



EUROPEAN AVIATION SAFETY AGENCY
AGENCE EUROPÉENNE DE LA SÉCURITÉ AÉRIENNE
EUROPÄISCHE AGENTUR FÜR FLUGSICHERHEIT

OSD CS-SIM Data

Pascal Medal
EASA, Certification Experts

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- Background
- Certification Specifications (CS-SIMD)
- Role of Aircraft Manufacturers
- Transition/Grandfathering
- Role of Operators and Training Organisations
- Role of National Aviation Authorities



Background

- Objective is to ensure that the ad-hoc set of engineering & flight test data, reflecting appropriately the aircraft, is provided to support the SIM objective qualification
- Requirement applicable to TCH, so far
- Simulator data required: only when SIM is used in type training, e.g. when a Type rating is required,
- SET process for Qualification of simulator can be integrated in the OEB process and may be one way in the future to support the CS SIMD compliance process



CS SIM Applicability

- Part 21.A.15(d) – OSD
- An application for a type-certificate or restricted type-certificate for an aircraft shall include, or be supplemented with, after the initial application, the application for approval of operational suitability data, consisting of, as applicable:
 - 1. ..
 - 2. the definition **of scope of the aircraft validation source data** to support the **objective qualification** of simulator(s) associated to the **pilot type rating training**, or provisional data to support their interim qualification;

► **CS SIMD.100 Scope**
(see GM1 SIMD.100)

These Certification Specifications contain the specifications for the definition of scope of:

- (a) validation source data to support the objective qualification of aeroplane full flight simulators associated to the pilot type rating training, or provisional validation source data to support their interim qualification, including additional features as requested by the applicant;
- (b) validation source data to support the objective qualification of helicopter full flight simulators and flight training devices associated to the pilot type rating training, or provisional validation source data to support their interim qualification, including additional features as requested by the applicant.

➤ **CS SIMD.110 Scope of applicability**

- (a) These Certification Specifications apply to all **aircraft type certificate applicants** for which the **pilot type rating training** makes use of approved:
 - (1) Level B, C or D full flight simulators for aeroplanes; or
 - (2) Level B, C or D full flight simulators and Level 2 or 3 flight training devices for helicopters.

- (b) These Certification Specifications apply also to applicants for the approval of changes to the elements listed in CS SIMD.100.



CS SIMD.200

Determination of scope of validation source data

- **CS SIMD.200 Determination of scope of validation source data** (see GM1 and GM2 SIMD.200)
 - (a) This paragraph contains the specification applicable to the scope of aircraft validation source data which is used to objectively confirm that the flight simulation model reflects the static as well as the dynamic performance characteristics of the aircraft and its relevant systems.
 - The determination of the scope of the validation source data is based on:
 - (1) Certification Specifications extracted from CS FSTD(A)&(H) as applicable;
 - (2) any additional specification resulting from the additional features selected by the applicant.
 - (b) The scope comprises the list of validation source data used as validation data in the qualification test guide, its related source and relevant justifications or rationales. It is provided through a validation data road map.



- **GM1 SIMD.200 Determination of scope of validation source data**
- The scope of the validation source data should be substantiated. The substantiation may be performed using different means, such as:
 - (a) through the use of an MQTG and associated FFS/FTD (the means would be useful should they already be available from the ATO);
 - (b) through the demonstration that the applicant has correctly and thoroughly run a process, acceptable to the Agency, aiming to develop the scope of the validation source data;
 - (c) any other way that may be proposed by the applicant and agreed by Agency



CS SIMD.220 Validation Data Road map

➤ **CS SIMD.220 Validation data road map**

- (a) A validation data road map document contains the definition of the scope of validation source data to be used as validation data in the qualification test guide.
- (b) The validation data road map clearly identifies in a matrix format the sources of data for all required tests. It also provides information regarding the validity of these data for a specific engine type and thrust/power rating configuration and the revision levels of all avionics affecting aircraft handling qualities and performance. The document includes rationale or explanation in cases where data or parameters are missing, engineering simulation data are to be used, flight test methods require explanation, or other comparable cases, together with a brief narrative describing the cause/effect of any deviation from data requirements. It identifies the applicable aircraft configuration impacting the simulator definition.

➤ NPA 2013-17

- went for public comments:
 - 120 comments received from 25 commenters,
 - Generally well received,
 - Some misunderstandings about the objectives/intent (will be addressed during CRD review),
- Aim is publication of the CRD and final text, Q2/2014.



Role of TC Applicants

- 21A15 is a requirement applicable to TC applicants, (changes to TC are not regulated yet)
 - CS SIM therefore applies to TC applicants

- Grandfathering limited
 - CS SIM not applicable to aircraft for which application for Type Certification was made before entry into force of OSD regulations,
 - Derivative aircraft (Part 21.101) will be dealt with when regulations for change to OSD are in place,
 - For older aircraft previous qualification remains as per CS-FSTD or former requirements, as applicable,

- NAA (FSTD) role unchanged
 - ❖ responsible for FSTD qualification (when organisation under their remit (e.g. FSTD Airbus training under DGAC-F oversight),
 - ❖ Participate to SET activities, FSTD as MOC for CS-SIM
- NAA (OPS): no change expected,



- Training Organisations:
 - no change expected
- Operators: not affected (or indirectly)



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QUESTIONS?

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