



Explanatory Note to Decision 2014/033/R

Certification Specifications for Simulator Data (CS-SIMD)

RELATED NPA/CRD 2013-17 — RMT.0108 (21.039(g)) — 2.12.2014

EXECUTIVE SUMMARY

This Decision proposes Certification Specifications for Simulator Data (CS-SIMD) which specify how the applicant for an aircraft type certificate shall develop the definition of scope of the aircraft validation source data to support the objective qualification of simulator(s) associated with the pilot type-rating training, as required by the OSD concept.

The proposed Certification Specifications include the following:

- (a) the scope and applicability of the Certification Specifications; and
- (b) the determination of scope of validation source data.

Applicability		Process map	
Affected Regulations and Decisions:	Part-21; AMC/GM to Part-21.	Concept Paper:	No
Affected stakeholders:	Aircraft manufacturers; simulator manufacturers; FSTD operators	Rulemaking group:	No
Driver/origin:	Legal obligation (Regulation (EC) No 216/2008)	RIA type:	Light
Reference:	Task included in ToR 21.039, Issue 2, of 9.7.2007	Technical consultation during NPA drafting:	Yes
		Publication date of the NPA:	27.8.2013
		Duration of NPA consultation:	3 months
		Review group:	No
		Focussed consultation:	Yes
		Publication date of the Opinion:	N/A



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1. Procedural information

1.1. The rule development procedure

The European Aviation Safety Agency (hereinafter referred to as the 'Agency') developed ED Decision 2014/033/R in line with Regulation (EC) No 216/2008¹ (hereinafter referred to as the 'Basic Regulation') and the Rulemaking Procedure².

This rulemaking activity is included in the [Agency's Rulemaking Programme](#) under RMT.0108 (21.039(g)). The scope of the task was defined in the Terms of Reference (ToR) for the all-encompassing rulemaking task on Operational Suitability Data: RMT 21.039.

The draft text of this Decision has been developed by the Agency with the help of the 21.039(g) subgroup, deriving from the 21.039 Rulemaking Group. All interested parties were consulted through NPA 2013-17³, which was published on 27 August 2013. 120 comments were received on this NPA from 25 different interested parties, including industry and national aviation authorities.

The Agency has reviewed the comments received on the NPA. The comments received and the Agency's responses are presented in the Comment-Response Document (CRD) 2013-17 which is published together with this Decision.

The process map on the title page summarises the major milestones of this rulemaking activity.

1.2. Structure of the related documents

Certifications Specifications — Simulator Data is structured as follows:

Book 1 contains Certifications Specifications — Simulator Data, divided into two subparts:

Subpart A — 'General' describes the scope and the applicability of the CS-SIMD, specifications related to the status of provided data and an explanation of terminology used.

Subpart B — 'Determination of scope of validation source data' specifies the process and criteria for the applicant to establish the scope of validation source data.

Book 2 contains Guidance Material to the relevant Subparts of Book 1.

¹ Regulation (EC) No 216/2008 of the European Parliament and the Council of 20 February 2008 on common rules in the field of civil aviation and establishing a European Aviation Safety Agency, and repealing Council Directive 91/670/EEC, Regulation (EC) No 1592/2002 and Directive 2004/36/EC (OJ L 79, 19.3.2008, p. 1).

² The Agency is bound to follow a structured rulemaking process as required by Article 52(1) of the Basic Regulation. Such process has been adopted by the Agency's Management Board and is referred to as the 'Rulemaking Procedure'. See Management Board Decision concerning the procedure to be applied by the Agency for the issuing of opinions, certification specifications and guidance material (Rulemaking Procedure), EASA MB Decision No 01-2012 of 13 March 2012.

³ <http://easa.europa.eu/system/files/dfu/NPA%202013-17.pdf>



2. Explanatory Note

This Decision is related to Commission Regulation (EU) No 748/2012⁴. It comprises information related to the definition of scope of the aircraft validation source data to support the objective qualification of simulator(s) associated with the pilot type-rating training (RMT.0108 (21.039(g))).

2.1. Overview of the issues to be addressed

When simulators are used for type-rating training of pilots, it is essential that the simulator reflects the real aircraft as much as possible. Such simulators are, therefore, subject to a system of qualification by the competent authorities. To allow the objective part of the qualification, there is a need to compare the characteristics of the simulator with those of the aircraft. To allow for a practical way to do this, a selection of comparison data should be made. This is the subject of CS-SIMD.

CS-SIMD contains a uniform process and criteria for the determination of the scope of validation source data.

CS-SIMD is applicable to aircraft for which a pilot type rating is determined, and for which the minimum syllabus for pilot type-rating training makes use of simulators.

2.2. Objectives

The overall objectives of the EASA system are defined in Article 2 of the Basic Regulation. This proposal will contribute to the achievement of the overall objectives by addressing the issues outlined in Chapter 2.

The specific objective of this CS-SIMD is to ensure that simulators used for pilot type-rating training are representative of the aircraft type concerned.

2.3. Outcome of the consultation

Please refer to CRD 2013-17, which is published together with this Decision.

Responses to frequently made comments are repeated here for convenience:

(a) Scope of CS-SIMD in the context of Operational Suitability Data (OSD).

Some comments show confusion about the scope of CS-SIMD and, subsequently, of the simulator data that is approved under the OSD.

What is OSD?

The OSD concept has been introduced in the Basic Regulation as part of the 1st extension package. The necessary Implementing Rules are included in Part-21 of Regulation (EU) No 748/2012, and were developed under rulemaking task 21.039. They are applicable since 17 February 2014. The OSD will ensure that certain data, necessary for safe operation, is

⁴ Commission Regulation (EU) No 748/2012 of 3 August 2012 laying down implementing rules for the airworthiness and environmental certification of aircraft and related products, parts and appliances, as well as for the certification of design and production organisations (OJ L 224, 21.8.2012, p. 1) and repealing Commission Regulation (EC) No 1702/2003 (OJ L 243, 27.9.2003, p.6-79).



available to and used by the operators. This data is considered specific to an aircraft type and must, therefore, be produced by the designer of that type. It consists of:

- the minimum syllabus of the pilot type-rating training;
- the aircraft reference data to support the qualification of simulators;
- the minimum syllabus of the maintenance certifying staff type-rating training;
- type-specific data for cabin crew training; and
- the master minimum equipment list (MMEL).

The operational suitability data proposed by the designer will be approved by the Agency along with the airworthiness certification. Once approved, the operational suitability data must be used by operators and training organisations when establishing their customised training courses and MEL. The OSD is expected to contribute to closing the gap between airworthiness and operations.

For each of the above-mentioned elements of OSD, a set of certification specifications is developed with which the applicant for OSD approval needs to show compliance.

Pilot type-rating training

The content of the minimum syllabus for pilot type-rating training is already addressed by CS-FCD (Certification Specifications for Flight Crew Data) which covers design reference data for the development and maintenance of simulation models, including aerodynamics and aircraft systems data. FCD is one of the other 4 elements of OSD.

Simulator data

The purpose of CS-SIMD is to identify data that is necessary for qualification of simulators when simulators are included in the minimum syllabus for pilot type rating as established in accordance with CS-FCD.

(b) Scope of OSD related to simulators

Some comments show confusion as to what exactly is approved under OSD related to simulators.

The OSD concerning simulators are not the so-called 'data package', but the definition (meaning the specifications) of simulator validation source data.

(c) Possibilities for others than the aircraft TC holder (TCH) to establish simulator data

Many comments show confusion about the possibilities that exist in the new OSD framework for others than the aircraft TCH (e.g. simulator manufacturers) to generate and use simulator data.

We can distinguish two cases:

First case: No definition of the scope of the aircraft validation source data has been approved by the Agency as part of the OSD for the type. The simulator data element of OSD is only required for new aircraft designs for which the application for TC was made after 17 February 2014. There is no mandatory catch-up for existing aircraft designs. So, for quite a long time, for most aircraft types, the OSD will not contain data for simulators.



In that case, CS-FSTD for the qualification of simulators still applies and allows the use of data provided by others than the TCH.

Second case: The definition of scope of the aircraft validation source data has been approved by the Agency as part of the OSD for the type. As stated above, this will only be the case for new aircraft designs for which the application for TC was made after 17 February 2014.

In that case, others than the TCH can apply for the approval of an alternate definition of scope of the aircraft validation source data through the Supplemental Type Certificate (STC) process under Part-21. The STC process under Part-21 Subpart E is specifically established for approvals of variations to the original type design or the data linked to that design, proposed by someone who is not the TCH. This can also be used for variations to original OSD.

2.4. Overview of the amendments

This Decision introduces new Certification Specifications for Simulator Data (CS-SIMD).



3. References

- Opinion 07/2011⁵ of the European Aviation Safety Agency of 13th December 2011 on ‘Operational Suitability Data’;
- NPA 2012-05⁶ on ‘Certification Specifications for Flight Crew Data (CS FCD)’; and
- CRD 2012-05⁷ on ‘Certification Specifications for Flight Crew Data (CS-FCD)’.

3.1. Related regulations

Commission Regulation (EU) No 69/2014 on Operational Suitability Data, amending Commission Regulation (EU) No 748/2012 laying down implementing rules for the airworthiness and environmental certification of aircraft and related products, parts and appliances, as well as for the certification of design and production organisations (OJ L 23, 28.1.2014, p. 12).

⁵ See: <http://easa.europa.eu/document-library/opinions>.

⁶ See: <http://easa.europa.eu/document-library/notices-of-proposed-amendment>.

⁷ See: <http://easa.europa.eu/document-library/comment-response-documents>.

