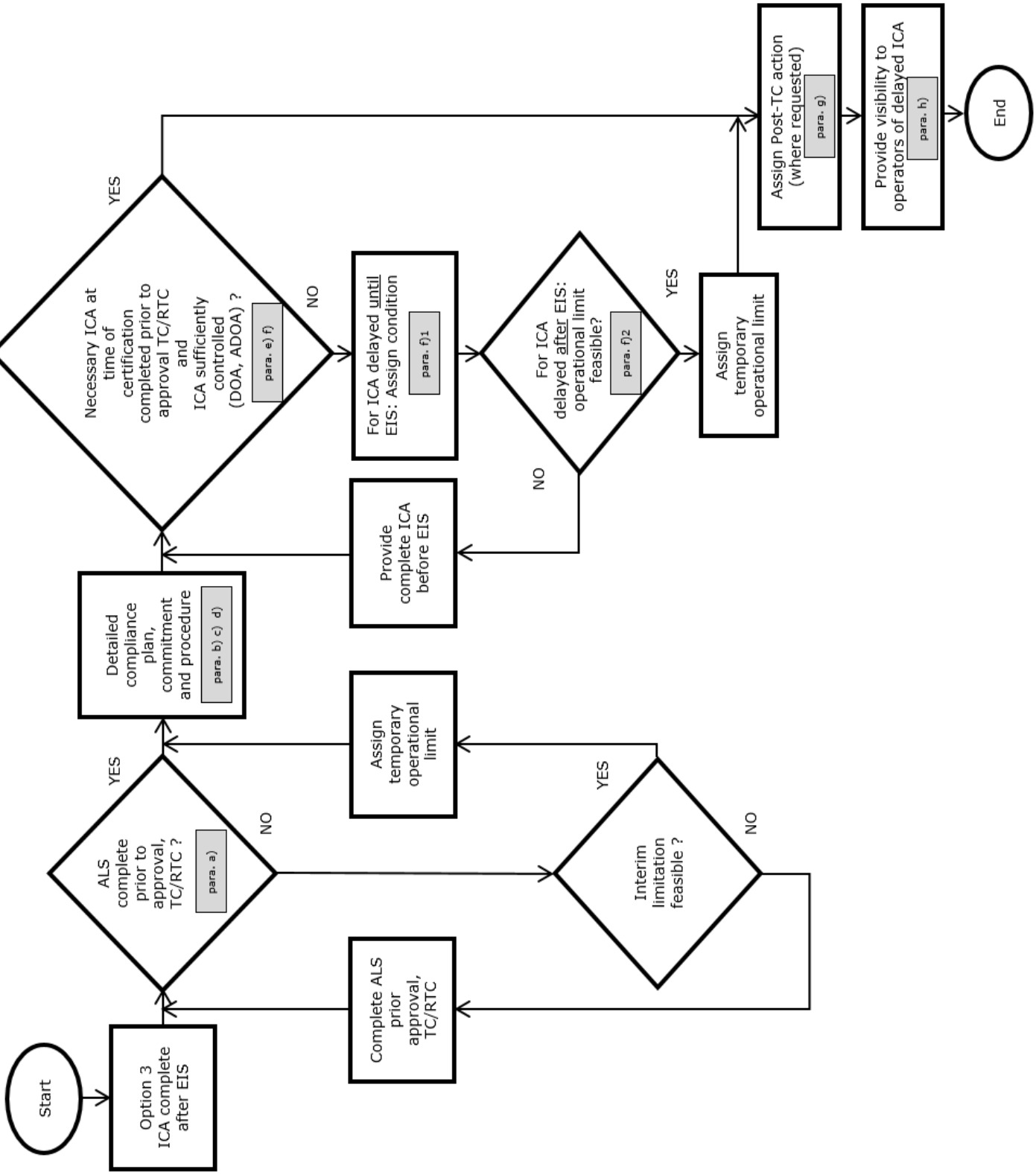
h) An applicant/holder should provide visibility of delayed ICA beyond EIS to the operator/owner and any other person required to comply with any of those instructions. This can be achieved by providing this information e.g. on a website or in a document, like MPD, AMM, preferably in the principal ICA manual. This visibility information is considered then ICA information itself.

i) It is assumed that for those ICA being available at time of EIS to the Agency, that they are then also furnished to operator/owner and made available to any other person required to comply with any of those instructions in accordance with 21.A.21(c)4, 21.A.44 and with 21.A.61 until EIS, too.

This is in order to satisfy the Agency that such a delayed publication will not have an adverse effect on the continuing airworthiness of any individual aircraft.

To allow the timely review and incorporation of a delayed part of the ICA (refer also to Regulation (EU) No 1321/2014 and its requirements (Part-M/Part-145) related to ICA) by the owner/operator (and any other person required to comply with any of the terms of those instructions), EASA considers that delayed ICA should typically be made available 2 years before the actual ICA has to be used, when using normal revisions as a format. However, shorter margins may be acceptable, provided the format used ensures the prompt notification of the availability of the delayed ICA or the ICA itself, but should not be less than 1 year before the ICA has to be used.

Flowchart B, “Completeness of ICA”, Option 3



3.1.4. Completeness and timely availability of changes to ICA (TC/RTC)

21.A.61(b) regulates the distribution of changes to ICA required from the TC/RTC holder. Those changes to ICA could result from the design change process (minor and major changes), service experience, corrections and others.

For an EU TC/RTC holder/applicant, a programme showing how changes to ICA are distributed is part of the design organization (e.g. DOA holder, AP to DOA holder) procedure(s).

For changes to ICA triggered by design changes, typically these procedures follow the same principles as available for TC/RTC, option 1 to 3, however, taking into account relevant privileges, e.g. that a DOA may approve minor changes in accordance with 21.A.263(c)2.

3.2. Completeness and timely availability of ICA for Supplemental Type Certificate (STC) applicants/holders

The principles of the 3 options described in this certification memorandum for TC/RTC are also applicable to STC.

Therefore refer to para. 3.1. of this certification memorandum "Completeness and timely availability of ICA for Type Certificate (TC) and Restricted Type Certificate (RTC) applicants/holders", with the following adaptations:

- "ICA" should read "associated variations to ICA"
- The "Airworthiness Limitations Section" should read "Airworthiness Limitations Section variation (if necessary)".
- "TCDS" should read "STC (or STCDS in exceptional cases)"
- The condition *"Note: Complete Instructions for Continued Airworthiness must be furnished per Commission Regulation (EC) No 748/2012, 21.A.61. Contact EASA for information on the status."* should read

  "Note: Complete Instructions for Continued Airworthiness must be furnished per Commission Regulation (EC) No 748/2012, 21.A.120A. Contact EASA for information on the status."
- 21.A.115 and 21.A.118A should be referred to instead of 21.A.21 and 21.A.44.

Further, consideration should be given to the fact that an applicant/holder for a STC may not have the same capability of controlling and supporting delayed ICA after EIS as a TC/RTC applicant/holder.

To minimize the risk of incomplete variations to ICA, EASA will normally insist on ICA for STCs being made available prior to EIS, at the latest (para. 3.1.2 of this certification memorandum, option 2).

Further, the availability of ICA at time of the design approval (para. 3.1.1 of this certification memorandum, option 1) for STCs, is EASA's preferred way to comply with the requirements.

3.3. Completeness and timely availability of ICA for Minor Change applicants/holders

As per 21.A.91, it is not expected that a Minor Change introduces any form of overhaul or other forms of heavy maintenance. Therefore, there is no provision for Minor Changes in 21.A.107 to delay ICA beyond EIS for items dealing with overhaul or other forms of heavy maintenance. Further, consideration is given to the fact that an applicant/holder for a minor change may not have the same capability of controlling and supporting delayed variations to ICA after design approval as a TC/RTC/STC applicant/holder. 21.A.107 regulates ICA required from a minor change approval applicant/holder, not being the TC/RTC/STC holder of the product the minor change is applied to.

To minimize the risk of incomplete variations to ICA, the availability of the final variations to ICA at time of the design approval of the change is the expected way for applicants to comply with the requirement.

a) At time of approval of the minor change, all associated variations to ICA are produced, verified and, in case the Agency is involved, are provided or made available to the Agency, if requested.

b) It is assumed that if all associated variations to ICA are available prior to approval of the minor change, they are then furnished to operator/owner and any other person required to comply with any of those instructions at EIS the latest, in accordance with 21.A.107.

3.4. Completeness and timely availability of ICA for Repair Design applicants/holders

21.A.449 (a) includes currently two provisions to delay ICA beyond return to service. In support of 21.A.437 and GM 21.A.437, for repair design approvals, AMC 20-20 explains a staged process for damage tolerance assessment of repairs after the repaired aircraft returns to service and acceptable timelines for determination and delivery of the associated inspections. Therefore, completeness and timely availability of ICA for Repair Design is not further elaborated in this certification memorandum.

3.5. Completeness and timely availability of ICA for ETSO

This Certification Memorandum does not give further details on the completeness and timely availability of manuals, which need to be made available to users/DAHs in accordance with 21.A.609, to EASA at time of authorization or/and as part of an investigation, before granting an authorization in accordance with 21.A.606. However, this subject is planned to be addressed in the EASA RMT.0252 (MDM.056) rulemaking activity.

3.6. Who this Certification Memorandum affects

All Design Approval Holders/Applicants.

4. Remarks

1. Suggestions for amendment(s) to this EASA Certification Memorandum should be referred to the Certification Policy and Safety Information Department, Certification Directorate, EASA. E-mail CM@easa.europa.eu.

2. For any question concerning the technical content of this EASA Certification Memorandum, please contact:

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