

Certification Directorate
General Aviation & VTOL Department

Report

EU/US BASA Safety Emphasis Items (SEI) List for CS 23



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1 Executive summary

This report supports the implementation of TIP Revision 6 of the EU/US Bilateral for products certified under the JAR/CS23 or FAR 23 Airworthiness codes.

The report provides the list of Safety Emphasis Items (SEI List) required by the BASA TIP Rev 6.

2 TIP Rev 7 Non-Basic Criteria

Below is an extract from TIP Rev 7 (Section 3.5.3.2 from the TIP revision 7)

3.5.3.2 Non-Basic Classification Criteria:

(a) Type Certificate's

Application for validation of a TC shall be classified as Non-Basic, except for:

Applications for validation of reciprocating engine and propeller new TCs, and all changes to those TCs, including STCs, will be classified as Basic, unless the CA or VA certification basis includes or is anticipated to include a new or amended (i.e. not previously applied):

- (i) FAA Exemption or EASA Deviation;
- (ii) Special Condition; or
- (iii) Equivalent level of Safety (ELOS/ESF);

(b) Major Design Changes, including STCs

Application for validation will be classified as Non-Basic when any of the following criteria are impacted:

- (1) Any item in the VA Safety Emphasis Item (SEI) list as defined in paragraph 3.5.10.4;
- (2) The CA or VA certification basis includes a new or amended:
 - (i) FAA exemption or EASA deviation;
 - (ii) Special condition; or
 - (iii) Equivalent level of Safety (ELOS/ESF);

Note: New or amended is considered in the context of the project, relative to the baseline certification basis of the product or STC being changed.
- (3) A classification of "significant" has been made by the CA in accordance with FAA 14 CFR section 21.101(b) or EASA 21A101(b);
- (4) An AD is affected that was issued unilaterally by the VA; *Technical Implementation Procedures* September 22, 2017 or an AD is affected that was issued by the VA, and where the VA is the Authority for the SoD for the TC;
- (5) Changes involving the use of a new or different applicable method of compliance from that previously agreed by the CA and the VA;

Note: A method of compliance (MOC) would not be considered "new" or "different" if it had been applied previously in a similar context by both the CA and the VA.
- (6) New technology exists;

Note: New technology is technology that is new to the VA as a whole, not just new to the VA team members. For example, if technology used by the applicant were new to the VA team but not the VA itself, it would not be considered new. It is the VA management's responsibility to make sure the VA team members are properly informed of the earlier use of the technology, VA standards and MOC.
- (7) Novel applications of existing technology exist;

Note: Novel application of technology is where a particular technology is being used in a manner that causes the precepts of the technology to be questioned. However, it does not mean that existing technology being applied for the first time to a particular product line is automatically novel.
Additionally, novel applies to the VA as a whole, not just to a project being assessed by the specific VA team members.
- (8) Changes that impact environmental protection per paragraph 3.5.3.2(e).
- (9) Changes that have an appreciable effect on any one of the Operational Suitability Data (OSD) constituents (refer to EASA Guidance Material GM 21.A.91 to determine an appreciable effect); and

(10) Any other design change designated as Non-Basic by the CA.

Note: The addition of models to TC and STCs are considered basic if none of the 10 criteria is triggered.

(e) Environmental Protection

(1) Noise Level substantiations have been affected by (see list of noise basic/non-basic examples in Appendix H):

- testing (except for Part 23/ CS-23 propeller-driven aircraft); or
- a change in the Noise Certification Basis; or
- equivalencies (for FAA) or alternative means of compliance (for EASA); or
- procedures, methodologies, or noise processing software that differ from those accepted by both CA and VA in previous projects of the same applicant; or
- different test organization or staff that performs the procedures or operates the equipment and software.

(2) Emission Level substantiations have been affected by (see list of emissions basic/non-basic examples in Appendix H):

- engine emissions testing (except for unchanged design, or small design changes); or
- a change in the Emissions Certification Basis; or
- procedures, equivalencies, methodologies, deviations that differ from those accepted by both CA and VA in previous projects of the same applicant.

Note: Projects involving an airplane CO₂ emissions change are considered non-basic by default.

3 Safety Emphasis Items

As required by TIP 7 paragraph 3.5.3.2(b)(1) the following items have been listed by EASA as Safety Emphasis Items(SEIs) for aeroplanes with a Certification Basis established under FAR23.

Requirement	Comment
23.1453	Aeromedical installation of gaseous oxygen systems
23.1309(b)	Complex Electronic Installations Limited to Commuter Category or if EUROCAE ED-79A / SAE ARP4754A is utilised as a Means of Compliance. Note: this does not include the Safety Assessment requirements of 23.1309(b)
High Performance Aeroplanes	For already certified non-high performance types, modification of those types into the high performance category (above 25,000ft, above 250kts, 0.6M)
Lithium Technology Batteries	Installation of Main Aircraft lithium batteries, or other batteries over 5W
Human Factors	Upgrades to highly integrated glass cockpits
HIRF	Upgrades from Mechanical to glass cockpits
Indirect Effects of Lightning	Upgrades from Mechanical to glass cockpits
T-PED/ WLAN	No CS requirements published

Requirement	Comment
Flight Data Recorders	Commuter Cat Ops rules AMC compliance.
Contaminated Runway Data	No FAA published requirements
Fuel Cell Technologies	No CS requirements published.
Electric/Hybrid Propulsion	Not envisaged by CS requirements
Data Link Services	Compliance with EU Commission Regulation.
User customisable electronic checklists	Conflict or confusion with certified information
Head up Displays	No CS requirements published
Auto throttle	No CS requirements published
RNP AR approvals	FAA/EASA approach to this differs
Speech Recognition Functions	Issues with European languages and accents
Fire extinguishers (Halon) replacement	EU Rules on Halon use.
ETOPS/EDTO	CS requirements for large aircraft will need modification.
Primary in flight ice detectors	No published CS requirements.
Use of non-E or TSO equipment on certified aircraft	Development assurance
Avionic Resource Sharing	Data exchange with PED's
High Voltage/Current Systems	Typically greater than 240VAC, or 75VDC, or 500 Amps.
New electrical wiring technology	Example, use of aluminium wires/conductors.