



## ETSOA process issues

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## General obligations: Certification plan

### → Per 21A.615 Inspection by the Agency

*Upon a request of the Agency, each applicant for, or holder of an ETSO authorisation for an article shall allow the Agency to:*

*(a) Witness any tests.*

### → The above implies that the Agency should be notified early about

- ✦ proposed equipment design
- ✦ proposed compliance approach (test, analysis etc.)

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## General obligations: Certification plan

### A Certification plan should be provided in due time to

- describe proposed equipment design
- name novel- or unusual design features
- describe expected deviations (public comment phase needed)
- indicate proposed Means of Compliance (MoC) how the equipment is going to be qualified

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## General obligations: Certification plan

### Certification plan should contain:

- a matrix with proposed Means of Compliance (MoC) addressing the requirements from the ETSO standard (or e.g. SAE industry standard if referred to in ETSO)

MoC Code	Means of Compliance
0	Compliance statement
1	Technical description, drawing
2	Calculation, Analysis
3	Safety Assessment (SSA, FMEA, FMES)
4	Laboratory testing
5	Ground test on aircraft
6	Flight test
7	Design Inspection and installation inspection



## General obligations: Certification plan

### Certification plan should contain:

- a „reliable“ schedule, indicating major milestones of equipment qualification.
- a thoroughly planned test session breakdown to allow for witnessing by EASA representatives.

### For major qualification tests a test plan shall be provided for concurrence.

(Example: dynamic seat tests)



## General obligations: Certification plan

**If certification/qualification data would be established without prior involvement of EASA, it potentially may happen that:**

- Compliance approach could be not accepted
- Tests would have to be repeated

**Above may result in unnecessary costs and schedule issues!**



## General obligations: Compliance Matrix

- **A Compliance Matrix should be provided as part of the final documentation package**
- **If compliance to standards like SAE standards is required (e.g. AS8049A) each requirement shall be addressed by an appropriate compliance statement.**

**A dedicated EASA Memo had been issued in July 2007 (ref. EASA C1(2007)D/52705)**



## ETSOA process

### Technical Data:

- **drawings missing or incomplete**  
(wiring diagrams, ETSO-marking etc.)
- **wrong/missing references in DDP and reports**  
(regulations, standards, cross references)
- **other issues of industry standards**  
(higher Issue used would need „positive“ deviation)
- **missing compliance statements to industry standards** (i.e. SAE standards)  
Example: AS8049A para. 3.1.20 „life vest accessibility“



## ETSOA process

### Others:

- **Statement of conformity missing**  
(EASA Form 35)
- **Certifying statement from FAA**  
(For US applicants only)
- **Deviation request**  
(refer to separate presentation)



## FAA validation process

### Incomplete documentation for TSO-LODA :

- **Technical Data**
  - ✦ According to FAA TSO data requirements
  - ✦ Drawings (TSO-marking, wiring diagrams etc.)
  - ✦ Part list / drawing list shall not contain non-TSO parts  
e.g. IFE (non-TSO parts to be listed separately)
- **Statement of conformity for TSO**
- **Installation limitations document**  
(refer to FAA Memo on TSO-C127a, dated 8th Sept. 2003)
- **Evidence of import**  
(refer to FAA Memo, dated 9th June 2005)
- **Application letter to FAA**



## Example: 1

### Compliance statements:

- Applicants did provide compliance statements to ETSO- and test requirements just by informal E-mail.

**Compliance statements shall be compiled in a dedicated report or compliance matrix, signed off by the design organization.**



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## Example: 2

### Compliance statements:

- Applicants frequently ask EASA specialists for advice about how to satisfactorily phrase compliance statements. The advice provided is then copied verbatim into the compliance documentation.

**It is the applicants responsibility to show compliance with applicable requirements.**

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## Example: 3

### FAA validation (LODA) request:

- Applicants provided electronic copies (e.g. CD-rom) of documentation and asked EASA to print paper copies before sending the validation package to FAA-Boston.

**It is the applicants responsibility to provide a complete set of paper copies for FAA validation.**

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## Example: 4

### FAA validation (LODA) request:

- Applicants frequently provide documentation packages very late. On top of fast progressing, EASA is asked to urgently ship the documents to FAA-Boston by courier.
- In many cases EASA have got into deep trouble with FEDEX, UPS etc. because the bill had not been paid by the applicant.

**It is the applicants responsibility to provide a document package in due time.**

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## Other Surprises

### FAA validation (LODA) request:

- In one case we did receive a huge nice box containing about 30 neatly packed meal tray tables for Y/C seats. Apparently the package of TSO documentation went to an airline who may have been as confused as we have been.

**It may be beneficial to even double-check the shipping label before sending the package.**

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## Questions

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