

Applications for product certification/validation of foreign certificates

Application process

I am applying from a non-EASA Member State, what requirements are there?

Answer

A Bilateral Aviation Safety Agreement (BASA) exists between EASA and the [USA](#), [Canada](#) and [Brazil](#) and aims at the mutual acceptance of certificates.

As per the Technical Implementation Procedure (TIP) with the FAA (US) and TCCA (Canada), applicants applying to EASA have to submit their EASA application via their local FAA/TCCA office and request that their application be forwarded to EASA. The FAA/TCCA will forward the complete application package to EASA together with the FAA/TCCA concurrence letter. Applications that have not been forwarded via the FAA or the TCCA are considered incomplete and cannot be registered.

For further information on the TIP - FAA, click [here](#).

For further information on the TIP - TCCA, click [here](#).

For further information on the TIP - Brazil, click [here](#).

Last updated:

16/11/2017

Link:

<https://www.easa.europa.eu/ro/faq/21888>

I am a US applicant, what are the benefits of the recent TIP revision 6?

Answer

[TIP revision 6 entered into force on 22 March 2018.](#)

This Revision of the TIP is the first milestone of the implementation of the validation improvement roadmap signed between EASA and FAA in February 2016. All design changes now have common approval path:

- Accepted (The approval or certificate issued by the certifying authority are automatically accepted by the validating authority) e.g. any design change by the TC or STC holder classified as basic, all design changes classified as minor, PMA Parts, design data for a repair, design data for an alteration except for critical components
- Streamlined validation (Basic) (The validating authority issues its certificate on the basis of the certificate issued by the certifying authority without technical involvement) e.g. all STCs and subsequent amended STCs
- Technical Validation (non-Basic) (The technical validation is performed by the validating authority according to a work plan focused on safety emphasis items) e.g. STC, Major Changes

The verifying authority shall issue the corresponding certificate or design approval within fifteen (15) working days for design change and twenty (20) working days for TC of receipt of the complete application.

This revision extends to all repair design their acceptance by the validating authority, removes the last restrictions to the acceptance of ETSO/TSO approvals and introduces the concept of Basic Type Certificates (limited to piston engines and propellers). [Amendment 1 to the TIP was signed on 22 June 2018.](#)

Last updated:

26/11/2018

Link:

<https://www.easa.europa.eu/ro/faq/44038>

How much does my application/certificate cost?

Answer

For costs related to your approval, please refer to the tables sorted by application type that are provided in the Annex of the EASA fees and charges regulation [Commission Implementing Regulation \(EU\) 2019/2153](#).

For further information please consult also the [Fees and Charges FAQs](#).

Last updated:

11/03/2020

Link:

<https://www.easa.europa.eu/ro/faq/21894>

What is the certification process for a Type Certificate?**Answer****Part 21 capability**

As an EASA Member State applicant you need to prove eligibility by demonstrating capability in accordance with 21.A.14, i.e. be a Design Organisation Approval (DOA) or Alternative Procedures to Design Organisation Approval (APDOA) holder.

However, Part 21.A.14(c) provides the possibility for any natural person to apply on an ELA 1 aircraft by demonstrating capability through a certification programme. Alternative procedures are not necessary. ELA 1 is generally defined as aircraft with a max MTOW of 1200kg or less, including balloons up to 3400m³ and sailplanes.

ELA1	ELA2
ELA1 aircraft' means the following manned European Light Aircraft:	ELA2 aircraft' means the following manned European Light Aircraft:
an aeroplane with a Maximum Take-off Mass (MTOM) of 1 200 kg or less that is not classified as complex motor-powered aircraft	an aeroplane with a Maximum Take-off Mass (MTOM) of 2 000 kg or less that is not classified as complex motor-powered aircraft
a sailplane or powered sailplane of 1 200 kg MTOM or less	an aeroplane with a Maximum Take-off Mass (MTOM) of 2 000 kg or less that is not classified as complex motor-powea sailplane or powered sailplane of 2 000 kg MTOM or lessed aircraft
a balloon with a maximum design lifting gas or hot air volume of not more than 3 400 m ³ for hot air balloons, 1 050 m ³ for gas balloons, 300 m ³ for tethered gas balloons	a balloon
an airship designed for not more than 4 occupants and a maximum design lifting gas or hot air volume of not more than 3 400 m ³ for hot air airships and 1 000 m ³ for gas airships ⁶	a hot air airship
	a gas airship complying with all of the following characteristics: <ul style="list-style-type: none"> - 3% maximum static heaviness - Non-vectorred thrust (except reverse thrust) - Conventional and simple design of: structure, control system and ballonet system - Non-power assisted controls
	a Very Light Rotorcraft

Certification Programme Demonstration of capability via a certification programme for:	AP DOA Demonstration of capability via AP DOA for:
ELA1 aircraft	ELA2 aircraft
Engine [to be] installed in ELA1 aircraft	Engine [to be] installed in ELA2 aircraft
Propeller [to be] installed in ELA1 aircraft	Propeller [to be] installed in ELA2 aircraft
	Piston Engine
	Fixed or adjustable pitch propeller

Please refer to our website for information on how to obtain a DOA or APDOA:

[DOA](#)
[FAQs on DOA](#)

[APDOA](#)

While applying for a DOA/APDOA, you may, in parallel apply, for a Type Certificate. However, the Type Certificate will only be issued once the DOA/APDOA has been granted.

Processing times

For the timely processing of any application, please consider the following:

- ensure that your supporting documents are correct, complete and provided in a timely manner;
- respond promptly to requests for further information, the closure of findings and scheduling site visits;
- meet the certification schedule indicated in the Certification Plan accepted by EASA;
- have the requisite technical capability available.

Application forms

The corresponding application forms are available on our website:

[Type Certificate](#)
[DOA/APDOA](#)

Fees and charges

Information on the related yearly fees and charges for both TC and DOA/APDOA applications are available in the Annex of our [Fees & Charges Regulation \(EU\) 2019/2153](#).

Last updated:

12/03/2020

Link:

<https://www.easa.europa.eu/ro/faq/67026>

How do I apply for a certificate/approval?

Answer

EASA PORTAL

If you are an applicant from one of the EASA member states, the UK, the US and Canada, online submission of your application via the EASA Portal is now the preferred method for receiving your application. The EASA Portal offers numerous benefits:

- Simplifies applying for certification tasks - saving time and effort
- Enables viewing and monitoring the status of applications
- Allows applicants to manage their own contact details and user credentials
- Reduces administrative transactions
- Improves data quality due to integration with a centralised list for aeronautical products.

The list of applications that are covered by the EASA Portal can be found on the [Portal website](#).

If you wish to register to use the EASA Portal or in case of questions and technical issues please send an email toportal [at]

easa.europa.eu (portal[at]easa[dot]europa[dot]eu).

Please inform us if you wish to receive further information or a demonstration of the Portal.

The use of the EASA Portal has been introduced to other non-EASA Member State applicants. Please contact portal [at] easa.europa.eu (portal[at]easa[dot]europa[dot]eu) for further information.

[View list of EASA Member States](#)

Application forms

For applications that are not yet covered by the EASA Portal, please download from the [EASA website](#) the application form you need. Depending on your application, please send it to the email address indicated on the last page of the application form.

Last updated:

05/08/2021

Link:

<https://www.easa.europa.eu/ro/faq/21887>

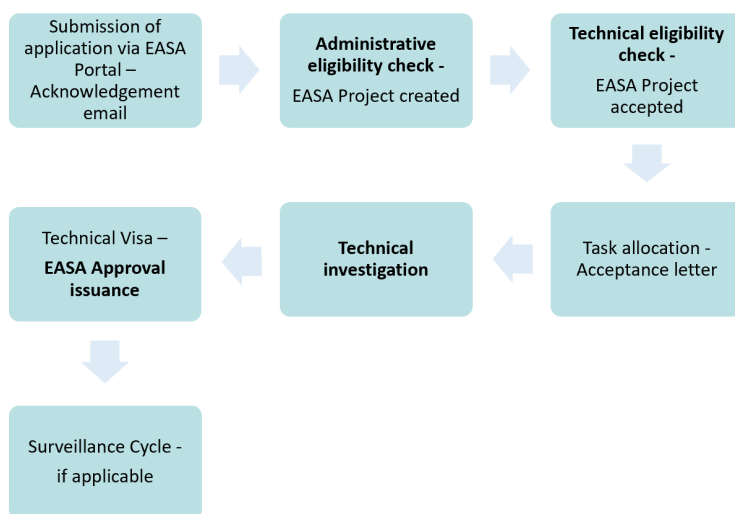
I have submitted my application, what happens next?

Answer

Users of the EASA Portal will instantly receive an acknowledgement email containing the request number as soon as the application has been submitted over the EASA Portal.

For submissions of applications via email and provided that the application is complete, we will acknowledge receipt within two working days and provide you with the EASA task number.

As soon as your project has been allocated either to an EASA PCM or externally, you will receive the EASA Acceptance Letter providing you with the contact details of the PCM. The technical investigation may begin. Below please find the administrative milestones for your application:



Last updated:

06/08/2021

Link:

<https://www.easa.europa.eu/ro/faq/21893>

I would like to revise my application submitted through the EASA Portal. What do I have to do?

Answer

It is only possible to edit an application that is either at status Draft or at status Request for Revision. Please contact applicant.services [at] easa.europa.eu (applicant[dot]services[at]easa[dot]europa[dot]eu) and we will re-open your application so that you can revise the application data. You can then re-submit the application with the corrected data to EASA.

Currently, the feature for editing or revising an already registered application in the EASA Portal is still being developed. In the meantime, if you wish to make any amendments, please contact EASA by sending an email to applicant.services [at] easa.europa.eu (applicant[dot]services[at]easa[dot]europa[dot]eu) quoting the EASA task number. Upon receipt we will update our database accordingly.

Last updated:

06/08/2021

Link:

<https://www.easa.europa.eu/ro/faq/21891>

I am a BASA applicant (US/CAN/BRAZIL), how do I use the EASA Portal?

Answer

The bilateral applicant will complete the application data in the EASA Portal and press "Submit".

The EASA Portal will send an email to the applicant with the application summary document (Application Acknowledgement, FO.APMAN.00046) attached to it.

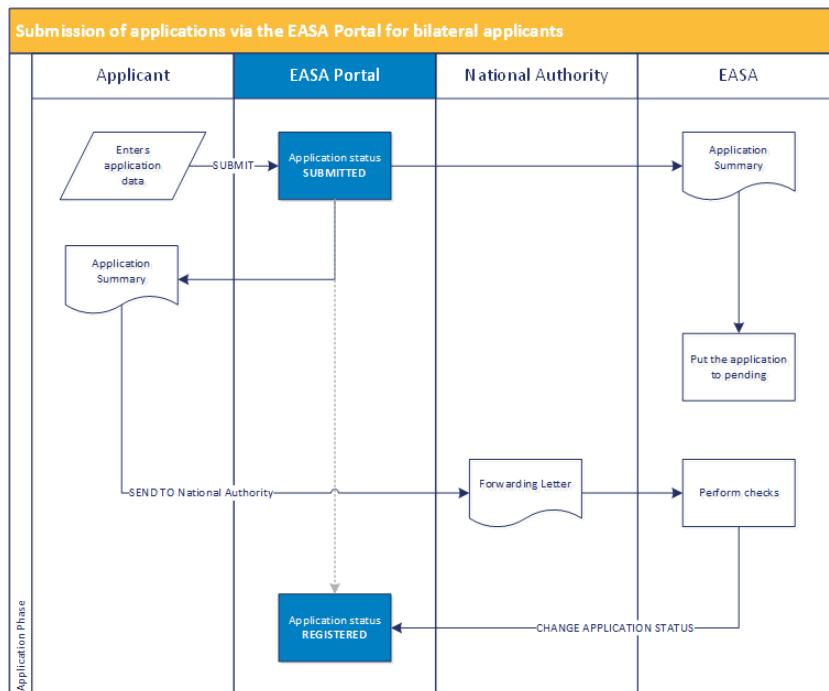
The applicant forwards the document to their National Aviation Authority in lieu of a completed EASA application form.

Meanwhile, EASA will change the application status in the EASA Portal to "Pending".

The National Aviation Authority reviews the application and forwards it together with the forwarding letter to EASA.

EASA performs the full eligibility check and, if applicable, changes the application status in the EASA Portal to "Registered".

The technical checks and investigation can start upon formal EASA acceptance.



Last updated:

14/09/2021

Link:

<https://www.easa.europa.eu/ro/faq/44039>

Can a US applicant use the EASA Portal?

Answer

The US applicant can indeed submit the application online to EASA via the Portal.

An online application document is then generated, which replaces the current application forms as you know them.

In order to stay in line with the bilateral procedures, the US applicant will send the online application document together with the requested data for the validation request to the responsible FAA ACO which will forward the complete validation request to EASA along with the FAA concurrence letter.

EASA ensures that only once the FAA letter is received along with the application summary document and the requested data for the validation request, EASA will further proceed with the application registration.

The EASA Portal simply logs the application, which is held pending until the FAA has reviewed the application and provided EASA with a concurrence letter. It is not required for US applicants to upload supporting documents for the validation request to the EASA Portal.

The EASA Portal is currently set up to only provide the applicant with an acknowledgement message, not the FAA. As can be seen in the illustration, it is incumbent on the US applicant to notify the responsible FAA ACO of their EASA application by providing the online application document to the FAA. Once notified by the applicant themselves, FAA can initiate the review of their submission and only then can the FAA provide EASA with the required concurrence letter.

Once EASA receives the FAA concurrence letter, which confirms that the FAA has conducted their review of the application, only then will EASA perform their full eligibility check of the application, and once eligible, the EASA task number is assigned and the technical checks and investigation will start.

The EASA Portal is an alternative to the previous procedure of having to use MS-Word forms when submitting applications for design approval to EASA.

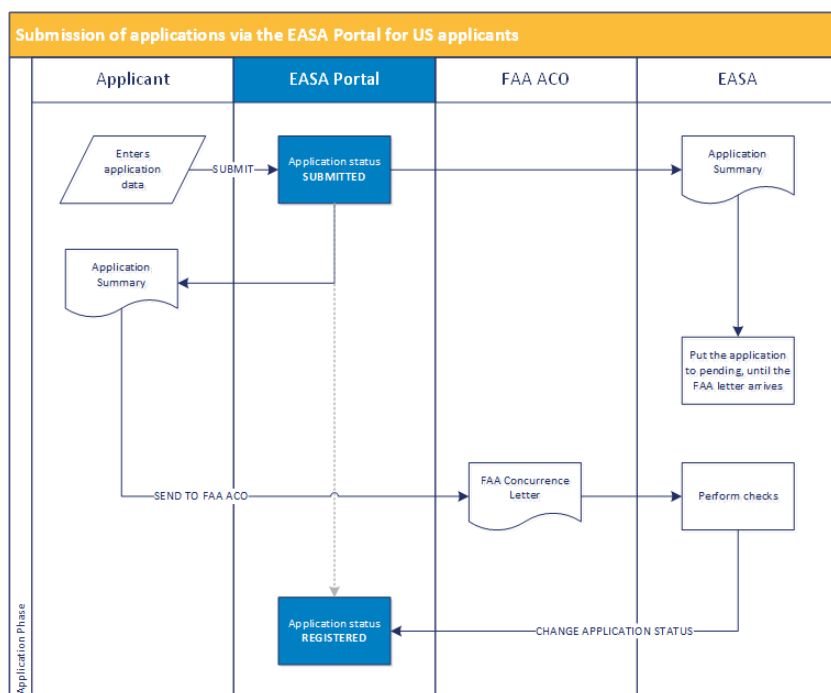
Applicants can easily register to the EASA Portal by sending an email to portal [at] esa.europa.eu.

While the MS-Word forms are still acceptable, online submittal of applications over the EASA Portal is now the preferred method by EASA for receiving applications.

The overall application process to EASA under the TIP remains essentially the same.

The EASA Portal guide can be accessed at the following link: [EASA Portal guide](#).

Following an overview of how the submittal process for US applicants works in order to stay in line with TIP procedures:



The US applicant will complete the application data in the EASA Portal and press "Submit".

The EASA Portal will send an email to the applicant with the application summary document (Application Acknowledgement) attached to it.

The applicant forwards the document to their FAA ACO in lieu of a completed EASA application form.

Meanwhile, EASA will change the application status in the EASA Portal to "Pending".

FAA ACO reviews the application and forwards together with forwarding letter to EASA.

EASA performs the full eligibility check and, if applicable, changes the application status in the EASA Portal to "Registered".

The technical checks and investigation can start upon formal EASA acceptance.

Last updated:

14/09/2021

Link:

<https://www.easa.europa.eu/ro/faq/44040>

Can a Canadian applicant use the EASA Portal?

Answer

The EASA Portal is an alternative to the previous procedure of having to use MS-Word forms when submitting applications for design approval to EASA.

Once the on-line application is filed, the Canadian applicant will receive an acknowledgement message that an application has been filled. This on-line application will not be processed yet nor validated outright. It simply logs it and is held pending until such time TCCA has reviewed the application and provided EASA with a forwarding letter.

The EASA Portal is currently set up to provide the applicant only with an acknowledgement message, and not the TCCA. As can be seen in the illustration, it is incumbent on the Canadian applicant to actually notify TCCA of their EASA application by providing the Applicant Data Summary (FO.APMAN.00046) to TCCA. Once notified by the applicant themselves, TCCA can initiate the review of their submission and only then can TCCA provide EASA with the required forwarding letter.

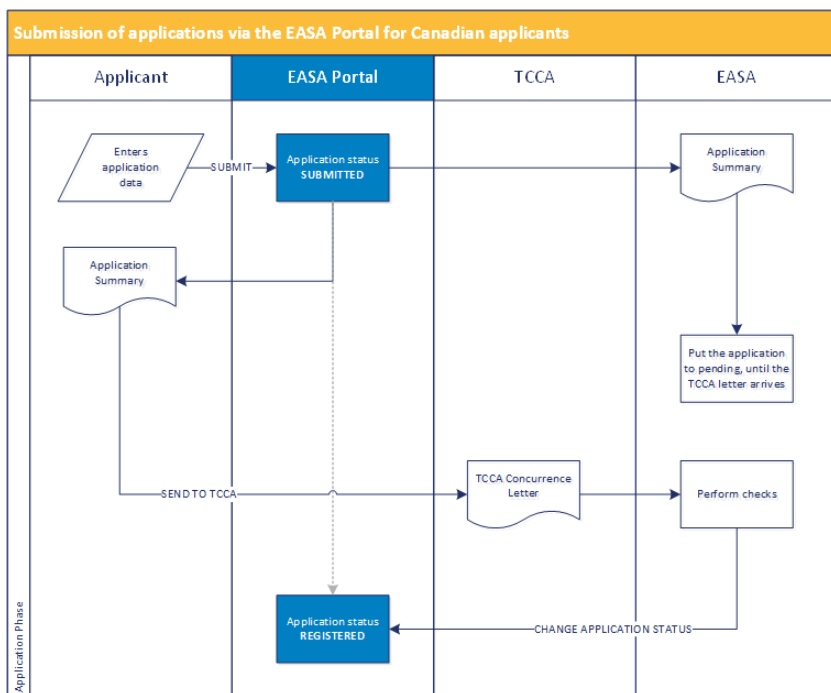
Once EASA receives the TCCA forwarding letter, which confirms TCCA has conducted their review of the application, only then will EASA perform their full eligibility check of the application, and once eligible the EASA task number is assigned and the technical checks and investigation started.

The EASA Portal guide can be accessed at the following link: [EASA Portal guide](#)

If a Canadian applicant elects to use the MS-Word forms, the forms cannot be electronically submitted via the portal. The MS-Word forms have to be filled by the applicant and a copy submitted to TCCA, who in turn will file the application to EASA. While the MS-Word Forms are still acceptable, EASA prefers the transition to using the on-line portal due to the efficiencies brought to the process (drop down boxes ensure the correctness of Applicant information, EASA product list, etc.).

The EASA Portal requires our applicant to notify TCCA that they have filed an application to EASA that without such notification their application will not be processed further by EASA.

The overall application process to EASA under the TIP remains essentially the same.



The Canadian applicant will complete the application data in the EASA Portal and press "Submit".

The EASA Portal will send an email to the applicant with the application summary document (Application Acknowledgement) attached to it.

The applicant forwards the document to TCCA in lieu of a completed EASA application form.

Meanwhile, EASA will change the application status in the EASA Portal to "Pending".

TCCA reviews the application and forwards together with forwarding letter to EASA.

EASA performs the full eligibility check and, if applicable, changes the application status in the EASA Portal to "Registered".

The technical checks and investigation can start upon formal EASA acceptance.

Last updated:

14/09/2021

Link:

<https://www.easa.europa.eu/ro/faq/44041>

What is the certification process for a new model of an existing product type?

Answer

The introduction of a new product model designation is based on a major change to type certificate as per Regulation (EU) No 748/2012, Annex I 'Part-21', Subpart D or Annex Ib 'Part-21 light', Subpart D. Please see the details in the linked EASA work instruction [WI.CERT.00172](#), Chapter 3.1.1.5.

The addition of a new product model designation is subject to a model fee in addition to the major change fee.

Last updated:

11/12/2024

Link:

<https://www.easa.europa.eu/ro/faq/140710>

Supplemental Type Certificates (STC)

Where can I find a list of Supplemental Type Certificates (STC) approved by EASA?

Answer

EASA publishes a list of its approved STCs on the [EASA website](#).

The EASA STC list compiles Supplemental Type Certificates issued by EASA since 03/06/2004 and is updated on a weekly basis.

STCs issued before this date or grandfathered STCs are not included in the list.

To request a copy of an STC, please contact [stc\[at\]easa.europa.eu](mailto:stc@easa.europa.eu) ([stc\[at\]easa\[dot\]europa\[dot\]eu](mailto:stc[at]easa[dot]europa[dot]eu)).

Please also refer to our FAQ on ["Who do I contact to request a copy of a grandfathered STC?"](#)

Last updated:

28/10/2019

Link:

<https://www.easa.europa.eu/ro/faq/21900>

Why can't I find an STC on the EASA STC List?

Answer

The Agency applies its best efforts to ensure completeness of this list.

The EASA STC list compiles Supplemental Type Certificates issued by EASA since 03/06/2004. All EASA STCs are published except:

- 'Grandfathered' STCs issued by the EU Member States prior to 29/09/2003.
- STCs issued by Switzerland (FOCA) prior to 2007
- Recently issued STCs may not yet appear on the list

Should you discover missing data or for any other question, we kindly request you to contact the following mailbox [STC \[at\] easa.europa.eu](mailto:STC@easa.europa.eu) (STC[at]easa[dot]europa[dot]eu)

Please also refer to our FAQ on ["Who do I contact to request a copy of a grandfathered STC?"](#)

Last updated:

28/10/2019

Link:

<https://www.easa.europa.eu/ro/faq/21901>

What are grandfathered approvals?

Answer

Any STC approved or validated by an EASA Member State before the establishment of EASA is deemed to be approved under Regulation (EU) No 748/2012 Article 4.

Last updated:

23/02/2023

Link:

<https://www.easa.europa.eu/ro/faq/21902>

How do I know whether an FAA / TCCA STC has been validated by EASA?

Answer

An STC can be considered to be EASA approved if it satisfies one of the following conditions:

- It has been validated by EASA after 28 September 2003 (ref. EU Regulation No 748/2012, Article 4).

In this case, the corresponding validated STC should be published on the EASA website.

- It has been validated by an EASA Member State before 28 September 2003.

In order to verify whether a foreign STC can be considered EASA approved, we suggest that you contact the STC holder.

Should you require EASA validation of a foreign STC which does not fulfil any of the two conditions above, please request the STC holder to apply.

You may apply for your own STC but need to prove eligibility by demonstrating capability in accordance with 21.A.112B, i.e. by holding a Design Organisation Approval (DOA) or Alternative Procedures to Design Organisation Approval (APDOA), or in the case of products referred to in point 21.A.14(c) by obtaining the EASA's acceptance of your certification programme, if you are an EASA Member State applicant.

Alternatively, you may contact a DOA of your choice.

Non-EASA Member State applicants do not need to demonstrate part 21 eligibility if a bilateral agreement/working arrangement is in force.

Last updated:

23/02/2023

Link:

<https://www.easa.europa.eu/ro/faq/21904>

How can I know if an STC is still valid? How can I know if an STC has been revoked, suspended or surrendered?

Answer

EASA certificates are valid unless otherwise revoked, suspended or surrendered. In such cases, a related Certification Information will be published on the [EASA website](#).

If you require confirmation regarding the validity of a particular STC, we kindly suggest that you contact the STC holder.

Last updated:

23/01/2017

Link:

<https://www.easa.europa.eu/ro/faq/21905>

I am an EU aircraft owner/operator and would like to apply for validation of an FAA STC installed on my aircraft?**Answer**

EASA has put a new procedure in place to allow EASA member state aircraft owners/operators to apply for the validation of an FAA STC for a single aircraft serial number if certain conditions are met.

The scope of fixed wing aircraft to which this process can be applied is limited to:

- Small Aeroplanes ≤ 5 700 kg MTOW
- Very Light Aeroplane
- Light Sport Aeroplane
- (Powered) Sailplanes

The applicant is required to submit an application form for *EASA validation of FAA Supplemental Type Certificate classified as Basic and limited to one serial number* ([FO.CERT.00134](#)) and to declare that the below conditions are met:

- FAA STC has been installed for a long time with no known continuing airworthiness issues;
- FAA STC holder either not able or not willing to apply for EASA validation;
- A checks against the latest EASA-FAA Technical Implementation Procedures (TIP) provisions confirmed that the FAA STC is classified as "Basic";
- Confirmation that the applicant has access to design data and instructions for operations and continued airworthiness;
- Acknowledgement of the applicant's obligations as Holder of the STC in accordance with Part 21, point 21.A.118A

Please note that High Performance Aircraft and any change impacting noise requirements are excluded from this process and is valid only for Fixed Wing aircraft STCs.

The subsequent validation will be limited to a single aircraft **serial number** to allow the aircraft to be imported and to be issued a Certificate of Airworthiness. This validation is not transferrable to or amendable with another serial number.

EASA will charge this activity in accordance with [Commission Implementing Regulation \(EU\) 2019/2153](#) and the applicable fee is set at one working hour per application.

Download application form [FO.CERT.00134 - Application for validation of FAA STC classified as Basic and limited to one s/n](#)

Last updated:

12/03/2020

Link:

<https://www.easa.europa.eu/ro/faq/22078>

What is the procedure for validations of FAA STCs classified as basic?**Answer**

Application for Supplemental Type Certificate [FO.CERT.00033](#)

A fast track procedure is in place for validations of FAA STCs classified as basic. According to the revision 6 of the [Technical Implementation Procedure \(TIP\)](#), basic STCs are accepted by EASA without further technical review. However, the issuance of the EASA STC can take place only **after** the FAA STC has been issued and the complete technical data package has been submitted to EASA including the FAA concurrence letter containing the classification of basic.

Last updated:

26/11/2018

Link:<https://www.easa.europa.eu/ro/faq/21890>**Am I eligible to apply for an STC?****Answer**

Major changes to type design by applicants other than the TC holder must be approved in accordance with Part 21, Section A, Subpart E of Commission Regulation (EC) No 748/2012 i.e. through a Supplemental Type Certificate. Information on the application process can be found at the following [link](#).

Only the STC holder is eligible to apply for a Major Change to STC. For further information, please consult our [website](#). Typically, EASA will issue a revision of the STC.

Minor Changes to an STC may also be applied for by an applicant other than the STC holder. In this case EASA will not issue a revision to the STC but a Minor Change approval in accordance with Subpart D of Commission Regulation (EC) No 748/2012. Information on the application process can be found [here](#).

The following table describes the available options for specific design projects including STCs.

Type of design	Demonstration of capability			
	DOA	ADOA	CP	None
Aircraft Type Design				
All Aircraft	yes			
ELA 2*	yes	yes		
ELA 1*	yes	yes	yes	
Engine Type Certificate				
All Engines	yes			
Piston Engine	yes	yes		
Engine installed in ELA2 Aircraft	yes	yes		
Engine installed in ELA1 Aircraft	yes	yes	yes	
Propeller Type Certificate				
All propellers	yes			
Fixed or adjustable pitch propeller	yes	yes		
Propeller installed in ELA2 Aircraft	yes	yes		
Propeller installed in ELA1 Aircraft	yes	yes	yes	
Supplemental Type Certificate (STC)				
All STCs	yes			
STC Group 1**	yes			
STC Group 2**	yes	yes		
STC on ELA1 or its engine or propeller	yes	yes	yes	
Minor Changes	yes	yes	yes	yes
Repairs				
Minor	yes	yes	yes	yes
Major	yes	yes***		
Major on ELA1 or its engine or propeller	yes	yes	yes	
ETSO Authorisation (ETSOA)	yes	yes		

* For definition see EU Regulation (EC) 748/2012 Article 1
** For definition see GM 21.A.112B
*** Upon Agency agreement

Non-EASA Member State applicants for whom a bilateral agreement is in place, no further demonstration of eligibility is required.

Non-DOA/APDOA holders may contact a DOA/ APDOA of their choice to apply for an STC on their behalf.

Design Organisation Approval (DOA): [The process to obtain a DOA](#). Further [information on DOA](#).

Alternative Procedures to Design Organisation Approval (APDOA): [Information on APDOA](#).

However, Part 21.A.14(c) provides the possibility for any natural person to apply for an STC on an ELA 1 aircraft by demonstrating capability through a certification programme. Alternative procedures are not necessary. ELA 1 is generally defined as aircraft with a max MTOW of 1200kg or less, including balloons up to 3400m³ and sailplanes.

ELA1	ELA2
ELA1 aircraft' means the following manned European Light Aircraft:	ELA2 aircraft' means the following manned European Light Aircraft:

an aeroplane with a Maximum Take-off Mass (MTOM) of 1 200 kg or less that is not classified as complex motor-powered aircraft	an aeroplane with a Maximum Take-off Mass (MTOM) of 2 000 kg or less that is not classified as complex motor-powered aircraft
a sailplane or powered sailplane of 1 200 kg MTOM or less	a sailplane or powered sailplane of 2 000 kg MTOM or less
a balloon with a maximum design lifting gas or hot air volume of not more than 3 400 m ³ for hot air balloons, 1 050 m ³ for gas balloons, 300 m ³ for tethered gas balloons	a balloon
an airship designed for not more than 4 occupants and a maximum design lifting gas or hot air volume of not more than 3 400 m ³ for hot air airships and 1 000 m ³ for gas airships ⁶	a hot air airship
	a gas airship complying with all of the following characteristics: - 3% maximum static heaviness - Non-vector thrust (except reverse thrust) - Conventional and simple design of: structure, control system and ballonet system - Non-power assisted controls
	a Very Light Rotorcraft

Certification Programme	AP DOA
Demonstration of capability via a certification programme for:	Demonstration of capability via AP DOA for:
ELA1 aircraft	ELA2 aircraft
Engine [to be] installed in ELA1 aircraft	Engine [to be] installed in ELA2 aircraft
Propeller [to be] installed in ELA1 aircraft	Propeller [to be] installed in ELA2 aircraft
	Piston Engine
	Fixed or adjustable pitch propeller

Last updated:

17/03/2020

Link:<https://www.easa.europa.eu/ro/faq/48612>**Who do I contact to request a copy of a grandfathered STC?****Answer**

To request a copy of a grandfathered STC, please refer to the links provided or, where indicated, please send an email directly to the NAA:

Links per Country	Comments

Austria	No STC list available, related questions can be addressed to: airworthiness [at] austrocontrol.at
Belgium	No STC list available, related questions can be addressed to: generalaviation [at] mobilit.fgov.be (generalaviation[at]mobilit[dot]fgov[dot]be)
Bulgaria	Please contact NAA directly, if grandfathered STCs exist
Croatia	Please contact NAA directly, if grandfathered STCs exist
Cyprus	Please contact NAA directly, if grandfathered STCs exist
Czechia	Please contact NAA directly, if grandfathered STCs exist
Denmark	See enclosed list
Estonia	No STCs issued, related questions can be addressed to: ecaa [at] ecaa.ee
Finland	See enclosed list
France	No STCs issued, related questions can be addressed to dsac-nav-bf [at] aviation-civile.gouv.fr (dsac-nav-bf[at]aviation-civile[dot]gouv[dot]fr).
Germany	See enclosed list
Greece	Please contact NAA directly, if grandfathered STCs exist
Hungary	No STC list available
Iceland	See enclosed list
Ireland	No STC list available
Italy	Please contact NAA directly, if grandfathered STCs exist
Latvia	No STCs issued
Liechtenstein	Please contact NAA directly, if grandfathered STCs exist
Lithuania	Please contact NAA directly, if grandfathered STCs exist
Malta	Please contact NAA directly, if grandfathered STCs exist
Netherlands	No STC list available
Norway	Please contact NAA directly, if grandfathered STCs exist
Poland	See enclosed list
Portugal	Please contact NAA directly, if grandfathered STCs exist
Romania	No STC list available, related questions can be addressed to: dir.gen [at] caa.ro.
Slovakia	No STCs issued
Slovenia	Please contact NAA directly, if grandfathered STCs exist
Spain	Please contact NAA directly, if grandfathered STCs exist

Sweden	Please contact NAA directly, if grandfathered STCs exist
Switzerland	See enclosed list
United Kingdom	See enclosed list

Last updated:

26/11/2018

Link:<https://www.easa.europa.eu/ro/faq/48613>**I would like to submit an application for validation of an FAA or TCCA STC as an agent and I am not the STC holder.****Answer**

Any application submitted by an agent for validation of an FAA or TCCA STC needs to be submitted in the name of the US or Canadian STC holder whose STC is to be validated. Applications submitted in the name of the agent can unfortunately not be accepted irrespective of whether an authorisation letter has been provided by the STC holder.

In addition, the billing address and data on the application form need to be that of the applicant (STC holder). Different billing partners, such as the agent's, can unfortunately no longer be accepted.

Last updated:

26/11/2018

Link:<https://www.easa.europa.eu/ro/faq/67030>**Can a DOA with low STC activity decide not to implement LOI processes and continue to operate as before?****Answer**

No, LOI will become mandatory through the amendment of Part 21 and applies to all projects but an applicant's proposal is required for major changes, major repairs and STCs.

Last updated:

07/06/2018

Link:<https://www.easa.europa.eu/ro/faq/46985>**If there is an automatic validation of (E)TSO/STC, will there still be an EASA reference and FAA reference for the same modification?****Answer**

No, only the primary certification authority's reference.

Last updated:

07/06/2018

Link:<https://www.easa.europa.eu/ro/faq/46986>**Is there a Part 21 Light (DOA\POA) for STC holders for production of low volume STC and limited failure effects (non HAZ/CAT) planned (not only for GA)?**

Answer

Yes, see rulemaking task (RMT).0018 (former task number 21.026). The “Part 21 light” concept is a concept related to the GA Roadmap Project and as such will be applicable only to the low-end General Aviation. The question seems related to STC applicable to all products, but considered as simple. This can be addressed today in the context of the actual regulation. The scope of the DOA can be limited to this kind of activity, and the limited scope would lead to a simplified investigation and surveillance activities. Furthermore, the concept of Level of Involvement (LOI) could allow the product certification team to reduce their level of involvement if the level of criticality is low and if the DOA is performing well.

Last updated:

07/06/2018

Link:

<https://www.easa.europa.eu/ro/faq/46987>

Regarding the abandoned and surrendered STCs, will EASA follow the same guidelines as FAA 8110-120, especially regarding the requirements for Freedom Of Information Act FOIA?

Answer

The FAA 8110-120 does not apply to EASA. Even if there is no extensive series of examples regarding surrendered or abandoned STC, the Agency principle, similar to the TC case, is that in case of surrendered STC, the Agency keeps the responsibility on the TCH holder and will ensure, in the framework of the Continued Airworthiness, the highest level of safety of the products. The EASA role is strictly limited to CAW oversight.

Moreover, EASA is not bound by the FAA Guidelines 8110-120, regarding FOI. EASA is bound by regulation (EC) 1049/2001 on access to documents, which foresees that any member of the public with residence in the EU (but in practice anyone) can request access to documents held by the Agency. The Agency can then decide whether such access might be granted (there are exceptions foreseen in article 4).

Such regulation applies only to already existing documents that the Agency holds (either because EASA is the author or because they have been received by EASA in the framework of its institutional activities).

This regulation does not apply to request for information where the Agency has to compile a new document to put together the aforementioned requested data and/or info.

Last updated:

07/06/2018

Link:

<https://www.easa.europa.eu/ro/faq/46988>

On EASA STC certificates, the following statement “or later revisions of the above listed documents approved by EASA.” is below the list of “Associated Technical Documentation”. Are documents approved afterwards using a DOA privilege (e.g. minor change approval) covered by that statement?

Answer

Yes, the statement for “later revisions” “approved by EASA” is covering both cases:

- documents approved with EASA direct involvement
- documents approved by a Design Organisation holding a DOA with the appropriate scope and privileges as per Part 21

Last updated:

02/11/2018

Link:

<https://www.easa.europa.eu/ro/faq/65380>

How do I know whether an STC has been grandfathered?

Answer

Any STC approved or validated by any member state before the establishment of EASA is deemed to be 'Grandfathered' under Regulation 1(EU) No 748/2012 Article 4. Unfortunately, a central repository of such approvals does not exist. Please contact the STC holder directly or review the websites of our Member States National Aviation Authorities. Please also refer to our FAQ [“Who do I contact to request a copy of a grandfathered STC? | EASA \(europa.eu\)”](#)

Last updated:

23/02/2023

Link:<https://www.easa.europa.eu/ro/faq/19372>

Stand-Alone Revision of Flight Manual (FM)

How do I apply for a Stand-Alone Revision of Flight Manual (FM)?

Answer

Applications should be submitted via the [EASA Portal](#) by selecting the correlating category of design change. The ensuing EASA approval will be issued as a Minor or Major Change approval. In cases of changes to an FM Supplement in relation to an EASA approved STC, we may also issue a revised or new STC. Please refer to the graphic below to determine the best way to apply.

**Last updated:**

20/03/2023

Link:<https://www.easa.europa.eu/ro/faq/137732>

Application of Alternative Method of Compliance (AMOC) to Airworthiness Directive (AD)

When do I need to apply for an AMOC approval - and what do I need to do?

Answer

All applications for 'Request for acceptance of Alternative Methods of Compliance (AMOC) with Airworthiness Directive (AD)' must be submitted to EASA using [EASA](#) Form FO.CAP.00042 duly completed and signed. It should also be noted that every AMOC application request should relate to one AD only. Below you will find the link to the application form as well as to additional information regarding AMOC.

For application forms, click [here](#).

For general information for AD, click [here](#).

For further FAQ on this topic, click [here](#).

Last updated:

25/01/2017

Link:

<https://www.easa.europa.eu/ro/faq/21929>

Certification Support for Validation (CSV)

The validating authority is asking for a re-classification to Category “Medium”/”Large”. What do I need to do?

Answer

In case the technical investigation is more complex than foreseen in the beginning, the validating authority may ask for a re-classification from Category “Small” to Category “Medium” or “Large”. In order to reflect this re-classification in our EASA system also for invoicing purposes, we would need your active involvement and kindly ask you to submit a revised EASA form FO.CSERV.00041 to Validation.Support [at] easa.europa.eu (Validation[dot]Support[at]easa[dot]europa[dot]eu). Please complete the dedicated box 3.4 ‘Service Package’ on page 2.

Last updated:

12/03/2020

Link:

<https://www.easa.europa.eu/ro/faq/21933>

Which types of approvals can be validated in Third Countries?

Answer

The following approvals can be validated in Third Countries: Type Certificates (TC), Major Changes, STCs, AFMs and ETSOAs (European Technical Standard Order). Please send an application to Validation.Support [at] easa.europa.eu (Validation[dot]Support[at]easa[dot]europa[dot]eu).

Approvals may be validated in third countries with which EASA has no Bilateral Agreement and/or Working Arrangement in place or in third countries having a Bilateral Agreement and/or Working Arrangement with EASA.

Last updated:

12/03/2017

Link:

<https://www.easa.europa.eu/ro/faq/21934>

What are the new CSV Product Categories?

Answer

With the new Fees and Charges Regulation, CSV applications are charged by a flat fee. This affects also the product categories, which have been changed as follows:

- Category “Small”: All Categories without technical involvement
- Category “Medium”: General Aviation, Small/Medium Rotorcraft, Parts and Appliances,
- Propulsion (except Turbine Engines)
- Category “Large”: Large Aeroplanes/Rotorcraft, Propulsion (Turbine Engines only)

The only exception are complex technical projects, which could not be covered by these 3 categories. These are still charged by the hour and a financial estimate could be provided on request.

Last updated:

12/03/2020

Link:<https://www.easa.europa.eu/ro/faq/111273>**How can I find out if I need to apply for the “Small” or for the “Medium/Large Service Package”?****Answer**

Please send an email to Validation.Support [at] easa.europa.eu (Validation[dot]Support[at]easa[dot]europa[dot]eu). We will investigate and confirm, for which category you need to apply.

Category “Small”: For third countries that have neither a Bilateral Agreement nor a Working Arrangement with EASA in place.

Categories “Medium” and “Large”: For third countries that have a Bilateral Agreement and/or Working Arrangement with EASA in place, i.e. USA, Canada, Brazil, China, Japan, and Russia.

Last updated:

23/11/2021

Link:<https://www.easa.europa.eu/ro/faq/21931>**I would like to apply for Certification Support for Validation in Third Countries – what do I need to do?****Answer**

Please submit an application via the [EASA Portal](#).

There are two different scenarios:

Category “Small”: Your EASA approval and related documents will be only forwarded together with an EASA Forwarding Letter to the validating authority. There is no technical support foreseen. This EASA service is charged by a flat fee.

“Category “Medium”/”Category Large”: Your EASA approval will be forwarded to the responsible technical section. An EASA PCM will be allocated to your task and will prepare the EASA Forwarding Letter. The Applicant Services Department will then submit the EASA Forwarding letter and its related documents to the validating authority. This EASA Service is charged by a flat fee. Please consult the EASA Fees and Charges Regulation [Commission Implementing Regulation \(EU\) 2019/2153](#) for the applicable flat fee.

Last updated:

23/11/2021

Link:<https://www.easa.europa.eu/ro/faq/21930>**MTOW Rotorcraft****How is the fees and charges category determined for post-TC applications?****Answer**

For all post-TC design applications the applicable F&C category is based on the **type level** and corresponds to that category in which more or equal to 50% of the models are within a given type.

This change was introduced by the EASA F&C regulation (Commission Regulation (EU) 319/2014) of April 2014 and changed the applicable rule that was previously in force according to which the highest weight category was applicable, even though it might have been only connected to one of the models.

In accordance with PART V/Explanatory Note (7) of EASA F&C regulation [Commission Implementing Regulation \(EU\) 2019/2153](#), “the applicable fee category per application shall be determined by the fee category assigned to the related type design. Where multiple models are certified under one type design, the fee category of the majority of these models is applicable. In case of an even distribution of fee category, the higher fee category applies. For applications relating to several type designs (AML), the highest fee category is applicable.”

Last updated:

12/03/2020

Link:<https://www.easa.europa.eu/ro/faq/44075>**Why is my small rotorcraft charged as medium rotorcraft under F&C?****Answer**

[Commission Implementing Regulation \(EU\) 2019/2153](#) establishes the EASA Fees and Charges and defines in Part V point (2) the following categories of Rotorcraft Products for this purpose (only):

- VTOL Large Aircraft refers to CS 29 and CS 27 cat A aircraft;
- VTOL Small Aircraft refers to CS-27 aircraft with maximum take-off weight (MTOW) below 3 175 kg and limited to 4 seats, including pilot;
- VTOL Medium Aircraft refers to other CS-27 aircraft.

According to EASA TCDS R.008, the AS350 rotorcraft is a CS27 rotorcraft with MTOW below 3 175kg and a seating capacity of 6, including the pilot. Hence it must be classified as Medium Rotorcraft as per the above definition.

According to EASA TCDS R.146, the AS355 rotorcraft is a CS27 rotorcraft with MTOW below 3 175kg and a seating capacity of 6 (or 7, if an optional two-place seat is installed), including the pilot. Hence it shall be classified as Medium Rotorcraft as per the above definition.

[View the applicable Fees and Charges category for each product](#)

See in particular the [EASA Product List – Rotorcraft](#).

Last updated:

12/03/2020

Link:<https://www.easa.europa.eu/ro/faq/21935>**Approval process****What is the status of my project?****Answer**

If you wish to enquire about the status of your project, please contact directly your project certification manager (PCM) by quoting the EASA task number. The contact details of the PCM are sent to you with the EASA Acceptance Letter once your project has been allocated.

Alternatively you may send an email to [application.services\[at\]easa.europa.eu](mailto:application.services@easa.europa.eu) ([application\[dot\]services\[at\]easa\[dot\]europa\[dot\]eu](mailto:application[dot]services[at]easa[dot]europa[dot]eu)).

Last updated:

17/03/2020

Link:<https://www.easa.europa.eu/ro/faq/21896>**My project is re-classified, what implications are there?****Answer****Fees & charges category re-classification**

Your project may be reclassified to a higher or lower category, e.g. from Simple to Standard, based on certain criteria that are defined in [Commission Implementing Regulation \(EU\) 2019/2153](#). As a re-classification to a higher category leads to a higher fee, we will contact you first for your acceptance before taking any further action.

In case of re-classifications to a lower category, a credit note will be issued, if applicable.

For further information on the different fees & charges categories, please consult the tables sorted by application type provided in the Annex of the fees and charges regulation [Commission Implementing Regulation \(EU\) 2019/2153](#).

	Simple	Standard	Significant	Complex Significant
EASA Supplemental Type Certificate (STC)				'Complex Significant Change' is any significant change (ref. GM 21.A.101 of Annex I (Part 21) to Regulation (EU) No 748/2012) involving at least two reasons justifying its classification as significant (examples of criteria as per this GM 21.A.101 of Annex I (Part 21) to Regulation (EU) No 748/2012:
EASA major design changes	STC, major design change, or repair, only involving current and well-proven justification methods, for which a complete set of data (description, compliance check-list and compliance documents) can be communicated at the time of application, and for which the applicant has demonstrated experience, and which can be assessed by the project certification manager alone, or with a limited involvement of a single discipline specialist	All other STCs, major design changes or repairs	'Significant' is defined in point 21.A.101(b) of Annex I (Part 21) to Regulation (EU) No 748/2012 (and similarly in FAA 14CFR 21.101 (b)).	change in the general configuration, change to the principles of construction, assumptions used for certification have been invalidated) or any significant change involving two or more examples described as significant change (column 'Description of change' Tables in Appendix 2 to GM 21.A.101 of Annex I (Part 21) to Regulation (EU) No 748/2012). If justified by exceptional technical circumstances, the Agency may reclassify a complex significant application to significant.
EASA major repairs			n/a	n/a

Part 21 re-classification

Your application may be reclassified to a different application type, e.g. from Minor Change to Major Change based on certain technical criteria that are defined in Part 21. In this case a new application must be made to EASA.

Last updated:

12/03/2020

Link:

<https://www.easa.europa.eu/ro/faq/21897>

I would like to cancel, interrupt or re-activate my project; what do I need to do?

Answer

Cancellation

You may cancel your project at any time by completing form [FO.APMAN.00143](#) or by sending an email to applicant.services [at] easa.europa.eu quoting the EASA task number. We will confirm and, if applicable, proceed with any accounting adjustments.

Users of the Applicant Portal may cancel their application directly in the tool.

Interruption

To interrupt a project, please complete form [FO.APMAN.00143](#).

- An application may only be interrupted once, for a period not exceeding 18 months following the initial request to interrupt.
- If the initial request was for 6 or 12 months, the interruption may be extended to the total of 18 months.
- The application validity is not impacted by the interruption.
- An application cannot be interrupted retroactively. The interruption period starts on the date indicated by the applicant but not earlier than the date when the request is received by the Agency.

Re-activation

- EASA will automatically re-activate the application at the end of the interruption period – the applicant does not need to re-submit a new application to re-activate.
- Should the applicant wish to re-activate the project prior to the end of the requested interruption period, a request for early re-activation shall be submitted using form [FO.APMAN.00143](#).

Fees and Charges

- The fee of an application interrupted within the first year since the application receipt shall not be reimbursed.
- For applications interrupted after the first year, the balance of any fees or charges due for the ongoing billing cycle shall be 1/365th of the relevant annual fee or charge per day (Art. 10.3 and 16.3 of [Commission Regulation \(EU\) 2019/2153](#)).
- A re-activated application shall trigger a new fee or charge irrespective of the fees or charges already paid for the interrupted task (Art. 10.3 and 16.3 of [Commission Regulation \(EU\) 2019/2153](#)).

Form FO.APMAN.00143 can be downloaded [here](#).

If you have any invoicing related queries, please contact our Invoicing Section at applicant.services [at] easa.europa.eu (applicant[dot]services[at]easa[dot]europa[dot]eu)

For further information on the termination or interruption of your project, please refer to Article 10 and 16 of our fees and charges regulation [Commission Regulation \(EU\) No 2019/2153](#).

Last updated:

31/10/2023

Link:

<https://www.easa.europa.eu/ro/faq/21898>

What else do I need to know on the Annual Fee for holders of EASA Type Certificates / Restricted Type Certificates?

Answer

After the issuance of the EASA Type Certificate / Restricted Type Certificate, EASA will levy per period of twelve (12) months an annual fee in accordance with **Table 8 of Part I of the Annex** to this Regulation, for the purpose of maintaining the certificate. The first 12-month period starts on 01 June following the date on which the certificate is issued.

By derogation from the flat fees set out in **Table 8**, the following shall apply:

A. For freighter versions of an aircraft that have their own type certificate, a coefficient of 0,85 is applied to the fee for the equivalent passenger version.

B. For holders of multiple EASA Type Certificates, EASA Restricted Type Certificates and/or multiple other Type Certificates, a 25 % reduction to the annual fee is applied to the fourth and subsequent certificates subject to the same flat fee in the same fee category identified in **Table 8**.

C. The hourly rate set out in **Part II of the Annex**, up to the level of the full fee for the relevant fee category shall be charged in the following cases:

1. For aircraft
 - a. which are out of production for more than 20 years, or
 - b. of which less than 50 units have been produced worldwide, or
 - c. of which 50 or more units have been produced worldwide, provided that the certificate holder demonstrates that less than 50 units are in service worldwide;
2. For engines and propellers
 - a. which are out of production for more than 20 years, or
 - b. of which less than 100 units have been produced worldwide
 - c. of which 100 or more units have been produced worldwide, provided that the certificate holder demonstrates that the engine or propeller is installed in less than 50 aircraft in service.

The criteria established in point C. shall be assessed by reference to the 1st of January of the year in which the respective billing cycle starts.

Having regard to **Table 8** and the derogations listed above, the period during which an invoice regarding a fee for continuing airworthiness activities may be retroactively adjusted is limited to one year after its issuance.

The amounts referred to in **Part I and Part II of the Annex** shall be indexed, with effect of 01 January each year, to the inflation rate in accordance with the method set out in **Part IV of the Annex**.

Please note that the above summary of the related provisions of the Fees & Charges regulation is provided for convenience only. If, at any time, there is a discrepancy, inconsistency or conflict between the information provided above and in the Commission Implementing Regulation (EU) 2019/2153, the latter shall prevail.

Last updated:

13/08/2020

Link:

<https://www.easa.europa.eu/ro/faq/117088>

What else do I need to know on the Annual Fee for holders of EASA European Technical Standard Order Authorisations?

Answer

After the issuance of the European Technical Standard Authorisation, EASA will levy per period of twelve (12) months an annual fee in accordance with **Table 8 of Part I of the Annex** to this Regulation, for the purpose of maintaining the certificate. The first 12-month period starts on 01 June following the date on which the certificate is issued.

By derogation from the flat fees set out in **Table 8**, the following shall apply:

A. For holders of multiple EASA European Technical Standard Order Authorisations and/or multiple other Technical Standard Order Authorisations, a 25 % reduction to the annual fee is applied to the fourth and subsequent certificates subject to the same flat fee in the same fee category identified in **Table 8**.

B. The hourly rate set out in **Part II of the Annex**, up to the level of the full fee for the relevant fee category shall be charged in the following cases:

- a. which are out of production for more than 15 years, or
- b. of which less than 400 units have been produced worldwide, or
- c. of which 400 or more units have been produced worldwide, provided that certificate holder demonstrates that the part or non-installed equipment is installed in less than 50 aircraft in service.

The criteria established in point B. shall be assessed by reference to the 1st of January of the year in which the respective billing cycle

starts.

Having regard to **Table 8** and the derogations listed above, the period during which an invoice regarding a fee for continuing airworthiness activities may be retroactively adjusted is limited to one year after its issuance.

Minor changes to ETSOA are classified as 'Administrative Change' and 'Technical Change'. An 'Administrative Change' will be charged one (1) working hour in accordance with **Part II of the Annex**. A 'Technical Change' will be charged in accordance with **Table 4 of Part I of the Annex**.

The amounts referred to in Part I and Part II of the Annex shall be indexed, with effect of 01 January each year, to the inflation rate in accordance with the method set out in Part IV of the Annex.

Please note that the above summary of the related provisions of the Fees & Charges regulation is provided for convenience only. If, at any time, there is a discrepancy, inconsistency or conflict between the information provided above and the Commission Implementing Regulation (EU) 2019/2153, the latter shall prevail.

Last updated:

17/08/2020

Link:

<https://www.easa.europa.eu/ro/faq/117089>

Why am I no longer receiving an AMF approval but a Major or Minor Change approval or an STC instead?

Answer

EASA has recently simplified the administrative application process for Stand-alone FM revisions and has stopped issuing approvals under the title of "AFM Approval". These have been replaced by the issuance of a standard change approval (e.g. Minor Change Approval/Major Change Approval, etc.).

In the past, applications for Stand-alone FM revisions could be made exclusively by using the designated paper application form FO.CERT.00036.

You may now simply apply for the pertinent type of design change activity online.

Activity as per FO.CERT.00036	Activity as per Applicant Portal
Stand-Alone Revision of Flight Manual	
classified as Minor	Minor Change
classified as Major - Simple	Major Change (for TC Holders only)
classified as Major - Standard	Major Change for STC (if applicable)
classified as Major - Complex	STC (non-TC Holder FMS change)

Please note that this change in the process has no impact on the fees that EASA will charge.

FM revision applications have always been charged in accordance with the applicable classification as either Major Change or a Minor Change.

Last updated:

17/03/2020

Link:

<https://www.easa.europa.eu/ro/faq/67019>

Permit to fly Applications Gateway

What is the Applications Gateway process?

Answer

In case of temporary capacity shortages on the side of EASA or EASA subcontracted National Aviation Authorities (NAA)/Qualified Entities

(QE), the Agency reserves the right to delay the start of the technical work for certain applications.

The gateway process is introduced to ensure that affected applications are managed in a transparent, objective, and consistent manner.

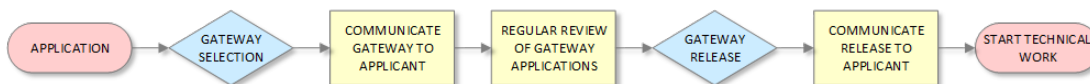
The following types of applications may be affected if they require a high amount of and/or specific resources that are unavailable at the time of application:

- New applications for Certification tasks and services or requests for registration of declarations
- New applications for Organisation approvals or requests for registration of declarations

The process will not be applied for:

- Ongoing projects (interruptions are possible at applicant request, refer to [FAQ n. 21898](#))
- Continuing Airworthiness activities for EASA approved and declared products
- Oversight activities for EASA approved and declared organisations (including renewals)

Gateway steps



- **CRITERIA:** Applications are selected for the gateway in case of high shortage of EASA/NAA/QE capacity, high project workload, long project duration, high project impact on other ongoing EASA activities
- **DURATION:** A tentative gateway end date is communicated to the applicant following gateway selection
- **COSTS:** No Fees and Charges are raised until the application is released from the gateway process. The applicable fees or charges shall be invoiced as effective on the date of release of the application from the gateway process.

RULES: The original application date remains the reference date for application (for project duration, Part 21 certification basis)

Last updated:

23/10/2023

Link:

<https://www.easa.europa.eu/ro/faq/138273>