EASA
European Union Aviation Safety Agency

Industry questions
EASA answers

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STC WORKSHOP

May 16th/17th 2019

Your safety is our mission.

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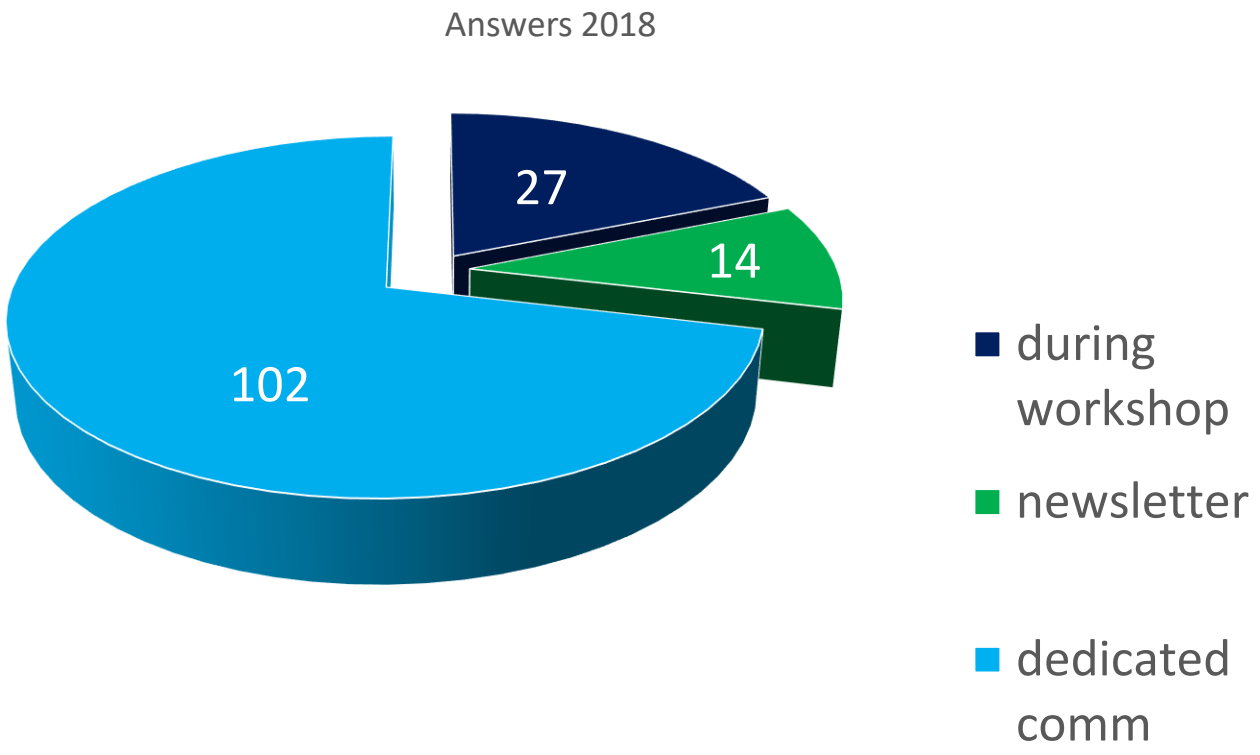
Your questions

- Number of questions from 2018



Publication

- Consolidated list of answers

- On EASA website
- Dedicated message to all DOA organisations

- Target date Sept 2019

Preview - topics

Level of Involvement

Additive Manufacturing

Avionics Mandate

EASA Processes

International cooperation

Lithium Batteries

Operational suitability data

Continued Airworthiness

SEPIAC

Preview – Additive Manufacturing

- Does EASA have a Group/Team who can work to develop the processes to qualify additive manufacturing parts?

- The appendix 1 of the CM-S-008 does contain a list of technical panel related contact points.

Preview – Additive Manufacturing

- Isn’t there a difference between monolithic materials Vs sandwiched Composite materials?
- Of course there is a difference. In terms of various manufacturing processes as well but when we consider it from its layer by layer build-up manufacturing process, it’s also an additive manufacturing process. This was the main intent of considerations within the presentation. For both composites we have also clear interfaces between one and the next layers. Of course there is a strong difference in shear force capabilities which are mainly to be expected much lower for sandwich composites.

Preview – Additive Manufacturing

- Do you consider Rapid Prototyping as Additive Manufacturing?
- Rapid Prototyping is definitely additive manufacturing but it was actually just the beginning of this technology:

initially there was no concern on the statistical material properties. Rapid prototyping was being used for manufacturing of sophisticated moulds for castings or for non-critical non-loaded parts to fit into prototype designs. For serial parts production and also going from non-loaded to critical loaded parts, much more stringent requirements for material properties and manufacturing process stability will have to be fulfilled.

Preview – Avionics Madate

- ADS-B out: there are rumours saying ADS-B Out mandate could be postponed to 2025?
- As a result of an assessment of a number of issues associated with the implementation of COMMISSION IMPLEMENTING REGULATION (EU) No 1207/2011 (known as the SPI regulation) the Agency proposed a number of possible rectifications, in particular a possible transition for aircraft until 2025. It must be noted that no proposal to change the basic date for the carriage of Mode S and ADS-B equipment with European Airspace as of 7 June 2020 has been made and as such this compliance date in force and applicable.

Preview – Avionics Mandate

- How can we identify the ops capability of the installed systems so that the operator can get the OPS SPEC amended with the capability? Identify RNP or PBN Doc.?

- The AFM(S) proposed by the TC/STC holders should normally contain statements addressing the navigation operational capabilities demonstrated during the airworthiness approval.

FAA AC 20-138D Change 2, Appendix 5, provides some examples.

Preview – Avionics Mandate

- How can we identify the ops capability of the installed systems so that the operator can get the OPS SPEC amended with the capability? Identify RNP or PBN Doc.? (continued)

3/28/14 AC 20-138D
Appendix 5

A5-2. Sample AFM(S)/RFM(S) PBN Capabilities and Qualification Basis.

Section II Operating Limitations **MODEL XXX**

NAVIGATION OPERATIONAL CAPABILITIES

The navigation equipment as installed has been found to comply with the requirements established for the following navigation specifications:

Navigation Specification	Operational Requirements/ Authorizations	Required Equipment	Reference Guidance
Oceanic and Remote Areas of Operation (Class II Navigation).	GNSS FDE availability must be verified prior to flight. Maximum predicted FDE unavailability is 25 minutes.	Two *<insert name>* installed systems, operating and receiving usable navigation information from each of the dual GNSS sensors (or one navigation	Meets the applicable requirements of AC20-138D, AC90-100A, AC91-70, FAA Order 8400.33.

Preview – International Cooperation

- Regarding EASA/FAA TIP rev 6: Is additive manufacturing still considered „new technology“?

- Yes

Preview – International Cooperation

- Regarding EASA/FAA TIP rev 6: classifying a change as major or minor. Whose classification is this - the Certifying Authority or the Validating Authority, since the classification procedures differ?
- Classification is the Certifying Authority (CA) responsibility and must be accepted by the Validating Authority (VA) .
- The applicant shall classify the change (minor/major) according to the applicable regulatory framework for its design organization. This means that a DOA (EU) shall classify changes according to EU 748/2012 Annex 1 (Part 21).

Preview – International Cooperation

- If the change to STC is Basic and does not require a change by CA to STC, how does the operator/CAMO know the change is directly accepted?
- In a case of a basic major change, the CA will update the STC: there is no case for which a major change will not lead to modification of the STC

Preview – International Cooperation

- If the change to STC is Basic and does not require a change by CA to STC, how does the operator/CAMO know the change is directly accepted? (Continued)

- IF the aircraft manufacturer is the certificate holder, basic major changes are not issued by the VA.

The VA approval of the change indicating that there is no change to the TC/TCDS makes it acceptable to the CA.

- IF a non-TC holder is defining a basic major change to an STC, a new certificate will always be issued in the frame of a streamlined validation process

Preview – International Cooperation

- Can a US manufacturing organisation use an EASA minor change as the means to apply to the FAA for a 'Request for Conformity'& permit release of parts on a 8130-3?

- The FAA has launched an exemption process for extending the scope of approval of manufacturing organisation to the production of design approved by EASA only

Preview – International Cooperation

- Are there FAA fees to pay for STC validation?

- The FAA does not charge any fee for validation

Preview – Continued Airworthiness

- How to keep contact with POA organisations? What is expected from DOA on top of providing mail address and establishing a DO/PO agreement?

- The DOA is expected to be in contact with the POA producing parts for the STC in case of multiple installations. Example could be metallic/composite structure for antenna installations.
- It is obvious that the POA must inform the DOA in case of quality escapes etc. while the DOA must keep the POA informed if approved production drawings are changed.

Preview – Continued Airworthiness

- The CAMO has to evaluate the cumulative effect of many modifications. Does the DOA have to, therefore, provide the CAMO with Safety Assessment data?

- The determination of a cumulative effect must be made within the justification of flight safety that is based upon the specific configuration. With that in mind, the CAMO will not evaluate the combined effect but rather assess conformity to the approved condition.

Preview – Continued Airworthiness

- The CAMO has to evaluate the cumulative effect of many modifications. Does the DOA have to, therefore, provide the CAMO with Safety Assessment data? (continued)

- The applicant for a flight conditions approval may be asked to provide a safety assessment to the approving organisation.
- When an STC is installed, the installer is obliged to determine possible incompatibilities of the intended installation with other design that may already be installed. In such cases, the CAMO may need to contact the DOA to get further advice or need approved changes to the installation instructions.

Preview – Continued Airworthiness

- When did the community get information about the reported IORS? Without a summary of the reports, we will not have any positive impact to our design.

- This is about the benefit of IORS to reporting organisation, e.g. when findings are made that affect multiple products and are independent from an individual occurrence for which the reporting organisation would receive feedback automatically.
- Conclusions become visible to all when EASA issues Safety Information Bulletins about certain technical subjects.

Preview – Processes

- What are the EASA minimum prerequisites for DOAs to process and approve minor design changes?
- *In order to be able to process and approve minor changes to the type design, the design organization must have at least the privileges 21.A.263 (c) 1 (classification) and 21.A.263 (c) 2 (approval of minors) in its TOA. It is fundamental that the aforementioned privileges are associated to the scope areas concerned by the minor changes.*

Preview – Processes

- Where can we find proper Form20 (Permit to Fly) and Form18 (Flight Conditions) templates?
- *Please refer to the already existing FAQ no. 20123 published on EASA for further information about Form 18 (a,b) and Form 20 (a,b).*
- *Regarding where to find these forms:*
  - *Form 18a → Created by the design organisation*
  - *Form 18b → Available in the EASA Application Forms section*
  - *Form 20a → Provided by respective NAA*
  - *Form 20b → Created by the design organisation*

Preview – Processes

- If a piece of equipment similar to the G5 “Garmin electronic flight instrument ” is requested to be installed, how should the approval process be initiated?
- *If you are a design organization, please refer to the FAQ table of design change classification (for General Aviation only) to get guidelines in the decision process to classify an avionic design change as minor or major.*

FOR GENERAL AVIATION ONLY — FAQ table of design change classification (Minor / Major)
Issue: 2 — Date: April 2013

The following table provides typical examples where an applicant or DOA holder gets help in the decision process to classify a design change as Minor or Major. As this is a living document, changes can be made without expressive notice. Operational aspects are not subject of this table, e.g. change from VFR to IFR.

Abbreviations are explained at the end of the table.

Subject	Classification	Restriction/Assumption	Specific Guidance Material	Notes/Boundaries/Test requirements/Documentation
GPS based FMS **e.g.** **GNS 3xx/4xx** **GNS 3xxW/4xxW** **UNS**	**Minor**	Single Installation no new functionality or technology not linked to Auto Pilot BRNAV only SBAS must be disabled No embedded TAWS VHF Comms not affected.	AMC 20-4 AMC 20-5 FAA AC 20-138A	for additional installation only, or VFR operation upgrade of operational rule need separate approval BOUNDARIES: • SINGLE SYSTEM • FOR SITUATIONAL AWARENESS ONLY • NOT TOO COMPELLING TO BE USED AS PRIMARY • MEANS OF NAVIGATION AND/OR TERRAIN AVOIDANCE

Preview – Processes

- When a TC holder refuses to share the pre mod approval data and we own the design & certification data, could we apply for an EASA STC once the aircraft is with operator?

- The ownership of the aircraft is not directly impacting considerations whether an individual aircraft can or cannot be modified through an EASA change. The fact that the Design Organisation must assess the interfaces of their change with the pre-mod configuration as applicable applies in general. In some cases there is no alternative to a commercial agreement with the TC holder .

Preview – Processes

- When is it scheduled to have a CM replacing the CRI for oxygen systems?
- There is no target date for this action. EASA reviews the CM priorities at regular intervals and published a list of all released and planned CMs

Rev 9 March 2019

Overview Planned - Under development - Final CM

Technical discipline / subject category	CM Number	Issue	Rev.	Title	Reg. material	Status
Powerplant Installations and Fuel Systems	CM-PIFS-013	01	00	The integrity of nickel powder metallurgy rotating critical parts for gas turbines	CS-E 515	Final CM & CRD published
Powerplant Installations and Fuel Systems	CM-PIFS-014	01	00	Fire protection - Burner type selection for fire testing	All CS rules where fire withstanding compliance demonstration capability to an engine/APU fire threat is performed using testing	Under development
Powerplant Installations and Fuel Systems	CM-PIFS-015	01	00	Fuel Tank Drop Test as per 27.952(a) or 29.952(a)	All CS rules where fire withstanding compliance demonstration capability to an engine/APU fire threat is performed using testing	Under development
Rotor and Transmission	CM-RTS-001	01	00	Large Helicopter Main Gearbox Certification Requirements	CS-29	Final CM & CRD published

Preview – Lithium Batteries

- What is the EASA position on Lithium batteries installed as "loose parts"? For example Lithium batteries installed in portable IFE (with multiple cells <100Wh) ?
- Loose parts are addressed by EASA SIB 2016/08. In the SIB, the Agency reminds operators of the need to obtain from their competent authority an authorisation when the limits are exceeded. To calculate the limits, the SIB establishes that the addition of Wh of all the batteries powering the device should be considered instead of that of each individual battery.

Preview – Lithium Batteries

- Why does the current Special Conditions CRI for non rechargeable batteries not explicitly state that it would be applicable to Batteries which were qualified to the ETSO C142 Standard?

- Previous Means of Compliance proposed:

Due to missing a more appropriate standard, **ETSO C-142a** + **Risk assessment at A/C level** was an acceptable MoC to the SC contained in the CRI.

Preview – Lithium Batteries

- Why does the current SC for non rechargeable batteries not explicitly state that it would be applicable to Batteries which were qualified to the ETSO C142 Standard? (continued)
- Current Means of Compliance proposed:

Minimum Operational Performance Standards (MOPS) for Non–Rechargeable Lithium Batteries DO-227A + risk assessment at A/C level (limited to Special Conditions 3, 4, 5 & 6) is an acceptable MoC to the Special Conditions 1 to 6 contained in this CRI.

ETSO C-142 B referring DO-227A material to be published in 2019.

Preview – Level of Involvement

- How will the Agency notify the acceptance of the certification basis?

- It could be made in different ways depending on the size of the project, the forms used by the applicant and other circumstances. In general, any traceable way is acceptable (e.g. emails, formal letters, specific CAI etc). In the future SEPIAC will have a feature to trace this acceptance.

Preview – Level of Involvement

- Is there a maximum timeframe considered for EASA to accept a Certification Program and further for the acceptance or adjustment to the LOI proposed by the DOA?

- There is no maximum timeframe for EASA to accept a Certification Program and notify its LOI, nor to update it on the basis of new information impacting the risk previously assessed. Nevertheless, the Agency is committed to reduce this timeframe as much as possible: we strive to review documents (including certification plans) within 30 days, which we achieve on average.

  (ref also to 'Code of good administrative practice for the staff of the EASA in their relations with the public', ED Decision 2009/078/E).

Preview – Level of Involvement

- Is it not possible to consider the number of Compliance Demonstration Items (CDIs) as a criterion before starting with LOI. For instance projects with less than twenty CDIs. Should the CDI list be defined and sent to EASA?
- No, the EASA LOI decision has to be based on a risk-assessment and the number of CDIs does not have a direct influence on the risk. Additionally, the number of CDIs could be very small (e.g. containing a single document) or very large (e.g. containing the whole project) depending on the approach selected by the applicant.

Preview – Level of Involvement

- How will the privilege of submitting compliance documents without further involvement be modified by the LOI process?

- The point 21.A.263 (b) will be cancelled by the next amendment to Part-21 (ref to Opinion 07/2016).
- According to the new concept, any application for major change/repair, STC, APU ETSO or TC submitted to the Agency shall be complemented by a risk-assessment and a LOI proposal prepared by the applicant. After acceptance of the Certification Program/LOI, data and activities not included in the EASA LOI will be accepted without further verification..

Preview – Level of Involvement

- Regarding the tests, is it possible to submit only the plans and have the report validated by the CVE without EASA checking if all the tests are "passed"?

- The test reports shall be submitted to the Agency only if they have been retained as part of the EASA LOI.

Preview – Level of Involvement

- Regarding the tests, is it possible to submit only the plans and have the report validated by the CVE without EASA checking if all the tests are "passed"? (continued)
- Nevertheless, regardless of the LOI determination, it must be noted that the amended Part-21 will contain a new provision requiring applicants to inform the Agency in case of unexpected difficulties encountered during demonstration of compliance (ref to Opinion 07/2016 point 21.A.20(b)):

a significant failure or finding resulting from the tests performed as per points 21.A.33 or 21.A.35 is to be notified to the Agency..

Preview – Level of Involvement

- The LOI risk analysis is a transfer of the Agency workload. Could applicants expect to have a reduction of the STC fees in the future ?

- The risk-assessment to be performed in order to propose an LOI is not a transfer of Agency workload and in consequence no reduction of STC fees is expected.

Preview – Level of Involvement

- Has the LOI definition for an STC a direct impact on the STC fees?

- No, the new LOI concept does not have an impact on the fees.

Preview – Level of Involvement

- Is the overall DOA performance indicator based on feedback of DOA TL and PCM? Panel feedback per panel, or on average??

- The overall DOA performance takes into account feedback from DOA TLs (surveillance activities), PCMs and experts (projects).
- The performance at panel level mainly takes into account feedback from PCMs and experts. Additionally, DOA TLs feedback can also be considered for performance at panel level.
- The Agency is currently working on an evolution of the DOA performance system.

Preview – Level of Involvement

- What is the minimum amount of 'DOA Holder Performance' to not be always at the bottom of the scale in the matrix?
- To obtain a higher DOA performance, the applicant should strive to obtain a higher rating by EASA experts and PCMs during certification projects considering:
  - Project planning and communication
  - Applicable requirements and means of compliance
  - Compliance documents
  - If the DOA is newly established, or in the case of a very low number of applications submitted to EASA, the DOA performance will be assessed as unknown/low.

Preview – Level of Involvement

- Do we have to document the justification of the LOI selection and submit it with the Certification Program to EASA as a supporting document?

- The applicant is requested to provide a proposal for the risk assessment of all the CDIs as part of the Certification Program. Where not obvious or where the applicant thinks it is necessary to explain the proposal, a justification should be submitted.
- Each DOA has the freedom to select the most adequate physical document structure for the certification program which, has to consist of the points listed under 21.A.15(b).

Preview – Operational Suitability Data

- Can a "Nice to have" OSD change be classified as Major ? If yes, do you have an example ?

- The “nice to have” OSD changes, often referred to as stand-alone changes need to be classified as any other changes to the type certificate, as part of the certification process. The guidance provided in Part-21 GM to 21.A.91 paragraph 3.5 provides additional details regarding classification criteria for the various OSD constituents.

Preview – Operational Suitability Data

- How should an STC holder handle TC holder (TCH) MMEL rework to remove TGL26 "As required by regulation" impacting the S-MMEL?
- Items covered in the TCH MMEL reflect the configuration installed on the aircraft by the TCH and may be updated through revisions process. In particular, to retain the level of relief on some items previously indicated as “As required by regulations” in the JAA/EASA MMELs, TCH have updated their OSD MMEL.

Preview – Operational Suitability Data

- How should a STC holder handle TC holder (TCH) MMEL rework to remove TGL26 "As required by regulation" impacting the S-MMEL? (continued)
- GM to ORO.MLR.105 indicates the Operators are allowed to use the CS-MMEL guidance only if no OSD MMEL exists for the aircraft type. Should the level of relief not be applicable to the STC installation applied for approval to EASA after 19 December 2016, the STC holder should address the necessary changes to the OSD MMEL through a supplement creation or update

Preview – SEPIAC

- Will SEPIAC include provisions to deal with documents under US export control regulations?
- SEPIAC (and the Cloud environment running it) was originally thought up for civil use. The extension for export control classified documents EAR / ITAR was deemed appropriate by the dedicated EASA Working group.

Preview – SEPIAC

- For applicants, it is difficult to see which documents have been uploaded, reviewed or validated by PCM or EASA panels. Sepiac is a good idea but needs improvements

- Sharepoint offers the “Alerting systems” where every user can set-up notifications on files or libraries. In addition, the status metadata provide an indication of the review status and the new Project dashboard introduced with Release 2 allows users to see the global status panel by panel. Future releases will introduce Workflows which would allow a more punctual review/approval status for documents.

Preview – Initial Airworthiness

- Who is responsible for closing the project in SEPIAC?

- The EASA PCM makes the decision to close the project. The technical closure is performed after communication with the PCM by the SEPIAC team

That´s all for today!

Your questions fuel our improvement efforts!

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End slide

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