FAA Significant Standards Differences

Amendment Pair: 14 CFR Part 25 Amendment 25- 137
CS-25 Amendment 12 and 13

General Comments and Assumptions:

This following list of SSD regulations which require direct 14 CFR Part 25 compliance is based on the 14 CFR Part 25/CS 25 Amendment pair noted in the header.

1. This SSD list includes only regulations where compliance with the CS minimum standard would not be accepted by the FAA. (NOTE: The SSD list is identified as the "FAA-SSD" list to clarify that it is only intended for FAA validations of EASA products).

2. According to the "Type Validation Principles", only regulations that have a regulatory difference will be included in the SSD list. Identical regulations that have differences in guidance/interpretive material will be addressed, if required, as separate Validation Items (VI).

3. The definition of SSD from the "Technical Implementation Procedures for Airworthiness and Environmental Certification between the Federal Aviation Administration of the United States of America and the European Aviation Safety Agency of the European Union," Revision 3, dated April 23, 2013, is shown below: "Significant standards difference (SSD)" refers to a Validating Authority (VA) airworthiness standard that has no Certification Authority (CA) equivalent, which results in a difference that may require type design changes, approved manual changes, additional or different demonstration of compliance, or the imposition of operational limitations to meet the VA standards. The type design or operation approved by the VA could then differ from the design and/or operation approved by the CA. Also, non-SSDs were removed at Revision 3 and only SSD's will be considered going forward.

4. CS 25 does not provide standards for reciprocating-powered airplanes, skiplanes, amphibians, flying boats, or airplanes with standby rocket engines. Differences concerning standards for those airplanes are not reflected in this list.

FAA Significant Standards Differences

Amendment Pair: 14 CFR Part 25 Amendment 25- 137
CS-25 Amendment 12 and 13

14 CFR Part 25 Sections	Guidance	Remarks
Subpart A		
25.2		CS does not specify any retroactive requirements
25.3		14 CFR 25.3 requires compliance with Appendix K for ETOPS type design approval. Neither 14 CFR 25.3 nor Appendix K have a corresponding CS.
Subpart B		
Subpart C		
25.307(a)		Difference in judgment and practice. Sometimes FAA requires limit tests while EASA accepts analysis, other times EASA requires ultimate load tests while FAA accepts limit tests.
25.365		14 CFR25.365 includes structural design considerations for operation above 45,000 feet.
25.562(b)		14 CFR 25.562(b) applies to all seats; CS excludes flight deck crew seats
25.571(a)(3)		FAA includes requirements for certain inspection thresholds and a limit of validity (LOV) to be included in instructions for continued airworthiness.
25.571(b)		14 CFR 25.571(b) requires special consideration of widespread fatigue damage (WFD) and establishment of a Limit of Validity (LOV) based on full scale fatigue test evidence. CS includes provisions for using residual strength loads less than limit.
25.571(e)	AC 25.571-1D, AC 20-128, and PS-ANM100-1993-00041	14 CFR 25.571(e) requires consideration of uncontained rotor and fan damage to structure not limited to pressurized compartments
Subpart D		
25.619		Additional CS reservation to seek “other appropriate measures” may result in 14 CFR 25.619 non-compliance.
25.621		The 14 CFR 25.621 does not allow the same reduction in casting factors based on compensating factors as provided by the CS
25.629(d)(8)		The FAA includes requirements to show airplanes to

14 CFR Part 25 Sections	Guidance	Remarks
		be free of aeroelastic instabilities within the envelope specified in 14 CFR 25.629(b)(2) for failures, malfunctions, and adverse conditions of 14 CFR 25.629(d). This includes the uncontained rotor and fan damage conditions of 14 CFR 25.571(e).
25.631		FAA rule is specific to empennage structure and requires consideration of 8 pound bird impact, while the CS requires consideration of 4 pound bird for all structure, including empennage.
25.671(c)(1)		The more stringent FAA requirement mandates single failures regardless of probability.
25.785(b)		14 CFR part 25 does not include this provision. Applicants must petition for exemption from 14 CFR 25.562 to apply the EASA version of the rule.
25.785(g)		14 CFR 25.785(g) includes requirement for single point release, and accessibility of controls when seated and strapped in. 14 CFR 25.785(g) also requires means to secure restraint system when not in use.
25.809(a)		14 CFR 25.809(a) has a requirement for each emergency exit to have means to permit viewing of the conditions outside the exit, including likely areas of evacuee ground contact, when closed.
25.809(h)		Specific to 14 CFR 25.809(h) (tailcone exit).
25.811(g)		14 CFR 25.811(g) is more stringent, it does not allow universal symbolic exit signs.
25.812(b)(1)(i), 25.812(b)(1)(ii) and 25.812(b)(2)		14 CFR 25.812(b)(1)(i), 25.812(b)(1)(ii) and 25.812(b)(2) is more stringent, it does not allow universal symbolic exit signs and has requirements for exit marking letter size and background area.
25.831(a)	AC 25-20	14 CFR 25.831(a) has different cabin ventilation requirements
25.831(g)	Policy Memo No.: 00-113-1034, dated 4-Jan-01	Unique 14 CFR 25.831(g) requirement for temperature exposure time requirements.

FAA Significant Standards Differences

Amendment Pair: 14 CFR Part 25 Amendment 25- 137
CS-25 Amendment 12 and 13

14 CFR Part 25 Sections	Guidance	Remarks
25.841	AC 25-20, Policy Memo No.: ANM-03-112-16, dated 24-Mar-06	14 CFR 25.841 establishes cabin pressure altitude requirements for failure scenarios not shown to be extremely improbable.
25.851(a)(6)		EASA has authority to eliminate the use of Halon FireEx. FAA allows the use of Halon FireEx
25.855(a)		The 14 CFR 25.855(a) is more restrictive in choice of cargo classes
25.855(b)		The 14 CFR 25.855(b) is more restrictive because EASA can alleviate the liner for the baggage compartment in CS 25.855(b)(2)
Subpart E		
25.901(b)		CS references only CS E20 (d) and (e) for engine installation instructions vs. 14 CFR 25.901(b) reference to 14 CFR part 33 for engines and part 35 for propellers. Compliance with CS 25 does not ensure that the powerplant installation complies
25.901(c)		The FAA requires the fail-safe concept - no failure(s) will jeopardize the safe operation of the airplane. CS requires compliance with CS 25.1309. 14 CFR 25.901(c) includes the “fail-safe” requirements as part of the rule in 25.901. Fail-safe is applied by guidance in 25.1309 and is therefore not mandatory by 25.1309.
25.901(d)		The FAA requires that the APU installation meet the applicable provisions of subpart E (application of engine installation requirements). EASA has clearly defined requirements in CS-25 subpart J.
25.904		14 CFR part 25, Appendix I restricts ATTCS thrust to maximum takeoff thrust or power approved for the airplane. CS25 Appendix I permits the ATTCS to increase thrust up to a maximum thrust or power approved for use following engine failure.
25.905(c)		14 CFR 25.905(c) refers to additional requirements for the propeller blade pitch control system compared to CS 25.905(c). The CS references only CS-P 420 vs. 14 CFR reference to 14 CFR sections 35.21, 35.23,

FAA Significant Standards Differences

Amendment Pair: 14 CFR Part 25 Amendment 25- 137
CS-25 Amendment 12 and 13

14 CFR Part 25 Sections	Guidance	Remarks
		35.42 and 35.43.
25.907		The CS-P contains the airplane requirements vs. 14 CFR 25.907 containing the airplane requirements.
25.933(a)(1)		The 14 CFR 25.933(a)(1) does not allow demonstration that in-flight thrust reversal is extremely improbable as a compliance method, however the FAA routinely accepts it as an equivalent safety finding.
25.963(e)	AC 25.963-1	The CS includes an exception that fuel tank access panels need not be more fire resistant than the surrounding fuel tank structural material. The 14 CFR 25.963(e) does not.
25.981	Policy Memo No.: ANM-112-08-002, dated 5/26/09 AC 25.981-1C	The 14 CFR 25.981 is more stringent. 14 CFR 25.981(a)(3) requires that an ignition source cannot result from each single failure, from each single failure in combination with each latent failure condition not shown to be extremely remote, and from all combinations of failures not shown to be extremely improbable. These ignition source requirements must be met with consideration of the effects of manufacturing variability, aging, wear, corrosion, and likely damage. CS 25.981(a)(3) only requires demonstrating that an ignition source does not result from each single failure and from all combinations of failures not shown to be extremely improbable using CS 25.1309. 14 CFR 25.981(b) requires the flammability exposure of tanks other than a main tank meet the requirements of Appendix M if any portion is located within the fuselage contour, which may require the installation of a Flammability Reduction Means (FRM). CS 25.981(b) only requires an active FRM meet the requirements of App. M to CS 25 if an FRM is needed to meet the 3% fleet average flammability requirement.
25.1091(e)		CS references CS E vs. 14 CFR 25.1091(e) reference to 14 CFR Part 33.77.

FAA Significant Standards Differences

Amendment Pair: 14 CFR Part 25 Amendment 25- 137
CS-25 Amendment 12 and 13

14 CFR Part 25 Sections	Guidance	Remarks
25.1093	AC 20-73; Policy memo dated 8/3/1992	FAA requires demonstration of capability to operate the engine and essential APU under the conditions of falling and blowing snow. FAA has issued policy memorandum dated August 3, 1992 regarding conditions that must be considered.
25.1103(a)		CS does not contain the induction system drainage requirements of 14 CFR 25.1103(a). While this section applies primarily to reciprocating engine installations, it does apply to turbine APU installations.
25.1167(b)		CS references CS E vs. 14 CFR 25.1167(b) reference to FAR Part 33.
25.1181(b)		14 CFR 25.1181(b) – Difference in regulatory cross references: compliance with CS 25.1181(b) plus CS 25.865 satisfies FAR 25.1181(b)
25.1193(e)(3)		14 CFR 25.1193(e)(3) is applicable to an APU and is more restrictive than CS 25J1193(e)(3). 14 CFR 25.1193 requires a fireproof nacelle skin / cowling for both ground and flight conditions.
Subpart F		
25.1301(a)(4)		14 CFR 25.1301(a)(4) requires each item of installed equipment to function properly when installed, not just those whose improper functioning would reduce safety per CS 25.1309(a)(1)
25.1303(b)		In (b)(4), by reference to section 14 CFR 121.305(k), requires third attitude indicating system, when installed, to be independent of other attitude indicators, and operative without selection after total failure of electrical generating system.
25.1317	AC 20-158	14 CFR 25.1317 has additional airworthiness requirements for HIRF Protection with Appendix L containing HIRF Environments and HIRF test levels for Equipment. Neither 14 CFR 25.1317 nor Appendix L have a corresponding CS.
25.1333(b)	AC 25-11A	14 CFR 25.1333(b) requires that equipment, systems and installations must be designed so that one display of the information essential to safety of flight which is provided by instruments must remain available to the pilots. The CS does not include specific display requirements, but rather requires that sufficient information is available to one pilot."
25.1415(c)		14 CFR 25.1415(c) requires survival equipment to be

14 CFR Part 25 Sections	Guidance	Remarks
		attached to the life raft
25.1447(c)(3)		The 14 CFR 25.1447(c)(3) is more stringent requiring installation of flight crew member oxygen dispensing equipment equipped with certain design features depending on the flight level operation or exposure to cabin pressure altitudes exceeding 34,000 feet during a decompression which is not extremely improbable."
25.1457		The 14 CFR 25.1457 is more stringent, it requires in (d)(6) physical separation of the DFDR and CVR, improved CVR power supply reliability and recording of certain data link communications in (a)(6).
25.1459		The 14 CFR 25.1419 is more stringent, it requires physical separation of the DFDR and CVR, and improved DFDR power supply reliability.
Subpart G		
25.1529		CS does not include ICA availability requirements contained in the 14 CFR 25.1529. EASA IR 21A.61 allows deferred availability of certain ICA "dealing with overhaul or other forms of heavy maintenance" until after delivery, as long as they are made available prior to the scheduled task threshold. The 14 CFR 25.1529 requires complete ICA prior to delivery of the first airplane or issuance of a standard certificate of airworthiness, whichever occurs later. CS does not include Fuel System Limitation requirements in Appendix H25.4. Also, 14 CFR H25.4 refers back to 25.571 which is an SSD.
25.1535		14 CFR 25.1535 refers to ETOPs airworthiness requirements of Appendix K. 14 CFR Appendix K does not have a corresponding CS, however 14 CFR K25.1.1 and K25.1.2 are covered in CS 25.1535.
25.1581		CS 25.1591 is a specific EASA requirement that if complied with will result in a 14 CFR 25.1581 non-compliance. Such information, if provided in the FAA AFM, must be in an unapproved section.
25.1583(a)(3)		The 14 CFR 25.1583(a)(3) is more stringent, paragraph (a)(3) requires statements for compliance

14 CFR Part 25 Sections	Guidance	Remarks
		that rapid and large alternating control inputs, especially in combination, could result in structural failures even below the maneuvering speed.
Subpart H		
25.1729	AC 25-27A	14 CFR 25.1729 requires EWIS instructions for continued airworthiness (ICA) to be approved by the FAA whereas CS 25.1729 does not require EASA approval.
Appendix H		
H25.4(a)(1)		FAA includes a requirement to include the modification time in the Limitation Section of the ICA.
H25.4(a)(4)		FAA includes requirements for a limit of validity (LOV) to be included in instructions for continued airworthiness and, until full-scale fatigue testing is completed and the LOV is approved, a limitation in the ICA to prevent operation of airplanes beyond ½ the number of cycles accumulated on the fatigue test article.
Appendix Q		
	AC 25-7C	There is no corresponding Appendix Q for 14 CFR part 25. The FAA addresses these topics in AC 25-7C which is more restrictive than the new CS 25 Appendix Q