



EASA


European Aviation Safety Agency

SEASONAL TECHNICAL COMMUNICATION



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Dear Readers,

The ultimate EASA mission is Aviation Safety.

The year 2017 has been the safest year in the history of commercial airlines. EASA successfully contributes to this thanks to the synergic co-operation of all the aviation safety community at a global level and also because we are supported by an extremely committed European and International Aviation Industry.

When on the 31st of July 2018 an airplane with 103 people on board overshot the runway in Mexico City and burst into flames, even if the aircraft was destroyed, there were no fatalities: 2 passengers were seriously injured and 83 walked out with minor injuries. Within minutes, the pictures were transmitted around the world on all traditional and social media channels, reporters/commentators were literally declaring a “miracle”, as so many times before.

We, the aviation safety community, know that those 103 survivors are actually not the result of a miracle, they are the outcome of a very solid, thorough and extremely professional work made every day by the Safety Aviation community.

First we ensure that the main fuselage remains intact after the impact. The seats are designed and approved for crash-zoning away the majority of harm from the passengers.

The overall cabin layout keeps a minimum aisle to the next exit guided by lights even through dense smoke. At the door trained cabin crew members facilitate the opening of the exit doors in the shortest time frame and guide the passengers towards safe grounds.

The cabin crew can react promptly because their workspace is designed to be efficient. The materials used in the cabin resist fire long enough to gain some distance.

The design features are engineered by the manufacturer of the airplane. But the longer it is in service the more the design deviates from the original one. Passengers and crew are kept safe thanks to a Supplemental Type Certificate approvals granted by the Authority and performed by a competent Design Organization Holder.

When a new cabin layout is installed via STC, we are modifying an already certified and airworthy design. By changing it, we still need to keep it airworthy.

Some design functions are obvious and easy to keep safe. Other require a more complex certification approach. In any case the full and complete understanding of the design change's intention is the crucial element, empowered by a strong co-operation between Authority and Industry.

Increasing the chance of survival is team work and we all, as safety aviation community professionals, have played an important role in making this happen.

We must always rely on each other, it is essential that we always have all the information we need to perform to the best of our abilities. This newsletter is one of many platforms EASA provides to ease your work.

Please make good use of it and keep on manufacturing miracles.

Welcome to the e-STC Newsletter 3rd edition,

The structure of this fall edition is slightly different from the previous ones. In fact, an ample part of the e-STC Newsletter is focused on the STC Workshop 2018.

As many of you already know, the STC workshop took place on 4th and 5th June at EASA Headquarter with the presence of 141 participants from 97 different industries, FAA and TCCA representatives and 4 other national authorities.

From the final survey, replied by the 67 % of the companies, it is possible to extract very positive outcomes:

- 95% confirmed that the workshop fully met the expectations with respect to their objectives
- 100% have considered the event satisfactory
- 97% are interested to participate again to this kind of event

However, constructive feedbacks indicating areas of improvement have been provided, representing fundamental inputs in view of the next workshop. For instance, to increase the capacity and the available space, a request to organize the 2019 edition in a more suitable venue has been already proposed.

A large portion of this 3rd edition will be primarily used as communication channel to start addressing the answers/feedbacks to STC Holders community queries raised during the STC workshop.

Therefore, we have chosen the following topics:

1. Technical subject 1 – Multiple STC Coordination –Integrator
2. Technical subject 2 – STCs approval - MSN(s) limitation
3. Q&A on technical subject – Additive manufacturing, EASA changes embedded in Non-EASA approved design, Oxygen Fire Hazard Overview, Maintenance and operational considerations, Rotorcraft STC

4. Q&A on Regulations – Avionics Mandate, AML Certification Memorandum, CAW aspect for STC, BASA, LOI, OSD, Update on Initial Airworthiness rulemaking issues.
5. Q&A on EASA initiatives – SEPIAC
6. Upcoming event
7. Q&A – General questions.

Before any questions group there is the link to the Workshop presentation video on YouTube but the whole event can be found on **EASA Playlist**

All the previous editions of the e-STC newsletter are available on the **EASA website**.

Enjoy your reading and looking forward to your engagement on this two way communication channel (STC_news@easa.europa.eu)

Sincerely,
Sabine Meissner

For this 3rd edition of the e-STC Newsletter special thanks to:

Gabriele CARDONE (e-STC coordinator)

Michele AMBROSIO (Junior Project Certification Manager)

Ciro PIRONE (DOA Team Leader)

Chris GUNITZBERGER (Senior Project Certification Manager)

Thomas OHNIMUS (Senior Expert Cabin Safety)

Sabine MEISSNER (Cabin Safety Expert)

Luis AGUILAR (Project Certification Manager)

The STC Workshop Team

All the PCMs, Experts and DOA team leaders who actively contributed to the Workshop



INSIDE THE STORY

Sabine Meissner is EASA Cabin Safety Expert in the CT Directorate. She, in her daily activities, is not only taking care of Cabin Safety topics relevant to certification domain, but she is also part of a cabin safety community involving international colleagues and experts from standardization bodies.

After several years working in industry on military freighters, solving problems appearing due to operations beyond safe and comfortable standards, she joined EASA beginning of 2010. She is now working on numerous military freighters and tankers.

Her main certification activities are currently based on large transport airplanes, ranging from pre to post TC projects including some unusual variations of some type design, like the new A330-700XL. Indeed, as result of its shape it is better known as the Beluga.

The range of the civil STCs on which Sabine is involved reaches from commonly known holiday passenger cabins up to very special installations in VIP aircrafts.

Sabine enjoys the diversity of applicants and her international colleagues being passionate about the innovative potential resulting from the different perspectives.

MULTIPLE STC COORDINATION - INTEGRATOR

As it happened often in the past, there might be project cases where a change to the Type Design incorporates several sub-changes (STCs or Minor Changes), each performed and managed by different stakeholders.

Generally, due to project constraints/obligations, the sub-changes that, together with the pre-mod configuration, will constitute the final aircraft configuration, are required to be approved simultaneously.

It's easy to understand that the independent approval of the individual STCs/Minors doesn't guarantee the airworthiness of the changed product as a whole; especially when the interactions between the different affected areas/functions are not benign. It is therefore fundamental to evaluate the changes at product level, considering their interaction in terms of safety and certification.

In order to do so, it is important to identify an integrator/coordinator responsible of assessing the individual STCs/Minors and their cumulative effects both in terms of safety impact and requirement involvement.

It is important to remember that the integrator/coordinator role has to be defined on the applicant side. In fact, it is not EASA responsibility to coordinate a certification project made of several changes designed by different stakeholder, with the objective of a common outcome.

In case the above explained method could not be applied, the STCs can be treated individually only if the pre-mod configuration is well identified and already certified.

PCM TIP

In the cabin safety domain, a good example of multiple STCs integration is when the passenger capacity has to be changed (need to increase or decrease the number of passengers). When the modification involves a single zone of a large airplane, an evacuation analysis is required across the entire aircraft. The assessment is even more critical if passenger capacity and compartments are changed independently through different design changes

STCS APPROVAL - MSN(S) LIMITATION

In the past, we noticed that there is a need of clarification about the wrong use of MSN as the only mean to identify the configuration of an aircraft subject of a change to TC.

The DOA Holder shall determine the configuration of the areas/functions to be modified/affected by the change (pre-mod configuration) in close coordination with the OEM/Part M responsible to control the configuration of the aircraft.

The aircraft MSN, however, is not a sufficient mean to identify the pre-mod configuration of those areas/functions. Indeed, the configuration of an MSN is evolving in time during the service of the aircraft.

The pre-mod configuration of the to-be-modified/to-be-affected areas/functions is to be determined with reference to type design data/manuals of:

- the initial configuration as referenced in the TCDS or
- changes embodied by the OEM at the final assembly line as referenced in the first statement of conformity for the complete aircraft (EASA Form 52) or
- changes embodied after the first entry into service (EiS) and
- any additional layer of repairs introduced after EiS

as pertinent to those areas/functions.

Any pre-existing changes or repairs, as pertinent to those areas/functions, shall have been approved under the provisions of subpart D, E or M of Part 21 (i.e. they shall be “EASA changes or repairs”).

The above set of TC/TCDS references and changes/repairs approval references together with the associated type design data/manuals (pre-mod configuration) shall be documented and recorded in the change to TC classification and approval documents by the DOA Holder, and shall be indicated as the pre-requisite configuration for future embodiment in other aircraft.

An installer of the same change to TC in other aircraft shall seek support of, and coordinate with, the DOA holding the approval of the change, to determine that its aircraft configuration, in the area/functions where the change should be embodied, is in conformity with the pre-requisite configuration. This determination shall be documented and recorded.

It is important to highlight that an applicant for the approval of a change to TC with EASA or under DOA privileges, when has entered into an arrangement with the type-certificate holder, should also have access to the classification and/or approval documents of the pre-existing, if any and pertinent, changes/repairs to be able to identify any re-investigation necessary to show compliance of the changed product with the certification specifications and environmental protection requirements designated in accordance with 21.A.101.

DOA Team Leader TIP

At the next opportunity contact your DOATL to verify that your procedures and forms have sufficient provisions for the complete identification of an aircraft configuration.



Q&A - TECHNICAL SUBJECT

Additive Manufacturing & composite materials a disruptive technology

presented by P. Brooke, EASA Certification Policy Officer and W. Hoffmann, EASA Structures Expert and PCM.

Presentation video ->> [here](#)

Is it envisaged an EASA generic CRI to deal with this new technology?

As concise guidance material we have published the **CM-S-008** on Additive Manufacturing. A generic Interpretative Material CRI would have been a step before a CM publication.

Could EASA please provide the actual known critical issues related to AM.

Here just a few:

- stock material- and manufacturing process stability
- repeatability of material properties
- proper post processing

For more please look up the EASA **CM-S-008**

EASA changes embedded in Non-EASA approved design

presented by C. Gunitzberger, EASA Senior Project Certification Manager

Presentation video ->> [here](#)

Can an EASA change (STC or minor change) be made to a platform which has no EASA TC?

This is unfortunately not possible, starting from the consideration that EASA cannot refer to an EASA *NON*-approved type and model to be changed. Annex I aircraft of the New Basic Regulation (EU) 2018/1139 (no EASA TC issued) can only be modified in agreement with National Aviation Authorities of the country of registration.

Oxygen Fire Hazard overview

presented by C. Gunitzberger, EASA Senior Project Certification Manager

Presentation video ->> [here](#)

How is EASA approaching the harmonization between the medical oxygen systems and the aviation oxygen systems?

EASA has made contact with external experts dealing with medical oxygen installed in ambulance cars to investigate eventual commonalities. Currently (June 2018), there is no distinction in handling the Oxygen Fire Hazard between medical and aviation oxygen if installed as part of an EASA major change. All types of oxygen installed in aviation products are treated identically in respect to oxygen fire hazard.

Maintenance and operational considerations

presented by E. Ciofu, EASA Head of Air Operations Standards Section and G. A. Bandieri, EASA Standardisation Principal Coordinator

Presentation video->> [here](#)

There is no requirement for an Arrangement between a CAMO and the Design Approval Holder for installations of design changes (see parallel requirement for POA-DOA) - why not?

The referred requirement is meant to assist POA during production.

A CAMO manages Continuing Airworthiness by using the appropriate documentation, which may require the existence of a commercial agreement covering engineering support, technical documentation, etc.

The obligations of M.A.708 are considered sufficient to ensure that CAMO avails of sufficient support by the Design Approval Holder.

Rotorcraft Structures STCs – Main highlights over the past years

presented by H. Hereson, EASA Structures Expert

Presentation video->> [here](#)

Does the flight test requirement for testing to vibration also applies to avionic modifications inside the cockpit?

Avionic equipment are generally tested to the level of vibration requested by the European document ED-14/DO160. This is a qualification test provision for functional aspect.

The equipment installation on a Rotorcraft has to be compliant to the Vibration requirement. The flight test requirement also applies to Avionic modifications inside the cockpit. For some changes, qualitative flight test will be sufficient. In other cases, instrumented flight tests will be requested.

Q&A - REGULATIONS

Avionics mandates and introduction of new NAV part of CS ACNS

presented by C. Bonillo-Martinez, EASA Avionics Systems Expert and N. Durandeau, EASA Avionics Systems Expert

Presentation video->> [here](#)

CS-ACNS will be included in the TCDS as certification basis?

Yes, it is already the case for example of the A350. Depending on the TC date of application or applicant elect to comply there may be only Subparts or Sections applicable.

What is going on with ADS-B In?

No mandate is foreseen at the moment. Some aircrafts have already certified functions based on TSO-C195b or EASA specific Certification Review Item (CRI)

AML Certification Memorandum update

presented by I. Navarro, EASA Large Aeroplanes Project Certification Manager

Presentation video->> [here](#)

AML STCs have been mentioned several times - not completely clear if AML minor changes are also possible, and when they would make sense.

AML minor changes are also possible. Detailed information are in the CM for “Approved Model List Changes”

Continuing Airworthiness (CAW) aspects for STC

presented by A. Kaiser, EASA Chief Project Certification Manager – Continuing Airworthiness

Presentation video->> [here](#)

Formally speaking, does a company certifying a minor change (non an STC) undertake also the obligations related to 21.A.3A (collecting, reporting data..)?

In difference to STC Holders (21.A.118A) there are no obligations regarding 21.A.3A mentioned under 21.A.109 for Holders of minor changes.

Per 21.A.91 minor changes have no appreciable effect upon airworthiness.

STC TRANSFER: What does EASA do about validated FAA STCs which are being transferred?

It is the obligation of the STC Holder to inform EASA about the change of ownership of the validated STC in which case we will update the EASA STC certificate accordingly, upon receipt of an application for transfer of certificate and confirmation of the completed transfer of the FAA certificate.

STC Validation process with foreign authorities: highlights

presented by C. Leboeuf, EASA Chief Project Certification Manager - Validation Process and J. Ammeloot, EASA Senior Policy Officer - International Cooperation

Presentation video->> [here](#)

How a FAA applicant for STC validation can determine the impact on OSD for basic/non basic classification when OSD is not part of its own regulation?

TIP rev. 6 makes reference to EASA Guidance Material GM 21.A.91 to determine an appreciable effect on OSD

What is EASA position concerning FAA Major Alterations through FAA Form 8110-3? Is it included in the TIP?

FAA alterations are accepted for imported aircraft from USA into EU (except when impacting a critical component) (see TIP §3.3.6)

The new LOI concept, description and updates

presented by L. Capacci, EASA Initial Airworthiness Regulations Officer, R. Mbwang Seppoh, EAD Head of Airworthiness Office and M. Wagner, Lufthansa Technik AG Project Manager Certification

Presentation video->> [here](#)

With regards to Criteria 1: Novelty, isn't "Also considering time between last and current project." included in "DOA Performance"?

No, these are two separate subjects.

EASA calculates the DOA performance at panel level (and when possible at discipline level) considering all the projects submitted by the applicant affecting that panel. The calculation is not made at specific CDI / type of project level.

The CDI and LOI proposal means additional tasks (and possibly burden) for the applicant. What is the expected benefit for the STC Holder to invest in this task?

The Agency recognises that the additional steps requested by the new LOI concept will create an additional effort to applicants. However, the advanced application phase demonstrated that such additional effort decreases quite rapidly as soon as the DOA becomes familiar with the new LOI concept.

The main benefits for applicants are:

- Although an additional effort is required at the beginning of the certification process, once LOI is determined the applicant will have higher certainty regarding the interfaces/exchanges with the Agency required during the demonstration of compliance. This risk assessment will also provide a clearer picture of the project to the Agency => the whole certification process will be better focused on the identified risks for safety
- Transparent and consistent approach on LOI determination throughout the industry => equal treatment and more predictability
- The new privilege to approve 'certain major changes/repairs/STC' (ref to 21.A.263(c)(5)(8)(9)) is based on the same risk-assessment => a well-structured risk-assessment process should facilitate the granting of that privilege
- As anticipated by ICAO annex 19, an appropriate up-front identification of the elements of the certification project posing higher risks will help the applicant to better address them thus reducing the likelihood of unidentified non compliances with the TC basis => safety improvement

“ OSD applicability to STCs’ – The importance of an early consideration of impact on OSD, and considerations on required DOA privileges”

presented by T. Vandendorpe, EASA Senior Expert - Master Minimum Equipment List

Presentation video->> [here](#)

Will in future OSD still be approved with separate OSD approval or included on STC

The intent of current Part-21 is to include the approval of the necessary OSD as part of the STC. Although a separate application Form is required, the approval of an STC is normally resulting in a certificate issued by EASA including references to the attached OSD under associated technical documentation field, similar to what is done on Flight Manual Supplements for example. The separate OSD approval should be limited to a case where the OSD elements are not ready for approval by the Agency at time of STC approval (since OSD approval can be delayed until the required data are to be used, typically until Entry into Service).

Is it possible to mention a couple of examples where the OSD for a project regarding cabin reconfiguration might very likely require OSD important revision?

In the case of CCD, it is assumed that “important revision” translates as production of “CCD –Supplement” in support of a CCD major change.

Examples of cabin reconfiguration resulting in CCD Major Changes:

- a. Photoluminescent Floor Proximity Emergency Escape Path Marking System (PL FPEPMS) installation. A Cabin Crew Data Supplement shall be provided to the customer/operator, containing the normal operating procedures to be performed to ensure successful charging of the Photo Luminescent Floor Path Emergency Escape Path Marking Systems, before the first flight of the day.
- b. Installation of F/C mini-suites equipped with compartment door, which constitute a design feature impacting on emergency operations and therefore requiring specific cabin crew training. A CASE is created to address the specific knowledge and skills required for the safe operation of mini-suites.
- c. Replacement of B/C mechanical seats with electrical seats. A Cabin Crew Data Supplement shall be provided to the customer/operator, containing the normal/ abnormal operation of the electrical seats.
- d. New interior lighting system installed in VIP area and aft r/h compartment. Control of the new system by separate IFE control panels. A Cabin Crew Data Supplement shall be provided to the customer/operator, containing the description/operation of the new lighting system and associated IFE control panels.

Update on Initial Airworthiness rulemaking issues

presented by M. Gerhard, EASA Regulations & Certification Policy Section Manager

Presentation video->> [here](#)

Is there a consolidated timeline for the changes to organisational requirements for complex ETSOs (DOA/AP-DOA or only DOA)?

The Agency is currently considering whether the organisational requirements for ETSOA Holders can be modified.

Where an organisation already holds a DOA and at the same time applies an alternative procedure to demonstrate its design capabilities according to point 21.A.14 (b), the DOA may be considered sufficient in the near future, provided that the relevant DOA procedures are adapted accordingly.

In parallel, the Agency plans to allow organisations, which currently demonstrate their design capabilities according to point 21.A.14 (b), to migrate to DOA on a voluntary basis; and to allow new ETSOA applicants to choose whether to apply voluntarily for a DOA or to demonstrate their design capabilities according to point 21.A.14 (b).

All of the above can be done on the basis of the current provisions of Part-21.

In the mid-term, the Agency considers programming a rulemaking activity amending the organisational requirements in Part-21 for ETSOA applicants and Holders, requiring a DOA for some complex ETSOA. If pursued, such a rule change is expected to become effective in 5 years, at the earliest.

Since there will be a number of changes expecting on rule making, has EASA plans to inform all DOAs by way of notifications on release of new rules?

The Agency plans to organise a series of workshop / information sessions to inform DOAs about the changes that will be introduced into Part-21 following the proposals made in Opinion 7/2016 (LOI). These events will be organised after the Part-21 amendment will have been published in the Official Journal, probably in the first half of 2019.

Concerning other amendments to Part-21 (ICA, SMS etc.), the Agency will consider whether a similar approach is appropriate, or if other means are being used to inform DOAs about the new rules.

In any case, the Agency will regularly update DOAs at any suitable occasion (e.g. the Certification/DOA workshop, the STC workshop etc.) about the status of all ongoing rulemaking activities affecting Part-21.

Q&A - EASA INITIATIVES

SEPIAC Platform Overview

presented by A. Castoldi, EASA General Aviation Project Certification Manager

Presentation video->> [here](#)

SEPIAC is the official platform developed by EASA for the management of certification projects. Its dual use as share point for documents and communication channel aims at fostering digitalization and efficiency. By investing a lot of resources on its development and promotion, the Agency plans to adopt SEPIAC for all projects with no exceptions. As major players of certification activities, you are a precious source of comments and feedbacks for the tool's continuous improvement. Use SEPIAC, get familiar with its features and exchange with your focal points on how to make it better!

Does the applicant receive email notifications when comments are made by PCM/Expert?

Only when an alert on the comment/discussion library is set by the user. The idea of SEPIAC is to be the working tool decreasing the number of emails.

Is there a training tool/document available for people without a login (yet)?

Not yet. We are developing an online training that will include the material (updated) available inside the platform. This training is expected to be available on the EASA ELG platform.

EASA EVENTS

The yearly Product Certification and DOA workshop took place on 30th-31st October at Maritime hotel in Cologne. All the information on the event can be found on EASA website. A side meeting day event was planned on 29th October at EASA premises. As in the past, representatives from STC DOAs had the opportunity to discuss topics of common interest in the relevant community Group. For this event, there was also a live-streaming; the link is available on EASA website!

NEXT EVENTS

The 12th Rotorcraft Symposium will be held on 4th and 5th December at the Hotel Pullman (Helenenstraße 14) in Cologne. It is the European premier event for discussion of safety developments and achievements in the rotary wings domain. This Symposium provides a unique forum where Authorities, Industry, Operators, Pilots, Safety Investigators, Researchers and all those vesting an interest in improving rotorcraft safety worldwide can share and exchange ideas.

QUESTIONS AND ANSWERS


What category do CRIs fall under that are project specific but actually calling Gen CRI content only?

Today, the category “General CRIs” does not formally exist.

Each CRI is issued by the Agency in relation to a specific project. For recurrent issues the same/similar wording will be used in different projects.

Border between TC Holder/ STC Holder responsibilities. How to cover the “grey areas”?

The application for a design change shall be submitted starting from a configuration which is properly defined and already certified by the Agency. The presence of non-approved “Grey Areas” between a certified configuration and the initial configuration of a new STC should not exist. More specifically, a change for which EASA has received an application needs to be demonstrated compliant to the EASA certification basis on product level. It is not sufficient to demonstrate compliance on change level only. The change, applied for EASA approval, must include all affected parts of the non-approved change that builds the interface to the EASA approved product and all affected compliance demonstration.



Let's continue this two
ways communication
and cooperation. We
kindly invite you to share
by e-mail to:

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