Certification Process for TC, RTC, STC, Changes, Repairs, ETSO Authorizations

WI.CERT.00172-003

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DOCUMENT CONTROL SHEET

Reference documents

a) Procedures

PR.CERT.00001 - Airworthiness of type design
PR.CERT.00003 - ETSO Authorisation
PR.CSERV.00001 - Certification Support for Validation

b) Internal documents

WI.CERT.00005 - Decisions and signatures for certification
WI.CERT.00012 - Electronic application review & task assignment
WI.CERT.00057 - Publication an Consultation of Certification Memoranda, Special Conditions, Equivalent Safety Findings, Deviations
WI.CERT.00146 - CRI and CAI writing and management
WI.CERT.00154 - Purpose, criteria, categories and format of Certification Memoranda
WI.CERT.00155 - LoI management for ETSOA
WI.IMS.00134 - CT Records management and Filing Plan

FO.CERT.00095 - Technical visa for type certificate / restricted type certificate
FO.CERT.00096 - Technical visa for post TC design approval
FO.CERT.00134 - EASA validation of FAA STC classified as Basic and limited to one serial number
FO.CERT.00147 - Level of Involvement for ETSOA
FO.CERT.00148 - Multi Technical Visa for ETSOA
FO.CERT.00166 - ETSO LOI Database

TE.CERT.00046 - ETSO Deviation Consultation Paper
TE.CERT.00048 - EASA TCDS CS 23 - GA
TE.CERT.00049 - EASA TCDS CS 27 29 - Rotorcraft.
TE.CERT.00050 - EASA TCDS P - Propellers
TE.CERT.00051 - EASA TCDS CS 25 - LA
TE.CERT.00052 - EASA TCDS CS E - Engines
TE.CERT.00053 - Explanatory note to TCDS
TE.CERT.00076 - Final certification report
TE.CERT.00080 - TCDSN - Noise
TE.CERT.00090 - Type certificate
TE.CERT.00091 - Approval/Certificate Type
TE.CERT.00097 - Supplemental type certificate (propeller)
TE.CERT.00098 - Change approval (propeller)
TE.CERT.00099 - Type Certificate (Propeller)
TE.CERT.00135 - EASA TCDS CS 22
TE.CERT.00136 - TCDS for VLA
TE.CERT.00137 - TCDS for CS-31 Balloons

TE.CERT.00145 - EASA Approved Model List (AML)
TE.CERT.00150 - Project Information Document
TE.CERT.00173 - Final Report of a Certification Project
Note: Templates are available in ARIS and “Certification Process Documents” in SEPIAC

Abbreviations/Definitions

a) Abbreviations
AMC/GM: Acceptable Means of Compliance and Guidance Material
CM: Certification Memorandum
CRD: Comment Response Document
CRI: Certification Review Item
CP: Consultation Paper
CS: Certification Specification
Dev: Deviation
EASA: European Union Aviation Safety Agency
ESF: Equivalent Safety Finding
FAA: Federal Aviation Administration
HoD: Head of Department
NAA: National Aviation Authority
PCM: Project Certification Manager
PID: Project Information Document
QE: Qualified Entity
SC: Special Condition
WI: Work Instruction

Log of issues

Issue	Issue date	Change description
001	19/11/2024	First issue to transfer the relevant information for the Certification Process which was previously included in the Certification Handbook UG.CERT.00002-009g.
002	19/02/2025	Chapter 5.3 clarification that the ESoS tool is SEPIAC
003	21/08/2025	Chapter 2.1.4.2: Clarification on MRB process Chapters 6.1.1.1.2 and 6.1.1.1.3 update to reflect the updated TCDS entries for emissions

Contents

1. Purpose and scope

This Work Instruction describes the TC, RTC, STC, Change and Repair certification process. It complements the EASA Procedure "Airworthiness of Type Design".

2. Type Certification and Restricted Type Certification as primary authority

2.1. Type Certification

For a TC under Part-21 for EASA member states' products, the Agency is the Primary Airworthiness Authority and is considered as the authority of the State of Design as per ICAO definition.
Additionally, in the absence of a BASA, Part-21 is applicable for Type Certification of non-EU products.

As per point 21.A.41:

> *"The type-certificate and restricted type-certificate shall include the type design, the operating limitations, the type-certificate data sheet for airworthiness and emissions, the applicable type-certification basis and environmental protection requirements with which the Agency records compliance, and any other conditions or limitations prescribed for the product in the applicable certification specifications and environmental protection requirements. The aircraft type-certificate and restricted type-certificate shall both include in addition the applicable operational suitability data certification basis, the operational suitability data and the type-certificate data sheet for noise. The aircraft type-certificate and restricted type-certificate data sheet shall include the record of CO_2 emissions compliance and the engine type-certificate data sheet shall include the record of exhaust emissions compliance."*

Applicants are responsible for the provision of data to establish the TC, TCDS, TCDSN, RTC, RTCDS, RCDSN.

The following phases are applicable to all certification projects. For smaller projects they may be condensed and/or combined. In case of later design changes or later identified safety risks, iteration loops of the certification phases are performed as necessary.

Phase 0	Definition and agreement of the working methods with the applicant
Phase I	Technical Familiarisation and establishment of the Initial Certification Basis
Phase II	Agreement of the Certification Programme and Level of Involvement
Phase III	Compliance Determination
Phase IV	Final Report and issue of a Type Certificate

Specifities of the Part-21 light process will be established during the first Part-21 light application.

2.1.1. Phase 0 – Definition and agreement of the working methods with the applicant

For an application for a Type Certificate to be processed within the Agency and be done in accordance with Part 21.A.15, the applicant submits an application for Type Certificate/Restricted Type Certificate.

2.1.1.1. Eligibility and Capability check

"Applicant Relationships Section" staff and the relevant certification Head of Department or his/her delegate perform a preliminary eligibility check before the task is allocated to a PCM.

If not already known, the PCM shall check if the applicant is eligible and capable for the application acc. to points 21.A.13 and 21.A.14 (or 21.A.92 {major change}, 21.A.112A & 21.A.112B {STC}, 21.A.432A & 21.A.432B {major repair} or 21.A.602A & 21.A.602B {ETSO}), DOA or AP to DOA manual and corresponding terms of approval (21.A.251).
If there is any doubt about the eligibility/capability of the applicant, the PCM shall clarify any uncertainty with the applicant and the DOA team leader as deemed necessary to review the scope of approval of the DOA or alternative procedures to DOA and make sure that the applicant also applies in parallel for a DOA scope extension to cover the new application.

The extension of the scope of a DOA is managed by the the DOA team with support of the certification team. The new DOA scope needs to be approved before the issuance of the design approval.

For a European Light Aircraft ELA1 TC application, a DOA or AP to DOA is not necessary . The applicant's capability is to be demonstrated through the Certification Programme as per 21.A.14(c).

2.1.1.2. Presentation of the project by the applicant to EASA management (if considered necessary) – general familiarisation

Once it has been determined that the applicant is eligible to apply for EASA type certification, the "Applicant Relationships Section" should send a notification of provisional application acceptance. The applicant should then present the new product type design to the EASA Certification Management; the attendance will be defined depending on the scope of the project. Typically, PCM, relevant Head of Department, Section Manager of the product line and Chief Experts (potentially supported by relevant Senior Experts) should be represented. The objective of this general familiarisation is to give an overview of the product to be certified, the main technological changes and any unusual product characteristics, as well as the high-level project schedule to enable EASA management to start setting up a team.

Note 1: for some simple aircraft, e.g. CS-LSA, the general familiarisation may be done by correspondence.

Note 2 If the Maintenance Review Board (MRB) process is selected voluntarily for supporting compliance to a part of the scheduled maintenance information, the PCM should inform the Section Manager in charge of the MRB about the general familiarisation. Actual participation will be decided by the Section Manager in charge of the MRB. In this case, a specific application (application form "Application for Approval of Maintenance Review Board Report (MRBR), Manufacturer Recommended Maintenance Program, Supplement to MRBR and revisions thereto") will have to be sent by the applicant to the Applicant Relationships Section.

2.1.1.3. Presentation of EASA processes (if unfamiliar to the applicant)

Before the project formally starts and if deemed necessary, EASA should present the EASA Type Certification processes to the applicant.

This is particularly important in the case of a new applicant or of an applicant with limited experience.

The PCM should:

- highlight its main expectations and the rights and duties of each party. In particular, the legal EASA framework should be presented as well as the process used for the Type Certification of the product;
- highlight at this stage the working methods and the communication lines to be used;
- explain to the applicant the method used to solve disagreements and the escalation process;

- explain the importance of a clear and detailed Product Certification Programme, as required by 21.A.15, that should be discussed up-front in order to avoid potential late and costly conflicts.

2.1.1.4. Team establishment

Once the steps above have been completed, a Certification Team is set up. The list of panels and disciplines is published on the EASA website.

2.1.1.5. Conditions for Closure of Phase 0

Provisional acceptance of application(s) (this includes MRB application, if the MRB process is selected to show compliance with "scheduled information");

2.1.2. Phase I – Technical Familiarisation and establishment of the Initial Certification Basis

As per the Type Certification Procedure, the objective of this phase is to provide technical information about the project to the team of experts to enable the determination of, and agreement on the initial EASA Certification Basis.

During this phase, the PCM will draft the Project Information Document (PID) where necessary, which defines the particular agreement concluded with the applicant to complement the EASA type certification procedure and to provide more detailed information on the working methods expected during the type certification of the product.

2.1.2.1. Project Information Document (PID)

A PID is a document that may be used to record the particular agreements concluded with the applicant to complement the EASA Certification Procedures and to provide more detailed information on the working methods expected during the Type Certification of a product.

A PID is normally project-specific. In some instance, a single PID might be applicable to several projects undertaken by the same applicant.

A PID is usually composed of the following paragraphs:

1. General:
   This paragraph recalls the applicability and purpose of the PID, as well as the process to update the PID.

2. Description of working methods including meetings and specific agreements with the applicant:
   This paragraph sets up specific working methods agreed between the Agency and the Applicant. This may be the case for involvement in Flight Tests or Software and Airborne Electronic Hardware activities. EASA may sometimes decide to perform some audits with the applicant to check the methodology and the competence of the CVE and then delegate subsequent audits to the applicant's DOA. For flight tests, it may be useful to record how the Action Items should be defined and recorded. Specific processes can be defined for any areas as deemed necessary by the PCM and the team. Communication processes may be also described.
3. Post TC activities (including Continuing Airworthiness);
4. The record of the team composition;
5. Interface panels;
6. Coordination meetings (such as regular Type Board Meetings…);
7. Interfaces with other activities (DOA, POA, OEB);
8. CS xx Responsibility Matrix;

9. Annexes.

2.1.2.2. Technical familiarisation

The technical familiarisation usually starts with a project kick-off meeting (KoM), involving all EASA team members and the DOA Team Leader during which the applicant presents in detail the product as well as the overall schedule.

Each design area is presented to the EASA team, highlighting the architectures, the main potential issues, the technical novelties in as much detail as possible at this stage of the project.

To do so, the applicant's presentations should include detailed information on:

- Any novel design features, novel applications of existing technologies, or unconventional uses of the product,
- Any design features where experience has shown that an unsafe condition might occur,
- Newly proposed standard interpretations or Means of Compliances (MoCs) for existing standards.

The KoM allows each panel to have an overall view of the project. After the KoM, meetings are usually organised with single panels or interface panels, allowing each expert to go deeper in details in his/her own area of investigation. The need for such meetings and the number of meetings depends upon the scope and complexity of the project.

Technical interface items and the identification of potential technical interface items should be well communicated and discussed between the panel team members, keeping the PCM in copy, to ensure that:

- All affected panel team members are sufficiently informed
- Interfaces between the panel team members are fully addressed
- A proper communication takes place between the panel team members, by regular communication (e.g. certification team meetings). Examples are:
    - Systems impact on flight crew, human factors, failure cases and probabilities
    - Systems and structures
    - Transmission and structures
    - Systems and structures impact on Certification Maintenance Requirements (CMR), Master Minimum Equipment List (MMEL); Master Configuration Deviation List (MCDL as part of the AFM), Noise and Emissions
    - Systems impact on Operational Suitability Data (OSD) Flight Crew and Cabin Crew
    - Propeller, engine and aircraft interfaces
    - ETSO PCMs/Experts and Product PCM/Experts

Examples are:

- new information regarding updated design or compliance demonstration,
- uncertainties of technical consequences/impacts between Systems and Structures, Human Factors, Flight Crew, Noise, etc.

The PCM should support such coordination by dedicated meetings.

The EASA Certification Team should be able to confirm the proposed or to further identify the initial set of applicable Special Conditions, Equivalent Safety Findings and Deviations that need to be issued at the end of the technical Familiarization.

Note 1: Even if the approval for OSD elements is delayed, the Chief Expert OSD and the relevant Senior Experts should be involved in the general familiarisation and may be involved in the technical familiarisation.

Note 2: If the Maintenance Review Board (MRB) process is selected for supporting compliance with a part of the scheduling information, the MRB Expert in charge of the project should participate to the technical familiarisation as part of Panel 14 (see also chapter 2.1.4.2).

2.1.2.3. Initial Type Certification Basis, Environmental Protection requirements and OSD certification basis – CRI A-01

The EASA Certification Basis of the product shall be established in accordance with points 21.B.80, 21. B.82 and 21.B.85 and the work instruction WI.CERT.00146 for Certification Review Items (CRI) and Certification Action Items (CAI).

2.1.2.4. Conditions for Closure of Phase 1

- All team panels confirmed receipt of sufficient information in order to be technically familiarised with the product and the applicant,
- The first issue of CRI A-01 is provided to the applicant acc. to WI.CERT00146,
  The first issue of the PID is available (when a PID has been found necessary; this decision is taken in coordination with the relevant section manager of the product line)

2.1.3. Phase II – Acceptance of the Certification Programme and Level of Involvement

As per the EASA Procedure Airworthiness of type design, *"the objective of this phase is the establishment of the final certification basis, the determination of the environmental protection requirements, the definition of and the agreement on the proposed means of compliance for each requirement of the Certification Basis and the identification of the Certification Team's Level of Involvement"*.

A Certification Programme is mandated for each product and this document shall be updated as necessary during the certification process as per point 21.A.15(b). This Certification programme must be accepted by the Agency and the applicant notified accordingly.

The Certification Programme review usually starts after the conclusion of phase I. In some cases, the review may start in parallel with the technical familiarisation, before notification of the first issue of the initial certification basis through CRI A-01. In such cases, the Certification Programme(s) might need to be updated to take into account the EASA certification basis.

Typically, for large projects the Certification Programme is not a single document, but may be composed of several documents, with or without an overall product level Certification Programme. The exact organisation of the Certification Programme is left up to the applicant. It may depend upon the practice of individual organisations (by ATA chapter, specialty or technical domain, CS subpart, etc.). In most cases, it will not exactly reflect the EASA team work-sharing. The complete EASA certification basis should be addressed. The PCM should also take care of the necessary interfaces between panels, if several experts need to review and accept the same Certification Programme, by ensuring the coordination himself/herself or by designating a primary panel for that purpose. This should usually be documented in the PID (see chapter 2.1.2.1),

The review of the Certification Programme shall allow the Certification Team to determine its Level of Involvement according to chapter 5.2.

2.1.3.1. Conditions for Closure of Phase II

- The Certification Programme / plan(s) (and associated documents) are reviewed, if needed, commented and updated, and accepted by the Certification Team;
- All CRIs as per WI.CERT.00146 have been issued and closed, except for late additions (for instance, development issues) or controversial issues;
- The means of compliance with the ICA requirements should be also defined and agreed. If an MRB process is selected to demonstrate compliance with "scheduling information", a specific process will run concurrently with the certification process;
- The Certification Team's Level of Involvement (LOI) is determined and notified as per chapter 5.2.

2.1.3.2. Final Certification Basis

The Certification Basis is final with the closure of phase II, i.e. an accepted certification programme for the applied project.

- The established certification basis is considered adequate, i.e. the complete design is addressed by CS, SC, ESF, DEV.
- For an acceptable certification programme, the means to demonstrate compliance need also be accepted.
- This final certification basis might be re-opened at any time before approval if
  - the applicant introduces evolutions in the design or intended use.
  - certification tests, etc. may highlight design deficiencies that were not visible before and that need to be addressed via an adapted certification basis.
  - experience from other similar products in service or products having similar design features or newly identified hazards have shown that unsafe conditions may develop.
  - the applicant requests an ESF or DEV afterwards
  - the time limit as per 21.A.15(e) is extended as per 21.A.15(f)(2) (respectively 21.A.93(c))

If an adaptation of a final certification basis is considered as commensurate by EASA and might be controversial, it should be discussed in the product related EASA safety board.

2.1.4. Phase III – Compliance Demonstration/Verification

During this phase, the Certification Team performs a sampled oversight verification of the applicant's compliance demonstration defined per 21.A.20 that are retained by EASA according to the LoI determined in Phase II.

The progress of the EASA investigation should be closely monitored by the PCM, and the established LoI should be kept up-to-date. Internal frequent team meetings are recommended to address e.g. panel specific issues for the certification team's awareness and consideration, especially for technical interface items as described in 2.1.2.2.

During verification of compliance demonstration

- EASA panel experts should systematically provide and seek for input for compliance verification activities, especially EASA System Panel Experts should be systematically asked to provide input for Flight Panel visits to the applicant.
- System Panels to brief Flight Panel about areas of design change that require additional confirmation or scrutiny (before on-site compliance verification activities).
- EASA panel experts to debrief affected interface panels about the outcome and findings of on-site compliance verification activities, especially Flight Panel to debrief System Panels .
- ETSO and Product PCMs and panel experts should systemantically provide and seek for input for compliance verification activities

In most cases, there is an overlap between phases II and III, for instance resulting from the design and compliance being more mature in some areas than others. This is possible and should be carefully managed by the team. Particular attention should be paid by the team to late design changes. The configuration control mechanisms put in place by the applicant should be closely monitored by the team, possibly in liaison with the DOA team leader.

2.1.4.1. AFM review

The AFM should be reviewed by the complete affected Certification Team. This review is usually coordinated by the PCM or the flight panel, as documented in the PID. The review of the Flight Crew Procedures will always be coordinated by the Flight Panel.

2.1.4.2. ICA review

Coordinated by panel 14, if this panel is formally constituted within a Certification Team, the panel 14 experts together with the other panel experts will be in charge of investigating aircraft compliance with CS 2x.1529 and 25.1729 (including ALS as secondary panel). In case an MRB process is selected to comply with Appendix H/A 2X.3(b)(1), an MRB Expert is in charge of the MRB process and is part of the panel 14 activities.

For ICA, point 21.A.7(c) and AMC1 21.A.7(c) offers the possibility to provide to the operator, owner and others some ICA after Type Certification. The EASA team should review how the applicant makes use of this provision.

If an MRB Report is chosen by an applicant as one of the means to comply with CS 2x.1529, an accepted MRB Report is not required at TC but needs to be available upon the first aircraft delivery or upon the first issue of the certificate of airworthiness, whichever occurs later. Therefore, in phase IV, the MRB expert reports to the PCM the status of the MRB process. The MRB process status supports the panel 14 Expert's Statements of Satisfaction.

In case there is a risk that MRB acceptance is not available upon the aircraft delivery or upon the first issue of the certificate of airworthiness (whichever occurs later) a limitation/condition might be raised in accordance with AMC1 21.A.7(c) on Completeness and Timely Availability of Instructions for Continued Airworthiness).

2.1.4.3. OSD data

The applicability of OSD constituents is further defined by Article 7a of Regulation 748/2012.

For OSD relevant products, the OSD certification basis shall be proposed and established together with the type certification basis.

At the applicant's request per point 21.A.21(b), the applicant is entitled to have the aircraft type-certificate or restricted type-certificate issued before the applicant has demonstrated compliance with the operational suitability data certification basis, provided that the applicant demonstrates such compliance before the date at which those data are to be actually used. The TCDS will then be updated to record OSD references.

2.1.4.4. Conditions for Closure of Phase III

- Completion of EASA verification activity as per determined LOI (review of data, test or inspection witnessing, audits, flight tests and notification of no technical objection, see also chapter 5.2);
- If the MRB process is selected to demonstrate compliance with "scheduling information", a specific process is running in parallel to the certification process and as such the MRB process might not be completed and the MRB R might be not yet approved;
- A preliminary list of Post TC mandatory actions is available as per 2.1.5.1.

2.1.5. Phase IV- Final Report and issue of a Type Certificate

Phase IV is the final phase of a project. This phase usually overlaps with Phase III. For large products, this phase usually starts around six months prior to the expected date of Type Certificate issuance. This is a high workload phase for both, the EASA team and the applicant, and there are often unexpected late-arising issues. Certification Team members, while keeping in mind the applicant's deadlines, should keep focused on product safety and verification of compliance demonstration.

Depending upon the project complexity and the potential issues, an internal management briefing at the beginning of this phase should be performed to provide a clear status to EASA management and to highlight the main open critical issues and the associated way forward.

2.1.5.1. Open Items Tracking List

In order to have a clear view of the number and importance of open items that are raised at the time of Type or Post Type certification final phase, the following is proposed and may be used by the PCM if deemed relevant:

All open items should be recorded and tracked in an "Open Items Tracking List" that will follow the format described hereafter.

Each open item will be identified by a reference following the WI.CERT.00146 chapter 3 for CAIs.

The Open Items Tracking List will be prepared and tracked by the PCM based on the input from the panel coordinators. The PCM should send regular updates of the listing to the EASA team members, the EASA certification directorate management and applicant for information. The status of open items should be regularly discussed between the applicant and EASA project management starting at least 2 months before the TC target date.

The following information should be included in the Open Items Tracking List:

- Primary panel (by open item reference number)
- Category A, B or C (see below definition)
- Subject title
- Short description of the technical concern
- Support Panels involved in the treatment of the open item
- Proposed mitigation for TC (e.g. AFM/ALS limitation, if needed)
- Proposed action (plan) for Post-TC
- Target date for final resolution
- Status for TC
- Status for Post-TC
- Owner of the next action

The following categorisation is proposed:

CAT A: Non-compliance with the Certification Basis

A plan to demonstrate compliance needs to be established:

CAT A items do not allow granting a TC. They shall therefore be addressed by either:

- deviations , OR
- equivalent safety findings, OR
- additional limitations that ensure full compliance

Thus, CAT A items are to be closed before TC by demonstrating full compliance OR re-classified as a CAT B or CAT C item

CAT B: Change to Type Certificate

Although compliance with the applicable Certification Basis can be demonstrated for TC, maybe with the help of limitations or procedures, a post TC action is desired to be completed before a certain deadline to ensure that the aircraft/system/equipment is performing in accordance with its intended design goal.

Each CAT B item should include an agreed justification about the acceptable deadline for completion of a post TC action. The deadline might be defined in terms of "event" as e.g. first a/c delivery, first set of pilot training material issued, certain design option to be available, etc.). See also 1.1.1.7.

CAT C: Other open issues or actions

CAT C items would be those that do not fall into either CAT A or CAT B, but that would still require proper recording and follow-up of closure, that may be requested pre or post TC (see also 1.1.1.7).

This could include actions for an enhanced validation of assumptions or improvement of analytical models used in the frame of a certification project.

By application of this process it is ensured that a product is in full compliance with the final Certification Basis at the time of TC by the following means:

- limitations/procedures
- adapted Certification Basis via a Deviation or an Equivalent Safety Finding

2.1.5.2. Final report

The EASA final report of a certification project (TE.CERT.00173) should be drafted by the PCM and the Certification Team members (for their part) early enough to allow a comprehensive review by the relevant section manager of the product line and by EASA Management/ESC as described by WI.CERT.00005.

The final (certification) report shall be established as per EASA template TE.CERT.00076. The template may be customised as appropriate for the approval.

For issuance of the Type Certificate it is necessary to prepare the Type Certificate Data Sheet (TCDS) recording the main type design data as well as the Certification Basis and the TCDSN.

2.1.5.3. EASA Safety Committee – ESC

If deemed necessary by EASA management or as defined by WI.CERT.00005, prior to the expected TC issuance, the PCM should deliver a presentation to the EASA Safety Committee (ED decision 2014/205/E).

2.1.5.4. Final check

Once the applicant completed the compliance demonstration as defined in the Certification Programme and the Certification Team members completed their verification to their satisfaction, the PCM checks the requirements as per point 21.A.21, 21.B.103 and the following items before initiating TC issuance:

- Type Design Definition is identified;
- All retained compliance data, as determined by the EASA LoI, is submitted reviewed and no technical objection is raised or left open;
- If applicable, Type Certificates for other related products (for instance engine, propeller TC) are granted by EASA;
- If applicable, related ETSO authorizations (e.g. APU) are granted by EASA
- All CRIs as per WI.CERT.00146 are closed;
- CRI A-01 is closed and an official notification is provided to the applicant;
- No CAT A item as per 2.1.5.1is left.
- All CAIs are up to date and closed if not related to a post certification action item (e.g. ICA as per 2.1.4.2, OSD as per 2.1.4.3, see also 2.1.6);
- All other pre-TC actions are closed.
- Major Recommendations for Improvement (MRI) and Recommendations for Improvement (RI) are established and acknowledged by the applicant, if applicable;
- All limitations and conditions are fully defined and agreed by EASA and by the applicant;
- All post-TC actions are identified and agreed and associated planning for completion is available, with applicant commitment if required;
- The applicant's declarations are received as per point 21.A.20(d) and (e) and the type-certificate applicant has expressly stated that it is prepared to comply with point 21.A.44(a)(b) (Continued Airworthiness and Marking);
- The relevant Experts Statements of Satisfaction are declared and any limitation recorded in the ESoSs are duly taken into account,
- The Final Report is issued;
- The TCDS is ready to be published;
- The TCDSN (when applicable) is ready to be published;
- The DOA Terms of Approval are ready to be updated to indicate the new TC.

As a helping means see also the Final Phase Checklist in SEPIAC

Based on the above the Technical Visa (TV) for Type Certificate / Restricted Type Certificate (FO.CERT.00095) is signed by the PCM..

The approval can then be signed by the appropriate signatory (refer to Work Instruction WI.CERT.00005 – Decisions and signatures for certification).

The prepared TCDS is published afterwards on the EASA website. By this the project is technically closed.

Phase	0	I	II	III	IV
Description	Definition and agreement of the working methods	Technical familiarisation and establishment of the TC basis	Agreement of the Certification Programme and Level of Involvement	Compliance determination	Final phase
Deliverables from the applicant	• Application • General Technical description • Classification of the change/STC (if applicable) • Initial proposal of Cert. Programme • Proposal of certification basis	• Detailed Technical description usually at system level • Proposal of certification basis • Cert. programme (revised as needed) including draft identification of CDIs	• Cert. Programme (CP) • Identification of CDIs (in the CP if suitable) • Justified proposal classification of CDI (likelihood and severity) according to EASA Certification Memorandum (in the CP, if suitable); • Proposal of LOI for compliance data and activities (in the CP, if suitable);	• Certification reports on the compliance activities (statements, descriptions, analysis, inspections, tests, audit, etc.); • Inform EASA on every difficulty;	• Declaration of compliance; • Draft TCDS/N • Any other deliverables according to EASA process
Deliverables from EASA		• First issueof CRI A-01 (or certification basis)	• Acceptance of cert. programme; (through SEPIAC, e-mail) • Notification of LOI (through acceptance of the certification programme that includes the LOI, specific CAI, letter, email or form)	• Any deliverable required by the nature of the Agency's involvement • Adaptation of the notified LOI on the basis of experience during project duration	• ESoS (modified to reflect the LOI concept); • TV; • TCDS/N; • Final CRI A-01 (and closure of other CRI/CAI); • Any other deliverables according to EASA process • Final report.
Main steps	Eligibility check; Gen. Fam. Meeting.	Kick off Meeting; Familiarisation meetings.	Review of Certification Programmes; Determination of LoI.	Verification by the EASA team of the applicant's compliance demonstration	ESC presentation.
Conditions for closure	Provisional application acceptance; Team nomination.	Technical familiarisation of the team completed; First issue of CRI A-01 notified to the applicant; The initial set of applicable CRIs drafted; First issue of PID.	Certification Programme acceptance; Documented LoI, accepted by the EASA team; All CRIs issued and closed.	Completion of EASA verification activity (e.g. document review, test witnessing, audits and flight test; Preliminary list of Post TC mandatory actions available.	Post TC action item issuance (if applicable) Final report issuance; TCDS/TCDSN issuance; TC issuance.

Table 1: Type Certification – Phases overview

2.1.6. Post TC Action Items

Before issuance of a TC, compliance with the EASA Certification Basis must be demonstrated. Post TC Action Items might be possible. Examples are endurance tests not yet finished but for which additional limitations are defined, or Category B or C post TC items as per 1.1.1.6.1 (Endurance tests as per CS-E 440 and CS-E 740 are explicitly excluded as a post TC item).

When necessary, the EASA PCM should issue, record and track Post TC action items as described in 2.1.5.1 (see also WI.CERT.00146).
These post TC action items may include recommendations for improvement and shall be notified to and accepted by the applicant before TC issuance.
In some cases, where deemed necessary by the team, some post TC action items should be completed before first Entry into Service.

Post TC action items should be tracked regularly and progress should be monitored closely. Applicants should develop a plan to close each post TC item.

2.2. Restricted Type Certification

This sub-section will refer only to those particular issues that are applicable to a Restricted Type Certificate (RTC) certification process and that are different from the “standard” TC process.

2.2.1. Definition of a Restricted Type Certificate

From the legal point of view, the main regulatory articles specific for an RTC case are:

- Regulation (EU) 2018/1139 Article 18(1)(b) and Article 77, and
- Amended Regulation (EU) 748/2012 Annex I Part-21, point 21.A.21

In accordance with these specific legal requirements, an RTC may be issued if a standard TC cannot be issued because it is not possible to provide full compliance with the essential requirements for airworthiness and environmental protection as defined in Article 9 of Regulation (EU) 2018/1139.
A common case for this non-possibility to comply with the airworthiness requirements is when an aircraft has a “special” intended use or purpose. Some examples in the past are:

- Agricultural spraying, dusting and seeding (e.g. Air Tractor AT-802);
- Forest and wildlife conservation;
- Carriage of cargo for special purposes (e.g. Airbus A300-600ST Beluga).

2.2.2. Specific “restricted” elements which are distinctive for an RTC

A restricted TC may have the following specific “restricted” elements, which are distinctive for it and different from a standard TC case:

- A declared aircraft special use or purpose;
- The Type Certificate itself is identified as a “Restricted Type Certificate” and the TCDS is identified as Restricted Type Certificate Data Sheet (RTCDS);
- An RTC certification basis consists of:
    - The applicable airworthiness code plus the necessary set of special conditions,equivalent level of safety findings and deviations as for a standard TC but also substituting the applicable airworthiness code for which compliance cannot be provided, associated with

the specific aircraft restricted use/purpose. Specific mitigating factors must provide an adequate level of safety for the intended RTC use /operation;

- The identification of those requirements from the applicable airworthiness code and essential requirements for which full compliance is not demonstrated or that are inappropriate for the aircrafts intended use;

- A set of specific restricted type certificate limitations that in combination with the RTC related certification basis must ensure an adequate level of safety for the restricted intended use/purpose of the aircraft. In most cases of RTCs, no commercial operations are allowed, the aircraft occupants being limited to the minimum flight crew, additional crew members for training purposes and other occupants strictly necessary to perform the specific aircraft operation or role as specified by the AFM;
- AFM specific restricted content, that should include:
  - Aircraft has a restricted Type Certificate;
  - Aircraft specific use/purpose has to be specified;
  - Specific Restricted TC operating limitations and associated emergency, normal and abnormal Procedures;
- Specific placards may be required in the cockpit. There is, however, no requirement to have a placard identifying the aircraft as having a restricted TC (unless it is a case of a derivative RTC with respect to a standard TC, in application of CS XX.1541(a)(2)).

3. Post Type Certification

After receipt of an EASA TC , changes to type certificate and repairs can be processed.The relevant requirements for post type certification are included in Commission Regulation (EU) No 748/2012 under:

- Point 21.A Subpart D: Changes to Type Certificate;
- Point 21.A Subpart E: Supplemental Type Certificates ;
- Point 21.A Subpart M: Repairs.

These requirements may be partially superseded when under the provisions of a BASA.

3.1. Post TC Certification – EASA Member State Applicants

The certification terminology for changes to a Type Certificate is as follows:

- From the TC/STC Holder: minor changes / major changes;
- From a non-TC/non-STC Holder: minor changes / STCs.

In addition to changes to type certificate and if the product is damaged for any reason, there could be a need to embody repairs to restore its airworthy condition. Repairs are classified as minor or major, depending on their effect on airworthiness as per 21.A.435.

The EASA procedure for TCs and design changes PR.CERT.00001 can be found in ARIS.

For each change and repair to type certificate, the baseline configuration , i.e. the pre-application configuration of the relevant parts for the change or repair shall be identified in the certification programme. This includes other possible design changes that shall be permitted in combination (see also GM 21.A.101 §§ 3.2, 5.3).

3.1.1. Changes and Repairs Certification

The approval of changes and repairs to type certificate is defined by Part-21 Subpart D, E or M.
The application for a change and repair should be performed via the EASA application portal.

3.1.1.1. Classification of the changes

Minor/Major Change Classification in accordance with 21.A.91:

"A 'minor change' has no appreciable effect on the mass, balance, structural strength, reliability, operational characteristics, operational suitability data, or other characteristics affecting the airworthiness of the product or its environmental characteristics. Without prejudice to point 21.A.19, all other changes are 'major changes' under this Subpart. (…)."
Environmental characteristics refer to noise, fuel venting, aeroplane CO_2 emissions and engine emissions.

All affected areas of a change and therefore its impact on systems and product level including all installation aspects shall be considered for the change classification.
Guidance and practical examples on technical change classification criteria are in the appropriate EASA Part-21 AMC & GM, the EASA website under the FAQ, CM-21.A-CS-001 and CM-21.A-D-004, which takes into account the effect of the change on airworthiness, operational suitability and/or the characteristics regarding environmental protection of the product.

If the TC holder has a DOA, it may have the privilege to classify the changes as minor or major, and to approve their minor changes in accordance with point 21.A.263(c) provisions. Non-DOA holders do not have the privilege to classify changes and their proposed classification needs to be reviewed and accepted by the Agency.

A provisional review of the change classification is performed by the relevant certification Head of Department delegate during the daily electronic task allocation meeting as described in WI.CERT.00012. If any doubt about the correctness of the change classification arises at this stage, further data can be requested from the applicant to clarify and confirm the correct change classification. Once the certification project has been allocated, the PCM should further review and be satisfied with the classification and with the applicant's eligibility. If there is any doubt about the proper classification by the applicant, the PCM should try to clarify any uncertainty first with the applicant and later on with the relevant section manager of the product line as deemed necessary. If justified, a change reclassification may be necessary.

Some changes may appear minor from an airworthiness point of view but may have an appreciable effect on operational suitability or the characteristics of aircraft noise, fuel venting or engine emissions. In these cases the change needs to be classified as major.

Regarding an appreciable effect on its environmental characteristics, as per the 21.B.85 and the basic regulation (EU) 2018/1139 article 9, the ICAO Annex 16 volume I for noise is applicable to changes to type certificate. An appreciable effect as per 21.A.91 is a change in type design which may affect its noise characteristics adversely. "Adversely" is defined by ICAO Annex 16 Volume I, e.g. for an aeroplane an increase of more than 0.10 dB in any one of the noise certification levels unless the cumulative effects of changes in type design are tracked by an approved procedure in which case "adversely" refers to a cumulative increase in the noise level in any one of the noise certification levels of more than 0.30 dB or the margin of compliance, whichever is smaller.

The following criteria are considered in the frame of EASA involvement in the verification of compliance demonstration but those criteria are not acceptable for a minor classification:

- Simplicity of a change
- Similarity to previous changes
- Well known design
- Very good performance of the applicant
- Failure probabilities / reliability of the design
- No unsafe condition

3.1.1.2. Issuance of new versus revised Certificates /Approvals

Only TC and STC holder can apply for changes to their approval. Everything else results in an STC or a separate minor change approval.

Original approval that is applied for to be changed	Minor change may lead to (if not covered by DOA privilege)	Major change may lead to
STC	1. Minor change approval under Part-21 subpart D acc. to 21.A.117(a) 2. STC Revision under Part-21 subpart D acc. to 21.A.117(a) (If applicant = STC holder)	1. New STC under Part-21 subpart E acc. to 21.A.117(b) 2. Major change approval under Part-21 subpart D acc. to 21.A.117(c) (If applicant = STC holder) 3. STC revision under Part-21 subpart D acc. to 21.A.117(c) (If applicant = STC holder)
Major change	1. Minor change approval 2. New major change approval (If applicant = TC or STC holder) 3. Major change approval revision (If applicant = TC or STC holder)	1. STC approval 2. New major change approval (If applicant = TC or STC holder) 3. Major change approval revision (If applicant = TC or STC holder)
Minor change	1. New minor change approval 2. Minor change approval revision (If applicant = Minor Change approval holder)	N/A

Table 2a: Change classification

Original approval that is applied for to be changed	Minor repair change may lead to (if not covered by DOA privilege)	Major repair change may lead to
Major repair	1. Minor repair approval 2. New major repair approval (If applicant = Major Repair approval holder) 3. Major repair approval revision (If applicant = Major repair approval holder)	1. New major repair approval 2. Major repair approval revision (If applicant = Major repair approval holder)
Minor repair	1. New minor repair Approval 2. Minor repair approval revision (If applicant = Minor repair approval holder)	N/A

Table 2b: Repair classification

A revision to an existing EASA approval is usually used for editorial changes or additional compliance demonstration without actual design changes. Revisions to EASA approvals with different design or different technical manual content, need to have a revision based configuration management by the the applicant.

In case that a revision to an EASA approval is superseding the former approval, this shall be highlighted in the description of the Technical Visa and Approval Certificate. Otherwise the former approvals stay valid. It should be noted though, that a revision of an approval should not be used to supersede a previous approval, unless in exceptional cases (for example: to correct typos) and if no product has been modified according to the approval to supersede.

Related changes, that cannot be demonstrated individually as fully compliant on product level, should be applied for under one application. An artificial division into several applications should be avoided and minor change approvals under DOA privilege related to a dependent major change are considered as a Part-21 non-compliance.

Requests for correction of certificates or approvals for editorial changes only, with no need for certification team technical involvement, can be handled directly by the Applicant Relationships Section without opening a project number.

Applications for removal of a limitation in a major repair approval will lead to the revision of the repair approval, and not to a new approval.

Applications for a major change to an STC by the STC holder itself may lead to the issuance of a major change approval (applicant choice in accordance with Point 21.A.117(c)).

In cases of minor changes to an STC approved under DOA privilege that have some impact on the content of the STC, EASA does not normally change the information contained in the STC because it is intended that a subsequent change, duly approved, should provide enough evidence of the most recent approved design data.

Reclassification from major to minor

GM 21.A.91 3.3 reads

"… When the strict application of the paragraph 3.4 criteria results in a major classification, the applicant may request re-classification, if justified, and the Agency could take the responsibility in re-classifying the change."

"A simple design change planned to be mandated by an airworthiness directive may be re-classified minor due to the involvement of the Agency in the continued airworthiness process."

Therefore, a reclassification should be performed only if the change is in a kind of "grey" area but strictly applied major or simple and covered by the Agency's CAW process.

A reclassification from major to minor is an EASA decision and shall be recorded in the EASA SEPIAC general project "Major to Minor Reclassification" or in a dedicated project folder if a change application was already received.

Experts should advise the PCM and the decision of reclassification from major to minor should be provided by the PCM.

Fees and Charges Classification in accordance with the EASA Fees and Charges Regulation

In addition, for major changes, the proposed classification as simple, standard, significant or complex significant should be assessed in accordance with the classification criteria in the EASA Fees and Charges Regulation during the electronic task allocation meeting. The relevant certification Head of Department delegate will review during the electronic task allocation smeeting the fees and charges classification proposal as submitted by the applicant and will inform the Applicant Relationships section as soon the need for amendment is identified. This does not prevent the EASA PCM from asking for reclassification of the change during the project investigation, if deemed necessary in view of additional data provided.

The criteria for classification of a major change application as "simple" are that it:

- includes current and well-proven justification methods only, AND
- includes a complete set of data including the complete compliance demonstration (it is acceptable if the data set is provided not at the same time as the application itself), AND
- is performed by an experienced applicant in the technical domain, AND
- which can be assessed by the project certification manager alone, or with a limited involvement of a single discipline specialist

The "involvement" criteria for a "Simple" classification in the fees and charges regulation must not be confused with the involvement of EASA in the verification of compliance demonstration (LOI). The fees and charges regulation is based upon considerations other than Part-21 and its LOI amendment.

Involvement in the sense of point 21.B.100 means involvement in the verification of compliance demonstration. Familiarisation and acceptance of the certification programme are therefore not considered as involvement in the sense of point 21.B.100.
Involvement of a single discipline specialist as per the fees and charges regulation refers to the assessment of the project which includes the assessment whether the certification programme is adequate and acceptable.
A certification project may be classified as a simple major change in accordance with the EASA fees and charges regulation, even if EASA has an involvement in the verification of compliance demonstration as per point 21.B.100. However, if more than one panel ESoS is expected, the change should not be classified as simple.
As an order of magnitude for a simple classification, less than estimated 7 hours of one panel expert should be considered as a threshold.
A "significant" or "complex significant" classification as per the fees and charges regulation is equivalent to a "significant change" classification as per 21.A.101.

3.1.1.3. Major changes

The major change certification process is tailored to the extent and complexity of the change, similar to the type certification process but with the possibility to revert to an earlier certification basis as per the 21.A.101 process.

Many major changes may be processed without the need to raise CRIs, CAIs, Final Reports, PIDs, etc., and the final technical approval can be completed at the appropriate EASA Certification Section level depending on the nature of the product and change. However, some major changes (e.g. significant changes) may require some or all of the above items and therefore necessitate a documentation process comparable to that required for type certification.

The major change certification process can be split into five phases, as in the Type Certification process. However "Phase 0 – Definition and agreement of the working methods with the applicant", as explained in the chapter for a TC is often not necessary, as the applicant is expected to be familiar with the working methodology of the Agency, gained during previous TC or STC process and subsequent major changes.

An eligibility and capability check shall be performed according to 21.A.92 as described in 2.1.1.1.

Certification Teams are often already pre-established as per the "Master Team List of CT Directorate" in SEPIAC, e.g. the team in charge of all major changes for a specific product model. Otherwise the team composition is established per internal user guide.

3.1.1.3.1. Phase I – Technical Familiarisation and Establishment of the initial Certification Basis

The objective of this phase is to provide technical information about the change to the Certification Team to enable the establishment of the initial Certification Basis.

- ***Technical familiarisation***

For complex major changes and STCs, the Certification Team often needs to receive thorough technical briefings (e.g. a Kick Off meeting) information from the applicant about the change to the product in order to fully understand the change to type certificate, including any new technologies and any unique or unconventional features or intended unconventional usage of the changed product. These design features, which cannot be addressed by the usual applicable certification specification, might affect the establishment of the EASA Certification Basis (type certification basis, OSD certification basis, environmental protection requirements) with the inclusion of dedicated Special Conditions.

For non-complex changes, the intent of the technical briefings from the applicant can be achieved by correspondence (explained in the certification programme submitted by the applicant) and supplemented by teleconferences if necessary.
For significant changes as per 21.A.101, a PID (Project Information Document) may be established on a case by case basis if deemed appropriate by the PCM, and in agreement with the relevant section manager of the product line and Head of Department (see also PID chapter 2.1.2.1).

The coordination aspects of the certification team regarding technical interface item should be considered as described in 2.1.2.2

The PCM should check the need to interface with the following processes: DOA and interfacing product certification.

- ***Establishment of the initial Certification Basis***

Major change applications shall be checked if they are substantial as per 21.A.19. For substantial changes an application for a new TC is required.
If not substantial, as a default per 21.A.101(a), a major change to a type-certificate and areas affected by the change shall comply with the environmental protection requirements designated by the Agency in accordance with point 21.B.85 and the certification specifications applicable to the changed product on the date of the application if the product is not covered by 21.A.101(c).
If an applicant requests reversion(s) from the certification specifications applicable to the changed product on the date of the application, the applicant for the major change need to propose a non-significant or significant classification with a justification regarding the 3 criteria in 21.A.101(b)(1): retained general configuration, principles of construction and assumptions used for certification.
The associated AMC & GM provides additional explanations and practical examples that should be consulted by the Certification Team whenever there is a doubt about whether a change classification is correct. The PCM, with support from the experts team, is responsible for assessing and eventually accepting the classification proposed by the applicant. It is very important to correctly classify

significant changes as this may have a fundamental impact on the determination of the certification basis as per 21.A.101 and subsequent certification activities. The product related safety board is to be consulted in case of doubts.

If the change is not significant, the applicant may propose for an adequate certification basis to:

- revert to the certification basis as per EASA TCDS of the applicable product
- revert to CS issued later as per TCDS but earlier than applicable at the date of application
- apply the CS amendment at the date of application
- elect to comply with a CS amendment that is issued after the date of application.

The EASA certification team reviews the applicant's proposed certification programme, accepts or declines these proposals and establishes the certification basis via the adequate amendments of CS or any Special Condition as per 21.A.101(d) and in case of Special Condition also as per WI.CERT.00146 and WI.CERT.00057.

If the change is significant the PCM documents usually the Certification Basis in a CRI A-01 as per WI.CERT.00146.

3.1.1.3.2. Phase II – Acceptance of the Certification Programme and Level of Involvement

The applicant submits a proposed certification programme including an LOI proposal as per 21.A.93 and chapter 5.2 . Proceed as described in chapter 2.1.3 .

3.1.1.3.3. Phase III – Compliance Demonstration/Verification

- ***Receive compliance documentation***

The Certification Team receives the compliance demonstration data from the applicant and verifies it as described in chapter 2.1.4.

3.1.1.3.4. Phase IV – Final Report/Technical Visa and issue of the Change Approval

- ***Issuance of final report, Technical Visa***

The PCM checks the status of retained compliance verification with the determined certification basis.
If relevant, the PCM checks with the DOA Team Leader on the status of the DOA approval, which needs to be granted ahead of the closure of the technical investigation.
If applicable, the PCM checks with Panel 14 the status of the ICAs including MRBR.

For some changes the PCM in conjunction with the Certification Team, may need to produce a final report (see chapter 2.1.5.2).

On receipt of all necessary expert's statements of satisfaction (ESoS) from the panel team members, the PCM issues the TV confirming that the EASA Certification Team is satisfied and that the applicant demonstrated compliance with the determined certification basis.

For the approval of a major change the requirements of 21.A.97 and 21.B.107 shall be met.

➢ ***Amend the TCDS when needed***

The PCM initiates a TCDS update if needed, i.e. in the case that the change affects any data contained in the TCDS (e.g. certification basis, design, masses, etc.)

➢ ***Amend the TCDSN when needed***

Changes in the noise levels need to be recorded in the EASA TCDS for Noise if a TCDSN exists and/or the EASA Noise Database. When the design change is approved, the PCM shall inform the Environment & Sustainability Section so that the EASA TCDSN and Noise Database is amended accordingly.

3.1.1.4. Minor changes and stand alone or minor change related revision of Flight Manual (FM)

3.1.1.4.1. Minor Changes

DOA holders typically have the privilege to classify changes / repairs and approve Minor Changes / Repairs by themselves. In this case no application for approval of a Minor Change / Repair is necessary.
For minor changes/repairs where the applicant has not the privilege under an a DOA, the certification process for minor changes will be streamlined, as the technical design content and impact on airworthiness should allow for a more direct and quick technical review and approval process.

The minor change process has the following characteristics:

- The Certification Basis as per TCDS and/or STC is adequate;
- No PID is requested;
- No CRIs/CAIs are issued;
- No Final Report is requested.

If EASA receives an application for a minor change approval, the level of involvement as per 21.B.100(b) and its AMC need to be recorded. The template for “LOI determination for minor changes” in SEPIAC is recommended to be used.

3.1.1.4.2. For the approval of a minor change the requirements of 21.A.95 and 21.B.107 shall be met.Case of FM revisions that introduce reductions of Maximum Take-Off Mass (MTOM) / Maximum Landing Mass (MLM)

Such applications are frequently raised for the purpose of obtaining reduced Air Traffic Control fees. Typically such applications concern aircraft that are certified according to CS-25. For other aircraft categories the noise Panel should be consulted for further guidance.

As far as the Maximum Take-Off and/or Maximum Landing Mass is concerned, specific attention has to be given to aspects related to compliance with the Essential Noise Requirements. Some FM revisions have in the past referred to the imposition of new lower masses as an “operational weight limit”. Such terminology is not appropriate. All mass limits in the FM are considered to be certified mass limits. The Certification Memorandum CM-21.A-D-004 gives further guidance on this topic, in particular with regards to the classification of such changes.

CM-21.A-D-004 does not cover

- aircraft others than CS-25,

- mass changes outside the approved aeroplane mass limits,
- mass reductions beyond 10 % of those limits,
- mass changes associated with aeroplane noise levels not yet approved by EASA (not recorded in the EASA Noise Database),
- implementation of Customer Service Bulletins instructing the applications of single/dual/multiple weight variants as those Service Bulletins already provide all necessary approved data, supported through related technical demonstration, and instructions needed to perform such change. In this case no application to EASA is required.

The table below provides a summary of the cases discussed in CM-21.A-D-004:

	MTOM/MLM reduction within already approved EASA envelope without change to noise certificate	MTOM/MLM reduction within already approved EASA envelope with change to noise certificate
Change classification	Minor	Major; or Minor if noise levels for the new mass are already published in the EASA noise database provided the agreement of the TC holder
FM revision content	Indication of new mass.	Clear indication of new mass and associated noise levels
Involvement of Noise Panel	No	Yes

From a noise perspective, the introduction of a flexible mass (“dynamic payload”) variant is an extreme case. The certified noise levels are the highest noise levels of each individual procedure (Lateral, Flyover and Approach) at any possible mass within the considered “flex” range. The noise panel needs to be systematically involved in such cases.

Note 1: “weight” versus “mass”: Whereas the term “weight” is the force exerted on an object by gravity that changes slightly e.g. with latitude and elevation, “mass” is the physically more appropriate term. Since the difference on the earth is negligible the word “mass” and “weight” are used in the same context.

3.1.1.5. Introduction of new Product Model designation

A change or changes to an existing type may lead to a new model designation of the type. A new product model designation is a type certificate holder decision. There are no EASA criteria requiring a new product model and there is no definition what kind of change should lead to a new product model designation. However, the aviation world works with product model designations:

- Each product has a model designation on the identification plate
- Airworthiness Directives are applicable per product model
- Aerodromes work with product models and product model groupings
- …

The certification process, as per the amended Annex I (Part -21) to Regulation (EU) No 748/2012, differentiates only between a new type certificate and a change to type certificate. Even if product models, as a sub-grouping

of a product type, are historically known and used by the aviation community, product models are neither defined nor processed as such in Part- 21 .
It is a voluntary decision by an applicant to introduce a new product model designation based on whatever kind of major change.

The process approach for TC holders' application for a major change with the addition of a new product model designation is revised as shown below and takes effect since June 2024.

Past process: The complete product model was considered as a change application, as per Part-21 Subpart D, requiring the complete product model to be compliant for certification. This led to an unlevel playing field with foreign authorities and TC holders from non-EASA countries. An application for a new product model, which is a voluntary decision of a TC holder, led to a more stringent certification approach, as if the same change to a TC would have been applied for without the introduction of a new product model designation.

Active process:
If a TC holder applies for a new product model designation, the revised process approach is the following:

a. An application for a major change with the addition of a new product model designation is considered in the frame of Part-21 Subpart D, as a change to type certificate considering only the actual changes and their affected areas. The amended type certification data sheet (TCDS), as part of the type certificate as per 21.A.41, will mention the new model designation with a note* that the introduction of the new model designation is based on the approval of the corresponding major change(s) to type certificate.

   *Reason for note: The revised process approach may lead to newly introduced product models that are not fully compliant, and may include pre-existing unsafe conditions in the non-affected areas (addressed by existing ADs), if the introduction of the corrective action to such unsafe condition is considered disproportionate within the timeframe of the targeted major change approval. The note provides clarification that EASA certifies the changes and its affected areas that lead to a new product model designation, but does not approve the unaffected areas of the actual design changes that may include non-compliances and/or unsafe conditions which would need to be addressed via the continuing airworthiness process.

   Otherwise, a new product model approval could create a contradiction if the declared fully compliant product model is at the same time added to an existing airworthiness directive.

   It needs to be ensured that the application and certification programme clarifies that the application is for a major change, defining the affected area rather than the complete product, thus leading to a new product model designation but not leading to a product model approval.

b. The certification basis need to be established as per 21.A.101, i.e. the certification basis is not necessarily the latest CS amdt at the date of application for the complete product (i.e. the affected and unaffected areas). If the new product model designation leads to a new TCDS section, the complete certification basis is to be described, i.e. for the affected and for the unaffected areas of the applied major change that leads to a new product model designation.

c. Additionally to what is needed for the approval of the affected area of a change, and in line with GM 21.A.3B(d)(4) point 4.4, the applicant for a new product model designation shall
   1. review and analyse all known potentially applicable Airworthiness Directives, unsafe and potential unsafe conditions in the unaffected areas of the applied major change(s), and

2. include the adequate corrective actions to those unsafe and potential unsafe conditions, to the extent practicable**, in the applied major change(s). If determined as not practicable, identify the need for AD revision(s) to extend the applicability to the new model.

d. **Extent practicable means if the corrective action is technically possible and timely available.the TCDS should get a new section for a new model designation.
Depending on the TC holder's policy of model definition, a TCDS section might be also used for a grouping of models, i.e. in case that the difference between models is marginal and the majority of the TCDS section is identical for the affected models of a model grouping (e.g. Airbus 318/319/320/321 aircraft, LEAP-1B engine)

3.1.1.6. Supplemental Type Certificate (STC) EASA member state applicants

STCs are changes classified as major as per 21.A.91 that are usually applied for by organisations other than the TC Holder. The STC certification process is therefore essentially the same as the major change certification process. This section deals with STCs applied for by EASA member state applicants, on any product certified or validated by EASA. The instructions provided below complements the instruction provided above for the change certification process in 3.1.1.3.

An eligibility and capability check shall be performed according to 21.A.112A and 21.A.112B as described in 2.1.1.1. In addition, the criteria in GM 21.A.112B for group 1 and group 2 changes shall be considered.
A specificity of the STC approval process lies in the potential link between the STC applicant and the TC Holder that need to be described in the certification programme if applicable. Refer to point 21.A.113(b)(ii) and 21.A.115(b)(5) relative to the case where the STC applicant has entered into an arrangement with the TC Holder.

Change approval possibilities to STCs are described chapter 3.1.1.2 table 2a.

For the approval of an STC the requirements of 21.A.115 and 21.B.111 shall be met.

It is possible to issue a supplemental TCDS or TCDSN (e.g. if the content of the TCDS is changed to a large extent by the STC).

3.1.1.7. Approved Model List (AML) Changes

Certification Memorandum CM-21.A-E should be considered for applicants who seek for an AML STC, AML major change or AML minor change approval. A proposed applicability extension of an AML means a new major change application following the process as described in 3.1.1.3, i.e. the adequate certification basis as per GM 21.A.101 step 8 need to be newly evaluated based on later identified safety risks as per 21.B.75(a)(3) and corresponding CS amendments.

3.1.1.8. Repairs (EU/EASA Applicants)

A "repair" means elimination of damage and/or restoration to an airworthy condition following initial release into service by the manufacturer of any product, part or non-installed equipment. Under this Section, only instructions for approval of repairs on products as per point 21.A.431A(a)(c)(d) is provided. Repairs to ETSO'd articles as per point 21.A.431A(e) have a separate process and are treated as changes to the ETSO'd articles under the "ETSO" chapter 4.4, except repairs to APUs, which are handled like repairs to engines (product).

An eligibility and capability check shall be performed according to 21.A.432A and 21.A.432B as described in 2.1.1.1.

This work instruction complements approval of repairs that are performed in accordance with EASA Part-21 Subpart M and the EASA Airworthiness of Type Design Procedure PR.CERT.00001. In general, the approval process of a repair has the same certification phases as described in the approval process for changes or STCs above. The process is streamlined for repairs classified as minor, as the technical design content and impact on airworthiness should allow for a more direct and quick approval process.
EASA shall designate the type certifiacation basis and environmental protetection requirements as per point 21.B.450.

3.1.1.8.1. Classification of Repairs

Repairs shall be classified as major or minor as per point 21.A.435 in accordance with the criteria set out in point 21.A.91 and GM 21.A.435. Under this Section, only guidance to approve minor and major repairs is provided, but not standard repairs as quoted in 21.A.431B.

The classification of a repair as major or minor shall be made by the Agency or by an appropriate DOA holder under a procedure agreed with the Agency.

The same process shall be followed as described in 3.1.1.1
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3.1.1.8.2. Major Repair Approval

Major repairs may be approved by:
- EASA or
- a DOA holder under a 21.A.263(c)(5) DOA privilege.

For a DOA holder it is necessary that the organisation has a 21.A.263(c)(5) privilege that is applicable for the TCs or STC to be repaired. Further guidance is provided in Part-21 AMC & GM.

The application should be carefully investigated to ensure that it
- is based on a damage or malfunction, and
- restores to an airworthy condition, and
- recovers/uses part numbers of the pre-application design, and
- does not introduce a change to TC or STC, i.e. the pure replacement of an approved part by a new one with a different part number or the same P/N but not manufactured using the TC holder data is not considered acceptable under an application for a repair design.

It is however acceptable that within a repair parts with new part numbers may be introduced to accommodate a repair solution but without replacing approved design.

A specificity of the major repair approval process lies in the potential link between the STC applicant and the TC Holder that need to be described in the certification programme if applicable. Refer to point 21.A.432C(b)(7) and 21.A.433(a)(4) relative to the case where the major repair applicant has entered into an arrangement with the design approval holder.

For the approval of a major repair the requirements of 21.A.433 and 21.B.453 shall be met.

Major Repairs are usually approved against the certification basis as described per the product's TCDS, as they are intended to restore the product certification standard and capabilities before it was damaged. Alternatively, in rare circumstances, the certification basis in effect at the time of application, plus any later amendments to those certification specifications or any special conditions that the Agency finds necessary, may be established as the certification basis for the major repair. This could be e.g. the case for the introduction of doublers that introduce a new technology if such new technology would be not yet covered by the certification basis. As per 21.A.432C(b)(4) in such case the major repair approval shall lead to an amendments of the applicable TCDS, RTCDS, STC or APU ETSO authorisation

The procedure to approve a major repair as per point 21.B.453 is equivalent to the approval procedure of a major change to TC or STC. For further guidance refer to chapter 3.1.1.3.

3.1.1.8.3. Minor Repair Approval

Any natural or legal person can apply to EASA for the approval of a minor repair. However, only the Agency and DOA holders with corresponding privilege can approve them.

The process for minor changes as per chapter 3.1.1.4 shall be followed for the approval of a minor repair For the approval of a minor repair the requirements of 21.A.433 and 21.B.453 shall be met.

4. European Technical Standard Order (ETSO) Authorization

4.1. Introduction

An ETSOA (European Technical Standard Order Authorization) in accordance with Part-21, subpart O represents a separate EASA approval for a part or appliance (ETSO article) complying with a minimum operational performance standard (MOPS) defined in CS-ETSO. An ETSOA allows the manufacturer to deliver a certified article with an authorised release certificate (EASA Form 1) and to mark it with ETSO.
The ETSOA is optional because parts and appliances could also be certified on aircraft level. In any case there shall be an additional approval process because the ETSOA does not constitute an installation approval. Nevertheless, the installer of the article may claim certain credit from the ETSOA, since the ETSOA may already cover partial compliance demonstration with the product's certification basis.
Presently CS-ETSO contains about 150 ETSO standards addressing different articles. (refer to EASA webpage). As CS-ETSO is not a consolidated document, two pages have been created on EASA website, one containing the list of current ETSOs, the other the list of all (current & historic) ETSOs.

Note: ETSOA for Auxiliary Power Unit (APU) are are processed per chapter 3, Part-21 subpart O and D or E as described in point 21.A.604(a).

4.1.1. ETSO categories

Historically the majority of today's ETSO standards are based on FAA TSO standards. Prior to the foundation of JAA (Joint Aviation Authorities) articles had mainly been approved by European NAAs using the technical requirements (MOPS) of existing FAA TSO standards or dedicated technical specifications.
Later, during the time of JAA a considerable number of FAA TSO standards was adopted and became JTSO standards.
Finally with foundation of the Agency in 2003 all JTSOs were transferred into ETSOs. At that time it became evident that three categories of ETSO standards were needed to address differences to corresponding FAA TSOs as well as to allow the creation of ETSO standards for articles where no FAA TSO existed.

4.1.1.1. Category 1

Category 1 ETSO standards are considered to be more-or-less similar to the corresponding FAA TSO standards. Minor differences may exist regarding environmental qualification requirements where ETSO and TSO could for example refer to different revision levels of ED-14/RTCA DO-160.
Example:
ETSO-C39c vs. TSO-C39c (aircraft seats and berths).

4.1.1.2. Category 2

Category 2 ETSO standards contain differences in technical requirements of the MOPS when compared to corresponding FAA TSO standards.
Example:
ETSO-2C75 vs. TSO-C75 (hydraulic hoses assembly);
ETSO-2C75 requires a proof pressure test of 2 times the max. operating pressure whereas TSO-C75 requires to proof test the hoses with 1.5 times of the max. operating pressure.

4.1.1.3. Category -2C5XX

This category defines ETSO standards without a corresponding FAA TSO standard.
Example:

ETSO-2C503 (Helicopter crew and passenger immersion suits for operations to or from helidecks located in a hostile sea area)

Remark:
It should be noted that for all Categories, the revision letter of a given ETSO versus a TSO might be different.

Example:
ETSO-C26c vs. TSO-C26d (Aircraft Wheels, Brakes and Wheel/Brake Assemblies for Parts 23, 27 and 29 Aircraft).

4.1.2. National authorisations (Pre-EASA)

Per Regulation (EU) No 748/2012 any authorizations granted to articles by European National Authorities before September 2003 (foundation of EASA) are still considered to be acceptable ("grandfathered"). Such articles can still be produced and operated as long as there would be no cause for an unsafe condition. As soon as an AD action would become necessary the affected article shall lose its authorisation and shall be retired in accordance with the compliance time of the AD.
For EU member states who joined EASA after 2003 a transition period was defined for each state. In accordance with the transition arrangements national authorisations are either considered as being grandfathered or a validation process (refer to chapter "ETSO applications from non-EU countries") is necessary. This is also the case for non-EU countries who voluntarily joined EASA (Norway etc.).

Note: After September 2003 articles shall only be authorized against current ETSO-standards. Unusual national standards cannot be used any more for new authorisations (Example: LBA-NTS for seat covers).

4.2. Obligations for manufacturers

As required per Part-21, subpart O an applicant for ETSOA shall show capability for design as well as for production. Design capability requires AP to DOA (Alternative Procedures to DOA) or a full DOA in accordance with Part-21, subpart J.

Note: ETSOA for APU require a full DOA.

For Production a POA iaw. Part-21, subpart G or F is required, where the POA could either be held directly by the applicant or the applicant could contractually involve an external POA. This is different to the FAA TSO-system where the TSOA constitutes a design as well as a production authorisation for the manufacturer.

Note:
1. For European organisations the POA surveillance is performed by the NAA of the state where the organisation is located. POAs located in Non-EU countries are under EASA responsibility.
2. For countries having a bilateral agreement with the EU, the organisational system of the bilateral partner is considered equivalent to the EASA system and consequently POA and AP to DOA are not required.

Furthermore, point 21.A.606 identifies four prerequisites which must be satisfied before an ETSOA can be granted. This includes the obligation to expressly state "that it is prepared to comply with Point 21.A.609." This point in turn refers to Point 21.A.3A, which identifies the obligation to collect, report and investigate occurrences (refer also to chapter 4.6 "Occurrence Reporting").

4.3. Processing of ETSO applications

4.3.1. General

With the exception of APUs, ETSO-projects are processed within the Agency by PCMs located in the ETSO Section, but some may be processed by other expert or by other entities upon decision of the ETSO Section Manager. Once an eligible application was received the ETSO Section Manager allocates the project to a PCM. Dependant on the nature and/or complexity of the project the PCM may involve a relevant expert for assistance in solving particular technical issues, or for workload sharing. Similarly to Product Certification the PCM adds the expert as a team member in SAP and allocate working hours as needed.

The PCM shall review the proposed certification programme as well as the time line for certification and agree it with the applicant. Potential deviations against the ETSO standard shall be identified by the applicant (refer to chapter "4.3.2"). At this early stage potential test witnessing activities are agreed for major qualification tests.
An eligibility and capability check shall be performed according to 21.A.602A and 21.A.602B with respect to design and production capability (AP to DOA/DOA, POA) as further described in 2.1.1.1. For the design capabilities, the PCM should liaiase with the EASA DOA section to understand if an application for design organization approval was made and to check the status of procedure review prior than engaging into the project work. Similarly for production capabilities, the PCM should check the status of the POA approval by the relevant NAA for an EU based organization or with the EASA POA section in case of extra-EU Applicant when the status is not known by the PCM.
As neither the AP to DOA nor the DOA provide privileges to the applicant for the ETSO, the PCM shall receive all technical documentation required by Point 21.A.605 as well as required by the MOPS of the relevant ETSO standard. The PCM manages the compliance verification process including document evaluation, technical discussions and test witnessing.

For the EASA level of involvement the AMC No 2 to 21.B.100(b) Level of involvement (LoI) in European technical standard order authorisation (ETSOA) projects and WI.CERT.00155 shall be followed.
Basically the level of involvement (LOI) of the PCM is by definition high. However, for companies with well-established processes and many ETSO projects managed properly the level of involvement may be reduced. The performance and adherence to the procedures is rated by the PCM via the Technical Visa for ETSO through entries into the ETSO LOI database (see WI.CERT.00155). Based on the results from the annual review of the database the LOI shall be adjusted if required.

4.3.1.1. Issue of the ETSO Authorization of an article other than an APU

Finally at the end of the process the PCM shall verify that all data required by Point 21.A.605 as well as the relevant ETSO is submitted and is considered to be acceptable. This includes a Declaration of Design and Performance (DDP).
For the ETSO authorization the requirements of 21.A.606 and 21.B.480 shall be met.
If the project data proves to be acceptable and all necessary documentation is received, the PCM signs a Technical Visa for ETSOA and shall enter the final project information into the ETSO LOI database FO.CERT.00166.

The signed Technical Visa is transferred to the Applicant Relations Section (refer to chapter 5.4) where the certificate is generated. Finally the certificate is signed by the ETSO Section Manager.

4.3.2. ETSO Deviations

According to Point 21.A.610 an ETSO deviation request against a MOPS requirement of an ETSO-standard and/or against the general requirements of CS-ETSO, Subpart A can only be based on a demonstration of "equivalent level of safety". Requests containing other compensating factors as it would be common practice for product certification shall not be accepted based on the fact that this would require a change of Subpart O in Part-21.

In specific cases an ETSO deviation could be based on limitations for the installation/operation of an article.
The manufacturer must identify potential deviations to the related ETSO-standard and shall officially submit an ETSO deviation request including the rationale for "equivalent level of safety" directly to the PCM for review. If considered reasonable the PCM converts the ETSO deviation request into a consultation paper (TE.CERT.00046). The consultation paper shall be phrased in a generic way to not disclose proprietary design data of a certain article. The drafted consultation paper shall then be reviewed by the relevant senior expert and after acceptance it is published for a period of at least three weeks on the EASA webpage for related consultations and publications. In case comments are received the PCM shall co-ordinate appropriate Agency responses and issue a CRD (as per WI.CERT.00057). Finally the accepted and rejected ETSO deviation document plus the related CRD shall be officially published. Up to 2013 a list of accepted ETSO deviations was made available on the EASA webpage. Rejected deviation requests were also made available here for the purpose of information up to 2012.
Any ETSO deviation for an article shall be highlighted in the Declaration of Design and Performance (DDP) as well as it shall be stated on the ETSOA certificate.

Once an ETSO deviation is accepted, any applicant may make use of it without the need to go again through the public consultation process. However, re-use of already accepted ETSO deviations shall be announced to the PCM and shall become part of the technical documentation. Nevertheless, even in case of a previous approved ETSO deviation the applicant needs to demonstrate an equivalent level of safety for the individual case.

4.3.3. Non-ETSO functions

For later installation purposes ETSO articles may be provided with additional technical functions exceeding the requirements of the MOPS of an ETSO. For such so-called non-ETSO functions the PCM shall assess if the additional function is properly defined as non-ETSO and if those additional functions could detrimentally influence the basic ETSO-functions.
If this would not be the case the non-ETSO functions can be considered as accepted on a non-interference basis. Nevertheless, this acceptance does not constitute a formal approval of non-ETSO functions.
Any non-ETSO functions shall be recorded in the DDP as well as a remark shall be printed on the ETSO certificate indicating that the article contains non-ETSO functions.
Note:
Even if the installer may claim certain credit from the ETSOA, no credit can be taken for the acceptance of non-ETSO functions.

4.3.4. ETSO Authorizations based on a different standard

The TIP to EU-US BASA permits granting ETSO authorizations which are based not on a standard from the CS-ETSO but on an FAA standard. TIP Rev 7 section 3.3.3.1 I permits to do so when no corresponding standard exists (for example, for TSO-C204 which has not been transposed in EASA system). The Agency interpretation of the TIP is that this provision can be used when no corresponding standard exists in the EASA system or, in the case a standard exists with the same number (e.g. pertaining to index 2 or having a different version number) when the FAA TSO standard is more stringent. In such a case, the wording of the certificate is modified not to refer to the Part-21 but to the TIP.

4.3.5. ETSO database

The ETSO Section records all specific information related to single ETSO projects in a dedicated internal ETSO LOI database. This database is maintained by each ETSO PCM and by the DOA department secretary, and contains all relevant project details necessary to determine a proper LOI.
The Design Organisations & ETSO Department Secretary opens a new record upon receipt of the application in the form "FO.CERT.00166 - ETSO LOI Database". In the final stage of the ETSOA process the PCM shall enter

relevant data for each individual project relevant for the applicant's performance evaluation and future LOI determination.

4.3.6. Risk indicators and LOI

As the provisions for AP to DOA do not offer a possibility for organisation audits the performance of each ETSOA holder is assessed for the individual projects. During project execution the PCM shall assess the performance of the applicant based on risk indicators being project data completeness, the accuracy of data, the repetition of errors as well as the response time towards the Agency.

Additionally each ETSOA holder is generally rated with respect to:

- Occurrence reporting
- Notification of minor changes
- Adherence to procedures (AP to DOA)

If an organisation does not perform as expected the processing of future ETSO projects shall be done more thoroughly (higher LOI) and the organisation may be visited more frequently to witness tests or to perform audits on their procedures.

4.4. ETSO design changes

4.4.1. General

The criteria for classification of changes defined in Point 21.A.611 regarding changes to ETSO articles are different than classification criteria for changes to products (ref. Point 21.A.91).

Point 21.A.611(b) is quite openly phrased: *"… any design change by the holder of an ETSOA that is extensive enough to require a substantially complete investigation to determine compliance with an ETSO is a major change"*.

Based on the above wording as well as due to the fact that AP to DOA provisions would not grant privileges, any potentially extensive change would have to be co-ordinated between the applicant and the PCM.

However, depending on the MOPS of the ETSO standard it may well be that a change can be assessed to be classified as minor even if a number of extensive tests would be required to substantiate that change.

A major change to an ETSOA leads to a new ETSO under point 21.A.603 as described in point 21.A.611(b).

For the authorization of an article other than an APU the requirements of 21.A.606 and 21.B.480 shall be met.

4.4.2. Minor changes

As per Point 21.A.611(a), the holder of an ETSOA may make minor changes without further authorisation by the Agency. This is inspite of an AP to DOA not hetso LOI aving such privilege, in line with the provisions of points 21.A.611(a) and 21.A.603(b) that the applicant can agree with the Agency an envelope of "anticipated" minor changes. Such "anticipated" minor changes are reflected in an open-bracket P/N of the ETSO article (e.g. D258-(xxx)-(yy)). The detailed description of the chosen P/N break down shall be laid down either in the ADOA handbook or in a dedicated qualification document belonging to the specific ETSO project.

In principle, the scope of future minor changes are authorised and agreed in advance.
With this provision in place the manufacturer need not to provide separate applications to the Agency for each single P/N change to have the ETSO certificate revised.

In case of "non-anticipated" minor changes where the initially agreed open-bracket P/N is affected, the applicant should apply via the EASA application portal, selecting the option "change to existing ETSOA" and the ETSOA certificate is revised to add a new or changed P/N. Additionally the PCM shall receive the technical documentation where the change was substantiated. This also includes a revised DDP.
Example: add P/N D259-(xxx)-(yy) to existing P/N D258-(xxx)-(yy).

If the fundamental P/N structure would need to be changed the applicant shall additionally apply for a revision to the AP to DOA handbook by means of the EASA application form "Application for Alternative Procedures to Design Organisation Approval" because the P/N break down in the ADOA handbook has to be amended accordingly.
Example:
P/N D258-(xxx)-(yy) is replaced by D258-(xxx)-(yy)-(z).

Note: As a part of the ETSOA holder obligations the Agency shall be notified periodically about the performed minor changes even if those are done under the accepted open-bracket regime.

4.4.2.1. Changes to national authorisations (Pre-EASA)

If national authorisations were granted by the NAA allowing an "open-bracket" part number system (see previous paragraph), the manufacturer of the article can still perform minor changes under the previously arranged provisions.
If the national authorisation certificate displays fixed article P/Ns any minor change to add or change P/Ns is only possible through the Agency.
The applicant needs to apply via the EASA application portal selecting the option: "minor change to existing authorisation" with a reference to the old technical standard against which the article authorisation was granted as well as with a reference to the initial national approval No. (e.g., CAA/UK Exxxx).
After the technical documentation substantiating the change as well as a copy of the national authorisation certificate has been received the Agency issues an ETSO authorisation with reference to the old technical standard as well as the initial NAA approval No.
However, the applicant for a revision of an old national authorisation shall show design capability by having an ADOA (refer to chapter "Obligations for Manufacturer").

4.4.2.2. Third party changes to ETSO articles

According to Point 21.A.611 only the ETSOA holder is authorised to perform changes to the article. Consequently, a third party change would either lead to a new ETSOA with the third party becoming the ETSOA holder or the change would have to be performed on aircraft level on the installed article in accordance with Part-21 subpart D (refer to Chapter "Post Type Certification").
If changes to articles are performed on a/c level it needs to be assessed if the ETSO marking on the article would have to be removed. The article was modified by a third party and consequently the initial ETSOA holder cannot be held responsible for continuing airworthiness of the modified article.
For such cases it shall be assessed if the extend of the change affects the basic ETSO function(s) of the article (Example: modification of primary structure on a seat).
If the basic ETSO function is not affected by the change and the article remains installed on the a/c the ETSO marking may remain on the article. In case the article is removed from the a/c and should be sold independently, the ETSO marking has to be removed as the article does not comply any longer with the approved design.
Nevertheless, the article is required to be marked with the letters EPA (European Parts Approval) in accordance with Point 21.A.804 indicating a third party change.

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4.5. ETSO applications from non-EU countries

Basically the Agency can accept applications for ETSOA from non-EU countries. However, the process is different for countries having a bilateral agreement with the EU, having a working arrangement with the Agency or for countries having no arrangements with the Agency at all.

4.5.1. ETSO applications from countries with a bilateral agreement in place

The ETSOA procedure is described in the TIP (Technical Implementation Procedures) of the related bilateral agreement. The extend of documentation needed as well as the work to be performed depends on the procedures defined in the TIP. It may vary from reciprocal acceptance of ETSOA and foreign TSOA (e.g., USA, Canada, Brazil) to a more thorough check of technical documentation.

The Application for European Technical Standard Order Authorisation is processed through the local CAA where the CAA shall verify if the design of the proposed article complies with the relevant ETSO standard. If satisfied the CAA issues a letter of concurrence to EASA in which compliance with the relevant ETSO is declared. After receipt of the concurrence letter and the technical documentation as required by the TIP the PCM shall check the transmitted documentation package for completeness and shall verify if the ETSO specific technical details are addressed and met. If all is considered acceptable the PCM issues and signs the Technical Visa for ETSOA which is then handed to Relationships & Corporate Services (refer to chapter 5.4) to process and print the ETSO certificate. However, an ETSO LOI database entry is not required as the oversight of the applicant is performed by the authority of the state of design. The Technical Visa allows to highlight difficulties encountered during the project review and to share with Chief PCM Validation for further considerations.

4.5.1.1. Reciprocal acceptance

If the bilateral agreement contains provisions for reciprocal acceptance of ETSOA and foreign TSOA there is no need for involvement of the Agency. All foreign TSO articles imported into the EU are considered acceptable if accompanied with an appropriately completed foreign authorized release certificate (e.g. for FAA-TSO: Form 8130-3).

Reciprocal acceptance also covers the acceptance of articles qualified in accordance with technically different ETSO/TSO. Such articles are considered acceptable per se but, as described in 4.10.5, the level of qualification needs to be assessed by the installing DOA if the Type Certification Basis requirements of the aircraft are met where the subject article are intended to be installed.

Example: ETSO-2C75 (hydraulic hose assemblies) is technically different from the corrensponding FAA TSO-C75 due to a higher level of proof pressure requirements laid down in CS-25. Here the installing DOA need to evaluate if the lower pressure qualification of a US-manufactured TSO-C75 hose meets the TC Basis of the aircraft. It may well be that it is sufficient for older aircraft types certified in accordance with JAR-25.

4.5.2. ETSO applications from countries with a working arrangement in place

The ETSOA procedure is described in the Working Arrangement between the foreign CAA and EASA. Eligible ETSOA applicants shall show capability in accordance with Part-21 by having an ADOA as well as an EASA POA.

The Application for European Technical Standard Order Authorisation is processed through the local CAA where the CAA shall verify if the design of the proposed article complies with the relevant ETSO standard. If satisfied the CAA issues a letter of concurrence to EASA in which compliance with the relevant ETSO is declared. After receipt of the concurrence letter and the technical documentation as required by the ETSO process in the related Working Arrangement the PCM shall check the transmitted documentation package for completeness and shall verify if the ETSO specific technical details are addressed and met. If all is considered acceptable the PCM issues and signs

the Technical Visa for ETSOA which is then be handed to Applicant Relations Section (refer to chapter 5.4) to process and print the ETSO certificate.

4.5.3. ETSO applications from countries with no arrangement in place

Applications from countries without any arrangement with the Agency are treated as a certification instead of a validation.
Eligible ETSOA applicants shall show capability in accordance with Part-21 by having an APDOA as well as an EASA POA.
The Application for European Technical Standard Order Authorisation is directly processed through the Agency without any involvement of the applicants CAA.
The processing of such projects shall follow the regular ETSO process as described in chapter "Obligations for manufacturers".

Note: For all applications from non-EU countries, the ETSO authorisation No. includes the letters IM indicating that the article is imported.
Example: EASA.IM.21O.10039255 (ETSOA for a U.S. seat manufacturer).

4.6. Validation of ETSOA in third countries (CSV)

A European ETSOA holder may apply for a foreign equipment approval through the Agency only if a valid working arrangement or a bilateral agreement with the foreign CAA respectively state is in place.
Prerequisite for progressing the application shall be a valid ETSOA, a grandfathered national approval or at least a parallel ETSO project and a completed EASA application form "Contract for certification support for validation of EASA certificates and other Third Country approval activities".
If requested by the applicant the PCM is required to state the number of working hours (quote) expected for the project work. In accordance with the Fees & Charges Regulation validation requests are charged by the working hour.
The Applicant Relationships Section shall get in contact with the applicant to get a formal quotation acceptance for the requested working hours.
Once the Relationships & Corporate Services has received the quotation acceptance the work is allocated to the PCM through SAP.
The PCM shall check the technical documentation for completeness as well as he has to verify the compliance with the requirements of the foreign certification standard.
If the documentation is considered acceptable the PCM issues and signs a Technical Visa for ETSOA referring to the foreign certification standard. Based on the Technical Visa for ETSOA the Design Organisations & ETSO Department Secretary prepares a letter of concurrence in which the Agency states compliance with the foreign certification standard. The concurrence letter is then signed by the ETSO Section Manager and provided with a set of technical documentation to the attention of the foreign CAA for acceptance.

The necessary activities may vary from country to country. Below are some examples for frequent cases:

- FAA: Reciprocal acceptance for ETSO/TSO.
  Refer also to the FAQ available at http://www.easa.europa.eu/the-agency/faqs/etso-authorisations in particular http://www.easa.europa.eu/the-agency/faqs/etso-authorisations#category-validations;
- Transport Canada: Reciprocal acceptance for ETSO standards as per agreed list of common standards. For validations regarding non-common standards a concurrence letter from the Agency as well as set of technical documentation would be required according to the specific TIP;

- CAAC (China): In accordance with the Bilateral Agreement and TIP, validations of ETSOA are administratively validated in China, while validation of CTSOs is either streamilined or processed through LOI principles. There are specific provisions in the TIP regarding applications as well as required forms;
- ANAC (Brazil): Reciprocal acceptance for ETSO/OTP from 26 Jan. 2025;
- Singapore: a working arrangement establishe direct acceptance of ETSOA by CAAS while outline specific steps to be taken by the foreign applicant and CAAS in submitting the validation application and data package to EASA. Organizational requirements for a Singapore based Applicant is a CAAS DOA and an EASA approved POA.
- Taiwan: no specific requirements.

For other countries the local CAA should be contacted.

4.6.1. Changes to CSV projects

Basically any minor design changes to articles are covered by the initial approval. The TIP, respectively working arrangement, contains the provisions for this acceptance of minor changes. Therefore the changes do not need to be communicated to the foreign CAA.
In case that P/N changes would require a revision of the foreign certificate the applicant shall process the revision through the Agency by means of the EASA application form "Contract for certification support for validation of EASA certificates and other Third Country approval activities".
In most of the cases a revision to a foreign certificate also requires a revision to the ETSOA certificate in advance (refer to chapter "Changes to national authorisations (pre-EASA)").
The applicable technical documentation describing the change needs to be received by EASA and if found acceptable the Design Organisations & ETSO Department Secretary prepares a letter for the CAA with the request to revise the existing certificate. Finally the letter is signed by the ETSO Section Manager and provided to the attention of the CAA including technical documentation if required by the CAA.

For minor changes where P/N are added or revised on the ETSO certificate the existing FAA LODA (Letter of Design Approval) will not be revised. The P/N stated on the existing LODA keeps its validity and the additional P/N resulting from the minor change will fall under the reciprocal acceptance.

4.7. Interface with ETSO/TSO authorisations

4.7.1. Interface between ETSO and product certification activities

An ETSO Authorisation (ETSOA) (or a foreign approval subject of a reciprocal acceptance) is the outcome of an independent process for qualification of an ETSO (or a foreign TSO for reciprocal acceptance –TIP 5.6.1.1) article. An ETSOA only addresses Minimum Performance Specifications e.g. SAE, EUROCAE, RTCA documents, as referenced in the applicable ETSO standards. Since most ETSO articles are intended for installation on aircraft, the qualification process for the article may be influenced to a certain extent by installation aspects (for example: for testing, the set-up has to be representative of the installation).

However, the ETSO process does not formally approve the installation aspects at aircraft level. There might be links to product certification activities e.g. if there are installation limitations or deviations that need special attention at installation level.

These aspects are normally documented in the Declaration of Design and Performance (DDP) as referred to on the ETSOA certificate.

The list of ETSOA certificates is updated on a monthly basis and is available here.

The ETSO Section has an additional non-comprehensive historical record which includes some of the national approvals collected at time of EASA foundation issued by the following non-exhaustive list of NAAs prior to EASA:

- LBA;
- CAA-CZ;
- ACG;
- CAA-NL;
- FOCA;

It may not always be evident to the PCM ETSO where the ETSO article will be installed. The "Master Team List of CT Directorate" in SEPIAC may be consulted to obtain further information if needed.

4.7.2. Parallel ETSOA and installation projects

ETSO compliance of modern complex ETSO articles sometimes require conducting verification on aircraft (flight tests, …). When a parallel installation project is identified, the PCM ETSO and the aircraft PCM should liaise closely.

4.7.3. Non-ETSO functions

The approval of non-ETSO functions has to be done at installation level. The existence of non-ETSO functions is stated on the ETSOA certificate as well as in the DDP. Refer to chapter Non-ETSO functions.

4.7.4. Additional Information

The ETSO FAQs webpage might contain further information that could be useful for aircraft PCMs. The ETSO FAQs can be found here.

4.7.5. Credit for ETSO article approval in an aircraft certification project

The applicant for TC, STC or major change remains responsible for showing compliance with the aircraft type certification basis.

Nevertheless, if an article has its own approval (ETSOA, TSOA, other grandfathered national approval), this may be used under specific conditions to show compliance with some requirements of the aircraft certification basis, for those requirements and for those functions which are covered by the ETSO/TSO standard.

Special attention should be given to non-ETSO functions (refer to 3.3.3) not covered by the articles approval since the showing of compliance for such functions is in general not covered. This is also the case of articles subject of reciprocal acceptance when the ETSO and the foreign authority are technically different (CS-ETSO Subopart B Index 2 listed standards), which may result in additional activities at installation to show compliance to the aircraft certification basis. Deviations and limitations of the articles, and in particular, Open Problem Reports need also to be assessed at installation level.

In addition, point 21.A.305 requires that "in all cases where the approval of a part or appliance is explicitly required by the Community law or Agency measures, the part or appliance shall comply with the applicable ETSO or with the specifications recognized as equivalent by the Agency in the particular case". This is a requirement for

compliance with the applicable standard (ETSO or other accepted standard, or applicable CS), not a requirement for obtaining an ETSO authorisation.
For example, under CS 25, this applies to: control cables, external lights, wheels and brakes, seats/berth, emergency egress assisting means, hand-held fire extinguishers, smoke/fire detectors, airspeed indicating systems, pressure altimeters, emergency egress assist means, life-rafts, life preservers, CVRs,…

Note: For reciprocally accepted foreign articles refer to chapter ETSO applications from countries with a bilateral agreement in place.

4.7.5.1. Case of an EU applicant under Part-21

The EASA level of involvement in the verification of compliance should not only address the verification that the ETSOA/TSOA is available but also

- Adequacy of the ETSO to meet the certification basis,
- Assessment of the non-ETSO functions (which are not covered by the ETSO authorization),
- Assessment of deviations,
- Assessment of limitations, and in particular of Open Problem Reports,
- and, in the case of reciprocal acceptance, assessment of the differences with the ETSO.

For those requirements fully covered by the ETSOA/TSOA and the related compliance documentation, a DOA holder does not need to provide the independent checking function required by Point 21.A.239(b) and its control of the ETSO/TSO article supplier will be limited to proper identification of the article and the requirements or standards complied with.

Note:

In absence of ETSOA, grandfathered EU national authorizations, or reciprocally accepted TSOA the applicant is responsible for compliance with all applicable installation requirements.

The EASA level of involvement in the verification of compliance is determined in accordance with the applicable part of AMC No 2 to 21.B.100(b) and WI.CERT.00155.

If the applicant is a DOA holder, the design organisation must comply with the requirements related to the independent checking function of Point 21.A.239 (b), and to the control of the article supplier of Point 21.A.239(c) and, when applicable (independent checking provided by the supplier), Point 21.A.243(b).

This implies in particular that the applicant should have full access to the relevant compliance data.

4.7.5.2. Case of a non EU applicant (under Bilateral or under Working Arrangement without DOA)

EASA, through a Bilateral or through a WA, has accepted the national state of design system for compliance demonstration at aircraft level, and has defined the activities to be performed for its own type certification in implementation Procedures or Working Arrangements. If the Bilateral or WA contains provisions for credit for ETSO authorization, those provisions would apply.
TC/STC/Major Change applicant may use an ETSOA/TSOA for showing compliance with some requirements of the EASA aircraft certification basis, for those requirements and for those functions which are covered by the ETSO/TSO standard, in accordance with the national State of Design system for compliance demonstration.

In the case of an ETSOA (or grandfathered national approval, or reciprocally accepted article), EASA will normally not involve itself in the verification of compliance demonstration, except for non-ETSO functions, deviations and limitations or when the ETSO standard differs from the one used by the reciprocally accepted article.

In the absence of an ETSOA (or grandfathered national approval, or reciprocally accepted article), EASA will define its involvement in accordance with the applicable rules and policies. E.g. the applicable sections of the TIP/Bilateral/Working Arrangement (as applicable) dealing with the involvement of EASA as the validating authority (at aircraft level).

In the frame of a TC (validation) project, it is good practice for EASA to request the applicant to identify all articles which are required to be approved under the EASA certification basis, and to indicate how compliance is shown with the applicable ETSO requirements or the equivalent standard. If the article holds an approval that is not automatically accepted by EASA or whose standard differs from the ETSO, any difference between the relevant standards should be addressed.

5. Certification Process Technical Management

5.1. Certification Programme Review

The certification programme is to be reviewed according to chapter 1 and 2. Especially for post TC certification the linked "post TC certification programme checklist" should be consulted. This checklist provides a non-exhaustive list of consideration for acceptance of a certification programme.

The EASA acceptance of the certification programme as required by Part-21 shall be recorded by EASA ensuring traceability of the reference, issue and or revision of the accepted certification programme. This should be done in SEPIAC if a project is managed in SEPIAC or otherwise through other tools e.g. e-mails recorded in EASA document management system.

5.2. Determining Level of Involvement

The determination of the Certification Team LoI in the verification of the compliance demonstration performed by the applicant is a key element of a certification project.

The amendment to Part-21 introduced by Reg (EU) 2019/897 clarifies the duties of the applicant and the Agency in the determination of the level of involvement (LOI). These duties are related to the type of application as summarised in the following table 3:

<table>
<tr><th>Application for</th><th colspan="2">Applicant's Δ duties</th><th colspan="2">Agency's Δ duties</th></tr>
<tr><td>a new TC/RTC</td><td rowspan="5">Risk assessment per (meaningful grouping of) compliance demonstration activities and data and LOI proposal</td><td>21.A.15(b)(5)(6)</td><td rowspan="6">Establish and notify the LOI</td><td rowspan="5">21.B.100(a) and (c)</td></tr>
<tr><td>a major change</td><td>21.A.93 (b)(3)(ii)(iii)</td></tr>
<tr><td>a major repair</td><td>21.A.432C(b)(6)(7)</td></tr>
<tr><td>an STC</td><td>21.A.450 (b)(i)</td></tr>
<tr><td>an APU ETSO</td><td>21.A.604(a), 21.A.15</td></tr>
<tr><td>a minor change/repair</td><td colspan="2" rowspan="2">./.</td><td rowspan="2">21.B.100 (b) and (c)</td></tr>
<tr><td>others ETSOs</td></tr>
</table>

Table 3 Summary of LOI Duties

As can be seen from the right column of Table 3, for any project the Agency's certification team has to determine to what extent it verifies the compliance demonstration (level of involvement) of the applicant. It can thereby consider that

- For certification, the applicant (under DOA) already performed a complete, independent compliance verification of its compliance demonstration;
- For validations, the verification is usually delegated to the primary certification authority of the applicant.

Therefore, an exhaustive review of compliance demonstration is not required, but a sound and reasonable determination of the involvement is necessary. The concept of LoI, now introduced with Regulation (EU) 2019/897 in Part-21, provides to the Certification Team an objective tool with preset criteria to determine its involvement in a risk based manner.

While the regulatory and procedural backgrounds significantly differ in the case of certification and validation, the overall risk-based principle governing the EASA LoI is identical.

A summary of all LOI related published data is available on the following linked EASA webpage:

Note: for validation of OSD, principles and procedures for delegation are not yet defined.

5.2.1. Breakdown of the certification programme into CDIs

General
Refer to AMC 21.A.15 (b)(5).

Completeness of the Certification Programme breakdown
Refer to AMC 21.B.100(a) and 21.A.15(b)(6) paragraph 3.1.

EASA Review of the CDI list proposed by the applicant

Refer to AMC.21.A.15(b)(5) and to AMC 21.B.100(a) and 21.A.15(b)(6).
In addition to what is provided there

- A CDI may group items in the same panel, discipline, ATA chapters, MOC;
- A CDI may be of various size, nature and composition but should be such to group meaningfully related items;
- A CDI may be tailored to the scope and size of the project;
- A CDI should not group compliance activities for which it is difficult to determine the LOI.

5.2.2. LOI proposal from applicant

Refer to AMC 21.B.100(a) and 21.A.15(b)(6).

The PCM will coordinate the assessment of the applicant LOI proposal involving experts when deemed necessary.

For each identified CDI, the following steps must be performed:

a) Review of the risk-assessments proposed by the applicant; and
b) Review of the list of data and activities to be retained.

5.2.3. Review of the proposed risk-assessment

The risk-assessment review includes the following steps:

Assessment of Novelty

Refer to 3.2.2 of AMC 21.B.100(a) and 21.A.15(b)(6).

Assessment of Complexity

Refer to 3.2.3 of AMC 21.B.100(a) and 21.A.15(b)(6).

A recurrent issue noticed is that the complexity should not be linked to the previous experience of the design organisation.

Assessment of organisation performance

Refer to 3.2.4 of AMC 21.B.100(a) and 21.A.15(b)(6).

In addition:
The performance of the organisation should be based on the latest dashboard shared by the Agency. The DOA Dashboard shows both the overall organisation performance and the direct feedback as sent by PCMs and Experts.

If the applicant is a DOA holder, EASA consults the DOA Dashboard and retrieves the performance at panel/discipline level by using the direct feedback from Experts. If you are interested in more information on the DOA performance monitoring and analysis, refer to the Work Instruction WI.DOA.00834.

The DOA Dashboard will, by default, show the performance over the past 12 months, but if necessary the feedback from PCMs and Experts can be retrieved over a longer period by using the "Feedback from PCMs and Experts" file hosted on the DOA SharePoint site. The information available in the Dashboard might be more recent than the one communicated to the applicant (depending on when the last meeting with the DOA TL took place).

Assessment of Criticality

Refer to 3.3 of AMC 21.B.100(a) and 21.A.15(b)(6).

Additional clarifications at panel levels are provided in the attachments of the CM on LOI.

Deviations from this risk-matrix, such as for instance the merging of risk classes, cannot be acceptable for the Agency.

Outcomes of the review of risk-assessment proposed by the applicant

If the considerations made by the applicant to assess the risk are not clear or exhaustive, additional explanations will be asked in coordination with the PCM.

In case there is no or no sufficient proposal of LOI, the PCM shall request the applicant to make or improve the proposal. Note that according to point 21.A.15 and similar provisions, see above Table 3, the applicant has the obligation to propose an LOI.

When the expert disagrees with at least one of the applicant assessments for the above criteria, he/she informs the PCM in order to notify the applicant. Reasons for disagreement should be briefly explained.

When the expert agrees with the proposal on all 4 criteria, the list of activities proposed by the applicant for the relevant CDI can be reviewed (see next paragraph).

5.2.4. Review of LOI proposal – LOI determination

Refer to 3.5 of AMC 21.B.100(a) and 21.A.15(b)(6).

In addition:
Based on the assessment, the Expert proposes to the PCM the Agency's LOI determination and the activities/ documents retained.

In case the LOI determined by EASA deviates from the LOI proposed by the applicant, the applicant shall amend the proposed LOI accordingly. The PCM should be aware that this constitutes a necessary pre-requisite for the acceptance of the Certification Programme.

5.2.5. Documentation and Notification of LOI

Refer to 5. Of AMC 21.B.100(a) and 21.A.15(b)(6).

In addition:
For TC validation projects with BASA partners, the LoI is summarised in a validation workplan.

For a minor change, EASA performs the risk assemment and determines its involvement without an applicant's proposal. The complete minor change is considered as one CDI. The risk assessment may be in any form. A template is available in the "Certification Process Documents" in SEPIAC.as a supporting means.

The documentation constitutes records in the meaning of the Agency's quality management system and need to be processed, stored and archived as such.

5.2.6. Change/ update of LOI determination

Refer to GM 21.A.15I and to AMC 21.B.100(a) and 21.A.15(b)(6).

5.2.7. Disagreement with the applicant

In situations where the applicant disagrees with the Agency's LOI determination, the PCM with the support of the relevant Expert(s), shall explain the Agency's determination. It should be noted that the applicant has no possibility to appeal the determination. Therefore, further discussions should not take place during the project phase. What is important, is which documents are retained, which tests are to be witnessed and which other activities are to be performed by the Agency. Where necessary, the Panel of Experts shall be involved in accordance with Article 18 of MB Decision 12/2007.

5.3. Expert Statement of Satisfaction (ESoS)

Once all retained verification activities defined in the LoI have been successfully completed, the expert involved should issue his/her Expert Statement of Satisfaction (ESoS). The issuance of the ESoS normally concludes the expert's investigations for the project for this expert's area. The ESoS might be combined with the issuance of the final report section under the expert's responsibility, if requested earlier by the PCM with sufficient notice. The PCM should provide well in advance an estimate for the deadline of ESoS issuance to the team, and update the deadline as necessary, taking into account program evolution (i.e. delays).

ESoSs are project records. Each expert involved in a project should issue an ESoS. For the projects in which the PCM is also nominated as an expert, it is expected that the PCM will issue an ESoS for those areas for which the PCM is nominated as an expert.

Assistant Experts and trainees are not required to provide ESoSs.

For panels featuring several members, ESoS can be collected at panel level by the panel coordinator, or provided directly by individual panel members to the PCM, as decided by the PCM.

For interface panels, the PCM can either rely on a single ESoS issued by the phase III Coordinator, who should ensure that all panels have satisfactorily completed their investigations, or alternatively the PCM could require statements to be issued by all panels members.

In some cases (usually for major changes) not all team members might actually be involved in the verification of compliance. Typically, all experts involved in a change should provide an ESoS. It is the responsibility of the PCM to determine from which experts ESoSs are required.

An ESoS should be clear and unambiguous. In addition to record the technical satisfaction of a team member, the ESoS should also record any additional limitations or conditions requested by the EASA expert that were established during his/her investigation.

The ESoS shall be provided using the SEPIAC ESoS tool.
The "Certification Basis" acceptance that is covered by the ESoS includes the EASA type certification basis, the OSD certification basis and environmental protection requirements. It also includes the Validating Authority Certification Basis if so stated by the applicant and covered under the relevant BASA/TIP.

Through the ESoS, the experts should also provide feedback to the DOA Team Leader on the applicant's performance. Detailed questions and possible answers are provided in the SEPIAC tool for the reason of a standardized and comparable feedback.

5.4. Technical Visa (TV)

The Technical Visa for Approval activities is a Technical Closure Document (TCD) that shall be filled in by the allocated PCM (internal and at NAAs) at the end of a project upon

- receipt of the involved experts' statements of technical satisfaction.
- verification that the DOA, AP to DOA and/or Terms of Approval are approved or extended in case of a concurrent organisational application.
- verification that the POA is approved or extended in case of a concurrent organisational application for an ETSOA.

Besides providing the Statement of Technical Satisfaction of the PCM, this document is also used to convey the Applicant Relationships section the necessary information to draft a certificate/ approval on behalf of the relevant Section Manager.

Technica Visa Forms:

- Technical Visa for Type Certificate/Restricted Type Certificate
- Technical Visa for Post TC Design Approval
- Technical Visa for ETSOA and CSV of ETSOA
- Pre-filled CSV closure e-mail
- Technical Visa for Certification Support for Validation of EASA Certificates

Their embedded completion instructions shall be considered

The completed Technical Visa shall be e-mailed to: technical.visa@easa.europa.eu

For European TC, RTC, STC, Major Changes and APU ETSO applications out of EASA member states, the PCM shall provide his/her feedback, selecting the discipline "00 Project Management" in the feedback form under the Performance Feedback tab within SEPIAC.
Once the approval is issued, the PCM shall close the project in SEPIAC.
In the SEPIAC project welcome page, this can be done by clicking the 'Manage' button in the section "Project Information". Further guidance can be found in the 'How-To' section in SEPIAC (particularly in the document 14. Adding and Removing Assignees & Project Closure).
The project can only be closed when all performance feedback (as identified in the section "Affected Panels/Disciplines", see chapter 5.3) have been provided by the PCM and the Expert(s).
Closing the project will trigger the computation of the rating for this given project (computation performed on a weekly basis).

5.4.1. Completion instructions

It is important to note that the PCM remains ultimately responsible for the content of the Technical Visa (Pre-Filled or standard form) in terms of data quality and completeness. All fields are mandatory should be considered mandatory unless indicated otherwise.

The completion instructions are embedded in the forms referenced in 5.4.1.

6. Publications

6.1. Type Certificate Data Sheet (TCDS) and Type Certificate Data Sheet for Noise (TCDSN)

Upon issuance of the Type Certificates (TC), the Type Certification Data Sheets (TCDS) and Type Certification Data Sheets for Noise (TCDSN), which provide concise definition of the configuration of the type certificated product, are posted on the EASA website in order to meet the Agency's obligations for transparency (in accordance with Article 116 – Procedures for taking decisions – of Regulation (EU) 2018/1139) and MB Decision 12-2007.

As public documents, the TCDS and TCDSN are widely used by the aviation community worldwide for subsequent approvals. Therefore, standard formats for the TCDS and TCDSN are necessary to enable any person to easily find information about a specific product.

This chapter describes to the Project Certification Managers (PCM) and to the Head of Environment & Sustainability Section Manager how to write in a consistent manner the applicable Type Certificates Data Sheets (TCDS), Explanatory Notes to TCDS, and Type Certificate Data Sheets for Noise (TCDSN). It also aims at reinforcing the coordination between the various certification sections/departments during the type certification process.

As per WI.IMS.00033 Quality Documents management, changes shall be recorded at the end as per TCDS template and shall be marked by either adding a vertical line in the margin or by highlighting the text in yellow.

6.1.1. Type Certificate Data Sheet

Based on the draft TCDS proposed by the TC applicant, the PCM in coordination with his team prepares the TCDS. The content of the TCDS shall be available and the TCDS shall be published on the Agency's website as soon as the TC is issued. Additionally, the TCDS shall be updated as soon as a major change to type certificate is relevant for the TCDS content.

These instructions also apply for the creation of a TCDS for a Restricted category aircraft (R/TCDS).
When a Supplemental Type Certificate Data Sheet (STCDS) is created to supplement a TCDS, the STCDS should have the TCDS format described below.

6.1.1.1. TCDS format and content

In order to maintain the Agency's "Corporate image" it is necessary to ensure the systematic use of uniform document models by all staff. For each type of certified product exists a TCDS template prescribing a structure to ensure that the TCDS contains the information applicable to the particular product type.
In line with point 21.A.41, the following sub-chapters describe the TCDS content.

6.1.1.1.1. Explanation of the content of the TCDS

- **Title page**

Each TCDS has a common Title Page which identifies:

(1) TCDS Number which is the same as the TC Number, and has the format EASA.TC No. (TCDS No.: EASA.X (product category, i.e. A for Aeroplane, R for Rotorcraft, E for Engine, P for Propeller, etc.).XXX (number) or for imported products EASA.IM.X.XXX)*, or
(2) Restricted TCDS Number which follows the same logic, and has the format EASA. RTC No. (R-TCDS No.: EASA.X.XXX or EASA.IM.X.XXX)*

(3) Issue Number (starting with 01 as the first issue)
(4) Product type designation (e.g. aircraft, engine or propeller type designation)
(5) Issue date (which should coincide with the TC date for the first issue and every time the TCDS is revised due to TC changes; for editorial TCDS changes, the date is the TCDS approval date)
(6) Aeronautical Product Category (e.g. Large Aeroplanes, Powered Sailplane, Small Aeroplanes: normal, utility, aerobatic, commuter, restricted; etc. see TCDS templates)
(7) Name and address of the Type Certificate Holder
(8) EASA Approved Model Designations

Note:
*On the EASA website the TCDSs are listed by product category followed by the TC or RTC number, and for non-EU products followed also by (IM) (e.g. TCDS: IM.A.196, reads on EASA website: A.196.(IM)). The list is maintained in this format for ease of search by product category.

➢ **Content of the TCDS**

Each TCDS contains in the document, as a general rule:

1. Table of Contents (which can also be reduced to the main sections)
2. Sections applicable to each identified model with the following sub sections:
    I. General
    II. Certification Basis
    III. Technical Characteristics and Operating Limitations*
    IV. Operating and Service Instructions
    V. Notes
3. An Administrative Section with the content:
    I. Acronyms and Abbreviations**
    II. Type Certificate Holder Record identifying the original holder and any subsequent holders of the TC
    III. Change Record (for e.g. TC/TCDS transfer from NAA TC number to EASA TC number, addition of new model designations, etc.)

Notes:
(*) For engines and propellers TCDSs this section is split in two.
(**) A comprehensive list of acronyms can be find on EASA Intranet: Home>Important Files>EASA list of acronyms

6.1.1.1.2. Information required for each aeronautical product model

The content of the TCDS sections is listed below. Not applicable items should be marked with [Reserved].

➢ **General**

This section should contain as a minimum the following items:

1. Model designation (only official nomenclature to be used, no popular / marketing names). For the cases where there is no type designation, i.e. the type is not identified with its name, the type designation may be replaced with a list of model designations or model groupings (e.g. under TC R.008: AS350 and EC130 are listed).

2. Type Certificate issued in accordance with Annex I /Annex Ib (applicable for aircraft in the scope of 21L.A.21)
3. Certifying Authority (State of Design Authority)
4. State of Design Authority Certification Application Data (if applicable/ other than EASA TC)
5. EASA Certification Application Date
   This is the State of Design Authority certification application date for grandfathered products
6. State of Design Authority Certificate Date (if applicable/ other than EASA TC)
7.
8. EASA Certification Date

➢ **Certification basis**

This section shall contain the following items in the order listed. The non-applicable ones should be marked with [Reserved].
For validated products, the State of Design TCDS and Certification Basis should be referenced under this section.

1. Reference Date for determining the applicable certifcation basis
2. EASA Certification Basis
   Certification Specifications at applicable amendment (include CS elected to comply or that are reverted)
   2.1 Special Conditions
   2.2 Equivalent Safety Findings
   2.3 Deviations
   2.4 Exemptions *[only in case of grandfathered certification, the EASA system does not allow exemptions*
   Note: See chapter 6.1.1.1.3 „Explanatory Note" regarding the references to be used.
3. Operational Suitability Data Certification Basis (as applicable)
   3.1 Master Minimum Equipment List Data (MMEL)
   3.2 Flight Crew Data (FCD)
   3.3 Cabin Crew Data (CCD)
   3.4 Simulator Data (SIMD)
   3.5 Maintenance Certifying Staff Data (MCSD)

4. Environmental Protection Requirements (as applicable)
   See 6.1.1.1.3. PCMs to contact section CT 4.1 for the detailed product specific TCDS entries.

Note: The TCDS shall not include any "CRI" reference but the corresponding SC, ESF or Deviation reference.

➢ **Technical Characteristics and Operating Limitations as appropriate to the product**

The not applicable items should be marked with [Reserved].

Aeroplanes
For an aeroplane, this section should contain the following items in the order listed.

1. Type Design Definition
2. Description
3. Equipment

4. Dimensions
5. Engine (Number, Model, Type Certificate*)
   See Engine Type Certificate Data Sheet EASA E.xxx
   Engine limitations: See Engine TCDS EASA.E.xxx. (avoid duplications to the engine TCDS))
   (*) When applicable, report both original TC and EASA TC
6. Auxiliary Power Unit (APU)
7. Propeller (Number, Model, Type Certificate, Number of Blades, Diameter, Sense of Rotation, Limitations)
8. Fluids (Specifications for Fuel, Oil, Coolant)
9. Fluid Capacities (Fuel, Oil and Coolant system)
10. Air Speeds
11. Flight Envelope
12. Operating Limitations (Eligible Operations, Other Limitations)
13. Maximum Masses (MRW, MTOW, MLW, ZFW) for all approved weight variants for a given type/model
14. Centre of Gravity Range
15. Datum
16. Mean Aerodynamic Chord (MAC)
17. Levelling Means
18. Minimum Flight Crew
19. Minimum Cabin Crew (as per the emergency evacuation test)
    Note: Reports from accident investigations and queries sent by NAAs or operators to the Agency or the Commission have shown that the EU-OPS requirement specifying the minimum number of cabin crew required to operate an aeroplane (OPS 1.990(b)(2)) was understood in different ways by operators. This has led to the same aircraft type being operated with different numbers of cabin crew, or even with a number deviating from that established with the emergency evacuation test.
    For this reason, the requirement had to be clarified in the new rules for Air Operations. The objective was to ensure that the minimum required number of cabin crew determined by an operator on the basis of the Ops rule could, in no case, be lower than that established during the certification of the concerned aircraft type (unless otherwise demonstrated for a change to the TC or an STC).
    The new OPS rule specified in Annex III to Commission Regulation No 965/2012 (i.e. Part-ORO, Subpart CC, ORO.CC.100(b) Number and composition of cabin crew) clearly refers to the certification process. The related GM1 ORO.CC.100 further explains how to understand the rule.
    However, during the consultation process, NAAs and operators requested the Agency to specify the number of cabin crew resulting from the certification process in documentation that would ensure it is made known to operators.
    A rulemaking task will need to amend CS 25 to make clear that the number of cabin crew used in the evacuation test cannot be deviated from (e.g. by including an operating limitation in the flight manual). However as this will take time, it was concluded that in the meantime, the minimum cabin crew will be specified in the TCDS as an additional operating limitation.
    This is reflected accordingly in this chapter, as well as in the related TCDS templates.
20. Maximum Passengers Seating Capacity
21. Baggage/ Cargo Compartments
22. Wheels and Tyres
23. ETOPS

Rotorcraft

For an rotorcraft, this section shall contain the following items in the order listed. The not applicable items should be marked with [Reserved].

1. Type Design Definition
2. Description
3. Equipment
4. Dimensions
5. Engine (Number, Model, Type Certificate*),
   See Engine Type Certificate Data Sheet EASA E.xxx
   Engine limitations: See Engine TCDS EASA.E.xxx. (avoid duplications to the engine TCDS))
   (*) When applicable, report both original TC and EASA TC
6. Fluids (Fuel/Oil/Additives)
7. Fluid Capacities
8. Air Speeds Limitations
9. Rotor Speeds Limitations
10. Maximum Operating Altitude and Temperature
11. Operating Limitations
12. Maximum Masses
13. Centre of Gravity Range
14. Datum
15. Levelling Means
16. Minimum Flight Crew
17. Maximum Passengers Seating Capacity
18. Passenger Emergency Exit
19. Maximum Baggage/ Cago Loads
20. Rotor Blade control movement
21. Auxiliary Power Unit (APU)
22. Life-Limited Parts
23. Wheels and Tyres

Propellers

For a propeller, this section shall contain the following items in the order listed. The not applicable items should be marked with [Reserved].

1. Type Design Definition
2. Description
3. Equipment
4. Dimensions
5. Mass
6. Hub/ Blade- Combinations
7. Control System
8. Adaptation to Engine
9. Direction of Rotation
10. Maximum Take Off Power and Speed
11. Maximum Continuous Power and Speed
12. Propeller Pitch Angle

Engines

For an engine, this section shall contain the following items in the order listed. The not applicable items should be marked with [Reserved].

1. Type Design Definition
2. Description
3. Equipment
4. Dimensions
5. Dry Mass
6. Ratings
7. Control System
8. Fluids (Fuel, Oil, Coolant, Aditives)
9. Aircraft Accessory Drives
10. Maximum Permissible Air Bleed Extraction
11. Temperature Limits
12. Speed Limits
13. Pressure Limits
14. Oil capacity, consumption limit

APU

[Reserved].

Airships

1. Type Design Definition
2. Description
3. Equipment
4. Dimensions
5. Powerplant
6. Fluids:
7. Fluid capacities:
8. Lifting gas
9. Air Speeds Limitations
10. Mass/ Weight
11. Operating Altitude, Temperature and Envelope Pressure
12. Kind of Operation LImitations
13. Deflection Angle of Control Surfaces
14. Centre of Buoyancy
15. Datum
16. Levelling Means
17. Minimum Flight Crew
18. Occupants Seating Capacity
19. Passenger Emergency Exit
20. Maximum Payload
21. Lifetime limitations

Balloons

1. Type Design Definition
2. Description
3. Equipment
4. Envelope
5. Burner
6. Basket
7. Fuel Cylinder/ Minimum Ballast
8. Lifting gas
9. Mass/ Weight
10. Operating Altitude, Temperature and Envelope Pressure
11. Kind of Operation Limitations
12. Minimum Flight Crew
13. Occupancy
14. Maximum Payload
15. Lifetime limitations

Sailplanes

1. Type Design Definition
2. Description
3. Equipment
4. Dimensions
5. Engine
6. Engine [electrical propulsion]
7. Propeller
8. Fluids:
9. Fluid capacities:
10. Battery [electrical propulsion]
11. Launching Hooks
12. Weak Links
13. Load Factors
14. Air Speeds
15. Approved Operations Capability
16. Launch methods
17. Maximum Masses
18. Centre of Gravity Range
19. Datum
20. Levelling Means
21. Control Surface Deflections
22. Minimum Flight Crew
23. Maximum Passenger Seating Capacity

24. Baggage/ Cargo Compartments
25. Lifetime limitations

➢ **Operating and Service Instructions**

This section may contain the following items:

1. Flight Manual
2. Manual for Operation
3. Structural Repair Manual
4. Weight and Balance Manual
5. Illustrated Parts Catalogue
6. Service Letters and Service Bulletins
7. Required Equipment
8. Table of Dimensions, Limits and Clearances
9. Maintenance Manual
10. ICAs as appropriate to the type

➢ **Notes**

For practical reasons, if the explanatory material related to a particular item is too complex or lengthy, the information may be included in a separate note.The notes may refer to eligible serial numbers, placards, commercial designations, etc.

6.1.1.1.3. TCDS Paragraphs on Environmental Protection

Applicability Aircraft:
The fuel venting paragraph is applicable to turbine engine powered aircraft, incl. helicopters, turboprops and turbofan-powered aircraft, as further specified in Part II of ICAO Annex 16 Volume II.
The carbon dioxide paragraph is applicable to subsonic jet aeroplanes > 5700 kg MTOM and to propeller-driven aeroplanes > 8618kg, as further specified in Part II of ICAO Annex 16 Volume III.

Applicability Engine:
The environmental protection paragraph is applicable to turbojet and turbofan engines, as further specified in Part III of ICAO Annex 16 Volume II.
For turbojet and turbofan engines with a thrust of <= 26.7 kN only standards on smoke apply instead of the full set of emission standards including NOx and nvPM. For those engines the NOx and nvPM-specific details are not required, i.e. only the first sentence in the below TCDS text remains.

Text shown in *blue* needs to be adjusted and coordinated with CT.4.1 experts depending on the specific project.

A. AIRCRAFT TCDS

4. Environmental Protection

4.1 Noise

See TCDSN no. EASA”…..”

4.2 Fuel Venting

ICAO Annex 16, Volume II, Amendment *10*, Part II, implemented in Art. 9 of Regulation (EU) 2018/1139 as amended by Regulation (EU) *2021/1087*

4.3 Carbon Dioxide Emissions

ICAO Annex 16, Volume III, Amendment *1,* implemented in Art. 9 of Regulation (EU) 2018/1139 as amended by Regulation (EU) *2021/1087;*

CO2 standard in accordance with ICAO Annex 16, Volume III, Part II, Chapter 2, *§ 2.4.2 f);* Note: corresponds to CAEP/*10 In-Production* standard.

For CO2 metric values see EASA Aeroplane CO2 Emissions Database.

B. ENGINE TCDS

1.5 Environmental Protection

ICAO Annex 16 Volume II, Amendment *10*, implemented in Art. 9 of Regulation (EU) 2018/1139 as amended by Regulation (EU) *2021/1087*;

- NOx standard in accordance with ICAO Annex 16 Volume II, Part III, Chapter 2, *§ 2.3.2 e)* (CAEP/*8)*;
- Maximum nvPM mass concentration levels in accordance with Part III, Chapter 4, *§ 4.2.2.1* (CAEP/*10)*;
- nvPM mass and number emissions in accordance with Part III, Chapter 4, § *4.2.2.2 a) 1) and § 4.2.2.2 b) 1)* (CAEP/*11 In-Production* standard).

Note: See ICAO Annex 16 Volume II for the full list of regulated emissions. The aforementioned details for NOx and nvPM further specify the regulatory levels to which compliance is demonstrated.

6.1.1.1.4. Explanatory Note (Annex) to TCDS

Special Conditions (SC), Equivalent Safety Findings (ESF) and Deviations (DEV) form part of the Certification Basis of a product and are referenced in the TCDS by number and subject only. Their content is considered public information, but not yet systematically published due to:

1. the need to extract public texts from CRIs (confidential documents), and
2. past non-availability of a publication tool prior to the establishment of an EASA publication tool

As an interim measure, an Explanatory Note (Annex) to TCDS was created to make Special Conditions, Deviations, and Equivalent Safety Findings available upon specific request.

The Explanatory Note (Annex) should identify which TCDS number and aircraft type it relates to.
It should contain:

1. a table of contents,
2. Special Conditions, Deviations, and Equivalent Safety Findings in numerical order,
   Note: The references of the technical subject that shall to be used are
   - M-TS-xxxxxxx: If the SC, ESF, DEV as published on the EASA website are used in the accepted certification programme
   - P-TS-xxxxxxx: If applicant related project CRIs led to the SC, ESF, DEV as used in the accepted certification programme
   - past reference (e.g. F-01) for in the past issued SC, ESF, DEV (technical subject) as used in the accepted certification programme

Note: Do NOT use the term “MCRI”, “PCRI” or “CRI” in the TCDS, TCDSN or Explanatory Note since they include additional information which are not for publication.

3. for each item, information on applicability, requirements and advisory material (where applicable),
4. a disclaimer that the document is not exhaustive and it will be updated gradually.

For small aeroplanes and other products with a high level objective based certification basis, the AMC e.g. industry standards ASTM form a fundamental element of the Certification Basis and should be also published in an Annex 2 (MoC).

Whenever a request is made for access to a Special Condition, Deviation or Equivalent Safety Finding referenced in the TCDS, the PCM shall extract the public text from the specific CRI and update the related Explanatory Note accordingly. (Note that disclosure of other Certification Basis items will be subject to prior approval from the document co-owner and/or the EASA Legal Department).
The Explanatory Note issue number will increase with one unit every time the document is revised. The template contains a disclaimer statement in the footer mentioning:
“Disclaimer – This document is not exhaustive and it will be updated gradually. An update of this document will not cause an update of the TCDS.”

The Explanatory Note to a TCDS shall be published on the EASA website next to the TCDS. When such document is created, a link to the TCDS needs to be established by inserting in the TCDS under the ”Certification Basis” a Note saying:
“Non-proprietary data contained in selected Special Conditions that are part of the Certification Basis are published in an Explanatory Note to the TCDS with the number: XX. The document is not exhaustive and will be gradually updated”.

6.1.2. TCDSN

6.1.2.1. TCDSN format and content

The TCDSN documents an aircraft type’s compliance with the applicable requirements for noise certification and records the associated EASA approved noise level(s).

The TCDSN format facilitates the issuance of an individual aircraft’s noise certificate (EASA Form 45) in accordance with Option 1 of the ICAO Annex 16, Volume I, Attachment G “Guidelines for the administration of noise certification documentation”.
A general template for the TCDSN is adapted, as appropriate, according to the type, of aircraft: Jet aeroplanes, Heavy propeller driven aeroplanes, Helicopters and Light Propeller driven aeroplanes.

Large TCDSNs may be split across several volumes; each volume being related to a specific model. The naming convention for each volume shall be based on the TCDSN number supplemented by the volume number (e.g. The Airbus single-aisle TCDSN has been split across four volumes. Volume 1, for the A318, is named EASA.A.064.1). In such cases a single cover sheet will directly reference the current issue number of the respective volumes. The revision history of each volume will be maintained in that volume.

The TCDSN template is generated directly from the Environment & Sustainability Section’s noise certification database, thereby ensuring its standardisation.

6.1.2.2. Explanation of the content of the TCDSN

6.1.2.2.1. Information required for each aeronautical product model

Each TCDSN has a common Title Page which identifies:

1. TCDSN Number which is the same as the TC Number
2. Issue Number and issue date
3. Aircraft or Aeronautical Product Type
4. Name and address of the Type Certificate holder
5. EASA Approved Model Designations

6.1.2.2.2. Content of the TCDSN

Each TCDSN contains in the document, as a general rule:

1. Type Certificate holder and Aircraft Type Designation
2. Engine Manufacturer and Engine Type Designation
3. Propeller Manufacturer and Propeller Type Designation (for propeller driven aeroplanes)
4. Additional modifications essential to meet the requirements or needed to attain the certificated noise level(s)
5. Noise Certification Basis (Amendment level of Volume I of ICAO Annex 16, Chapter and, if necessary for unique identification, paragraph number)
6. Table listing:
    a. EASA Record No. From the database of EASA approved noise levels (for jets, heavy propeller driven aeroplanes, rotorcraft and light propeller driven aeroplanes);
    b. Maximum take-off mass and where appropriate maximum landing mass associated with the certificated noise level(s) of the aircraft; and as appropriate
    c. The lateral/full-power noise level as defined in Chapters 2, 3, 4, 5; and/or
    d. The approach noise level as defined in Chapters 2, 3, 4, 5, 8; and/or
    e. The flyover noise level as defined in Chapters 2, 3, 4, 5; and/or
    f. The overflight noise level as defined in Chapters 6, 8 and 11; and/or
    g. The take-off noise level as defined in Chapters 8 and 10.

6.1.3. Roles and responsibilities of certification staff involved in the administrative closure of a type certification project

The section manager of the product line shall manage the quality check of the TC, TCDS and TCDSN, ensuring that the aeronautical product Type/ Model listed on all documents is identical. The PCMs or the Department Secretaries (as advised by the PCMs) shall file the PDF copies of the signed TC, transmittal letter and the TCDS, in the project file in accordance with the file plan described in the applicable Records Management Work Instructions.

Before forwarding the TCDS to the Department Secretary for posting it on the Agency's website, the relevant section manager of the product line shall verify with the PCM that the new or revised TCDS complies with the general layout and revision control principles contained in this section of the work instruction.

Before posting the TCDSN on the EASA website, the Environment & Sustainability Section Manager shall verify that the new or revised TCDSN complies with the general layout and revision control principles contained in this Chapter.

Under the PCM's direction, the Department Secretaries shall forward the TCDS to the EASA Webmaster with the request to update the Agency's website.

They shall also update, under the relevant section manager of the product line's direction:

1. EASA Products List (with the new product type or model designation)
2. Master Team List of CT Directorate (with the new PCM)

All changes to the list of products must also be communicated to Relationships & Corporate Services (approvals@easa.europa.eu or technical.visa@easa.europa.eu) in order for the Relationships & Corporate Services to amend the SAP information accordingly.

6.1.4. Revision of the TCDS & TCDSN

The TCDSs/ TCDSNs are revised for the following reasons:

1. Addition of new models;
2. Amendment of documents;
3. When a design change requires to update one of the data provided by the TCDS & TCDSN;
4. Transfers of Type Certificates (TC);
5. Administrative re-issuance (editorial corrections).

Note: Explanatory Note/ EN changes should be wrapped up at the next regular TCDS revision, but would not create a TCDS revision on their own.

The numbering of the TCDS and TCDSN issues (two digits format) will start with 01 and increase by one unit every time the TCDS or TCDSN will be revised.
The Change Record Section shall be amended with the reason for revision.
Whenever possible, the revisions in the TCDS text should be marked with a right side bar. Only the changes of the current amendment should be reflected, previous changes should be left unmarked.

6.1.5. TCDS & TCDSN templates

TCDS CS-25
TCDS CS-23
TCDS CS-27 & CS-29
TCDS CS-E
TCDS CS-P
TCDSN
Explanatory Note

END