

OSD – Flight Crew

EASA OSD Workshop - 21 Oct 2015

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OSD FC: OEB – OSD Evolution / Harmonization


- **Operational Evaluations for OSD Flight Crew are the result of an evolution**





OSD FC: OEB – OSD Evolution / Harmonization

- **Operational Evaluations for OSD Flight Crew are based on harmonized processes jointly used by FAA, TCCA, CAAC, ANAC and EASA**



COMMON PROCEDURES DOCUMENT


FOR CONDUCTING

OPERATIONAL

EVALUATION BOARDS

10 June 2004

JOINT AVIATION AUTHORITIES
TRANSPORT CANADA CIVIL AVIATION
FEDERAL AVIATION ADMINISTRATION



Advisory Circular

Subject: Guidance for Conducting and Use of Flight Standardization Board Evaluations **Date:** 11/5/13 **AC No:** 120-53B
Initiated by: AFS-200 **Change:**

1. PURPOSE. This advisory circular (AC) has two purposes:

- a. Evaluating Manufactured or Modified Aircraft.** It provides a means but not the only means of evaluating manufactured or modified aircraft by the use of standard systems, processes, and tests necessary to determine pilot training and qualification requirements.
- b. Differences in Training and Qualification between Aircraft.** It describes an acceptable means, but not the only means, of compliance with applicable Title 14 of the Code of Federal Regulations (14 CFR) that provide for differences in training and qualification between aircraft with the same type certificate. It further describes an acceptable means for providing related aircraft differences training and qualification under provision of 14 CFR part 121 between aircraft with different type certificates that have been "designated" by the Administrator as related. Both of these processes use the provision of the Flight Standardization Board (FSB) report as the basis for the approval of pilot training and qualification necessary for the operation of aircraft. This AC is intended to enhance safety by:

- (1) Providing a standard method of assessing applicant programs.
- (2) Directly relating pilot training and qualification requirements to fleet characteristics, operating concepts, and pilot assignments.
- (3) Permitting better industry planning and management by outlining what FAA requirements apply, what training resources or devices are needed, and what alternatives are possible.
- (4) Encouraging aircraft manufacturers to design with the goal of developing common characteristics between related aircraft
- (5) Providing a recommended framework for application of suitable credits or constraints to better address new technology and future safety enhancements.

2. CANCELLATION. AC 120-53A, Guidance for Conducting and Use of Flight Standardization Board Evaluations, dated October 15, 2008, is canceled.

3. FOCUS. This AC addresses aircraft manufacturers or modifiers who design, test, and certificate aircraft. In addition, it reflects those changes in part 121 applied to operators whose

Annex to ED Decision 2014/008/R

European Aviation Safety Agency

Certification Specifications

for

Operational Suitability Data (OSD)

Flight Crew Data

CS-FCD

Initial Issue
31 January 2014¹

¹ For the date of entry into force of this Amendment, kindly refer to Decision 2014/008/R in the [Official Publication](#) of the Agency



OSD FC: OEB – OSD Evolution / Harmonization

	Evaluation Purpose	Differences Levels
T1	Establishes functional equivalence	Sets levels A/B
T2	Handling qualities comparison	Pass permits T3, and A/B/C/D Failure sets level E
T3	Evaluate differences and sets training/checking requirements	Pass sets levels A/B/C/D Failure sets level E
T4	Revises currency requirements	Sets currency requirements
T5	Sets training/checking for new or “E” ACFT	Sets level E
T6	Evaluation for CTLC	Sets recent experience requirements



OSD FC: OEB – OSD Evolution / Harmonization

DIFFERENCE LEVEL	TRAINING	CHECKING	CURRENCY
A	Self-Instruction	--	--
B	Aided instruction	Task or system check	Self-review
C	System devices	Partial proficiency check using qualified device	Designated system
D	Manoeuvre Training Devices or aircraft to accomplish specific manoeuvres <i>FTD Level 2 (& Level 3 for helicopter) or FFS or aircraft</i>	Partial proficiency check using qualified device	Designated manoeuvre(s)
E	Aeroplane: FFS Level C or D, or aeroplane Helicopter: FSTD'S having dual qualification (FFS Level B and FTD Level 3), or FFS Level C or D, or helicopter	Proficiency check	in accordance with regulation (Licensing / Air Ops Regulations)



OSD FC: OEB – OSD Evolution / Harmonization

Example of MDR table:

Master Differences Requirements (MDR) TABLE					
Aircraft Type Rating: xxx		FROM AIRCRAFT			
TO AIRCRAFT		Aircraft 1	Aircraft 2	Aircraft 3	Aircraft 4
	Aircraft 1	---	D/D/C	D/D/C	*
	Aircraft 2	C/C/B	---	A/A/A	*
	Aircraft 3	C/C/B	A/A/A	---	*
	Aircraft 4	D/D/E	D/D/D	D/D/A	---

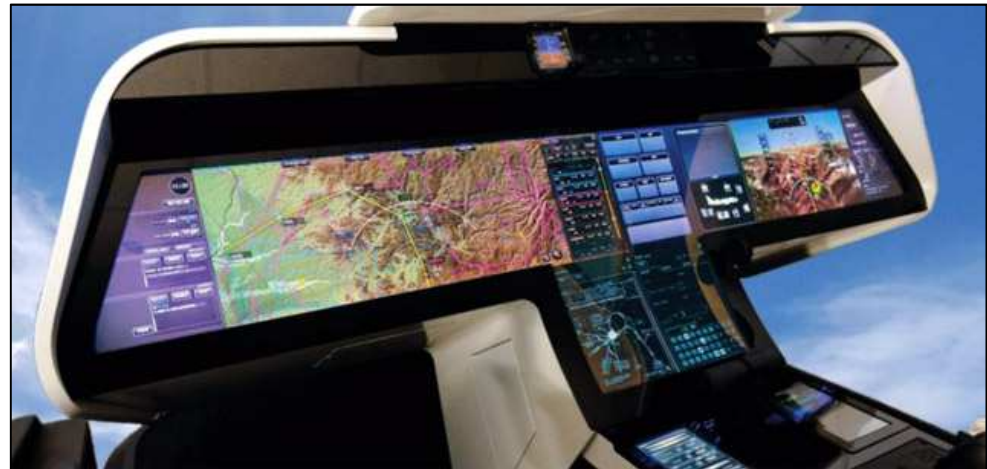


OSD FC – Integration into Part 21

- **Operational Evaluations for OSD Flight Crew follow the Part-21 process for aircraft certification**
- The certification basis for Operational Suitability Data Flight Crew consists of the CS-FCD, unless the Agency accepts other means; and of any special conditions as described in Part-21
- Certification Review Items (CRI) are raised to address specific items, if required
former (J)OEB Operational Review Items (ORI) / Issue Papers (IP)
- OSD FC evaluations are performed by a dedicated certification panel (normally Panel 2), managed by the Product Certification Manager (PCM) in collaboration with the OSD CEx & SenEx



OSD FC – Integration into Part 21





OSD FC – Integration into Part 21

➤ **EASA Operational Evaluations for Flight Crew use the Part-21 process for aircraft certification**

- With regard to aircraft design, proof of compliance is generally established against parameters specified in the applicable certification specifications (e.g. in CS 25 for Large Aircraft).

Normally, no subsequent change of these parameters applies to the certified product for the user.

- In comparison, Operational Suitability Data Flight Crew follow the compliance process contained in CS-FCD, but are also embedded in the applicable rules for personnel licensing and air operations.

The user must take into account any subsequent changes to these corresponding rules (i.e. OSD FC data may no longer be relevant, in conflict, create a gap, or can no longer be applied).



OSD FC – Integration into Part 21

- **Process Management for the EASA OSD Flight Crew operational evaluation is integrated into the TC Process Management structure**
- EASA PCM
 - Manages overall process
 - issues OSD related CRIs, CAIs, etc. (drafted by Panel 2)
 - includes OSD reference in TCDS (when finalized)
- Panel 2 (OSD Flight Crew Data)
 - performs technical management
 - team composition, operational evaluation, establishment of operational suitability data
 - collaborates with the participating Authorities (e.g. FAA, TCCA, etc)
 - provides evaluation updates to PCM
 - includes OSD data in EASA Type Rating List (when finalized)



OSD FC – Applicability

- **OSD regulations apply to all aircraft – however, data are not established for the majority of "small" aircraft**

Aircraft	OSD FC established (aircraft type rating)
<ul style="list-style-type: none">✓ Complex motor-powered aircraft✓ helicopters, except those certified in accordance with CS-VLR✓ gas airships	YES
<ul style="list-style-type: none">✓ Aeroplanes that meet the definition of ELA 1 or ELA 2✓ sailplanes✓ powered sailplanes✓ balloons✓ hot air airships	NO
<ul style="list-style-type: none">✓ Aircraft not listed above<ul style="list-style-type: none">❖ on request by the applicant (e.g. to seek credits)❖ if type rating is required (e.g. based on operational experience, data, handling characteristics, performance or level of flight deck technology)❖ to confirm class rating (e.g. to validate SET class)	Generally NO only when required / requested



➤ **EASA Operational Suitability Data consist of mandatory and non-mandatory elements for the user**

- Mandatory elements must be considered by the user (ATO, operator)
 - examples are
 - Training Areas of Special Emphasis (TASE)
 - Operator Differences Requirement (ODR) Tables
 - Prerequisites
- Non-mandatory elements have the status of Acceptable Means of Compliance (AMC) and provide flexibility for alternate means of achieving the same objective
 - examples are
 - Training Footprint (delivery method of training, selection of training devices, duration of training)
 - Training for optional devices



- **Operational Suitability Data consist of elements which must be provided by the manufacturer and of elements which may be provided**

- Certain data must be provided for each aircraft
examples are
 - Aircraft type designation and license endorsement
 - Initial type rating syllabus

- Certain data may be provided by the manufacturer
examples are
 - Variant determination and associated differences training syllabus
 - Flight crew requirements for the operation of optional equipment (HUD, EVS, etc.) or the performance of optional procedures (RNP AR, LVO, Steep Approaches, etc.)
 - Credits for Mixed Fleet Flying; Common Take-Off and Landing Credits (CTLIC)



some examples from EU Licensing regulations:

FCL.010 Definitions

"Type of aircraft" means a categorisation of aircraft **requiring a type rating as determined in the operational suitability data** established in accordance with Part-21, and which include all aircraft of the same basic design including all modifications thereto except those which result in a change in handling or flight characteristics.

FCL.725 Requirements for the issue of class and type ratings

(a) **Training course.** An applicant for a class or type rating shall complete a training course at an ATO. The type rating training course **shall include the mandatory training elements for the relevant type as defined in the operational suitability data established in accordance with Part-21.**

Part-FCL Appendix 9 Training, skill test and proficiency check for MPL, ATPL, type and class ratings, and proficiency check for IRs

CONTENT OF THE TRAINING, SKILL TEST/PROFICIENCY CHECK

4. **Unless otherwise determined in the operational suitability data established in accordance with Part-21,** the syllabus of flight instruction shall comply with this Appendix. The syllabus may be reduced to give credit for previous experience on similar aircraft types, **as determined in the operational suitability data** established in accordance with Part-21.

5. Except in the case of skill tests for the issue of an ATPL, **when so defined in the operational suitability data established in accordance with Part-21 for the specific type, credit may be given** for skill test items common to other types or variants where the pilot is qualified.



OSD FC – References

some examples from OPS regulations:

ORO.FC.140
Operation on more than one type or variant

(a) Flight crew members operating more than one type or variant of aircraft shall comply with the requirements prescribed in this Subpart for each type or variant, **unless credits related to the training, checking, and recent experience requirements are defined in the mandatory part of the operational suitability data** established in accordance with Regulation (EU) No 748/2012 for the relevant types or variants.

AMC1 ORO.FC.240
Operation on more than one type or variant

(2) When a flight crew member operates more than one aeroplane type or variant within one or more licence endorsement as determined by the operational suitability data established in accordance with Commission Regulation (EU) No 748/2012, the operator should ensure that:

...

(ii) the flight crew member does not operate more than two aeroplane types or variants for which a separate licence endorsement is required, **unless credits related to the training, checking, and recent experience requirements are defined in operational suitability data** established in accordance with Commission Regulation (EU) No 748/2012 for the relevant types or variants; and

SPA.GEN.105
Application for a specific approval

(a) The operator applying for the initial issue of a specific approval shall provide to the competent authority the documentation required in the applicable Subpart ...

(b) The operator shall provide the following evidence to the competent authority:

(1) compliance with the requirements of the applicable Subpart;

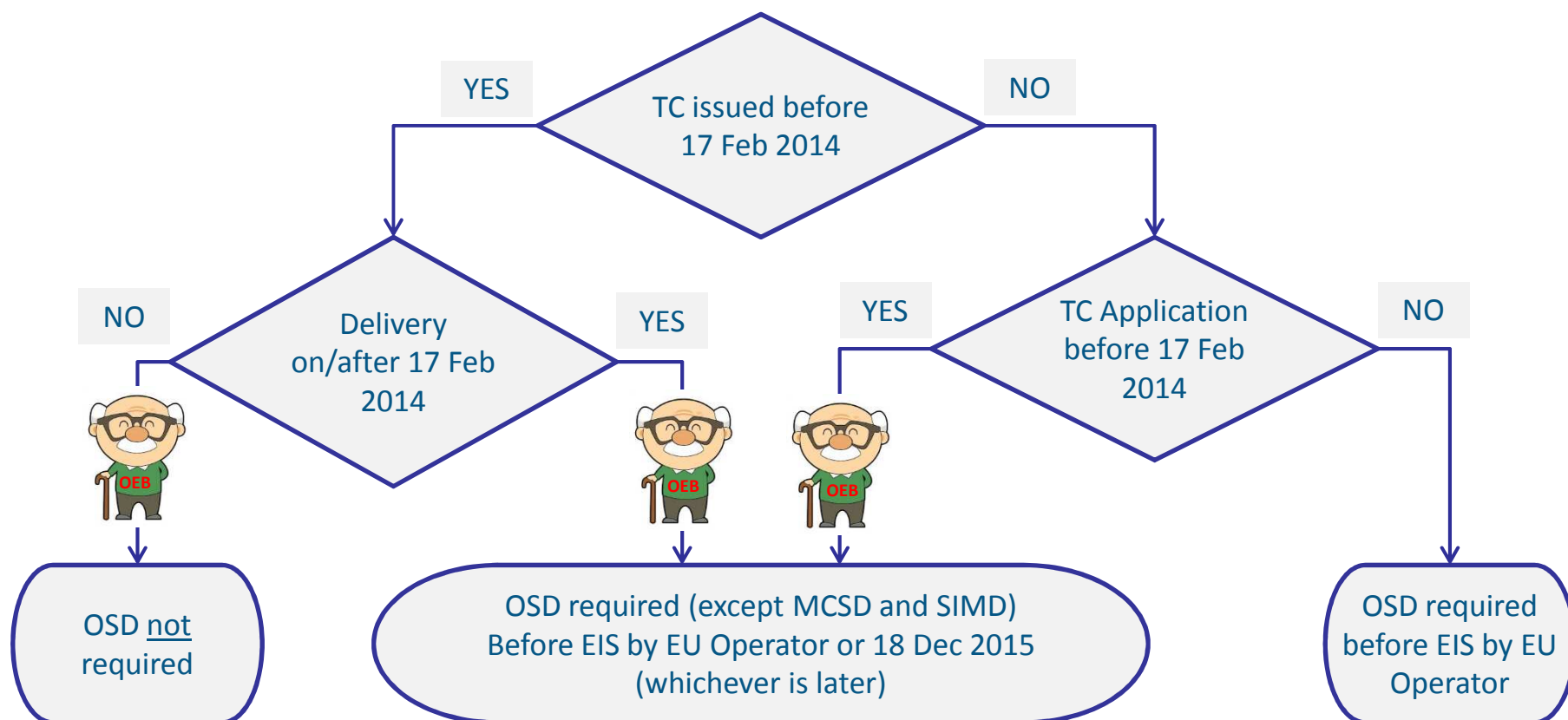
(2) that the **relevant elements defined in the data established in accordance with Regulation (EU) No 748/2012** are taken into account.

...



OSD FC – Transition Arrangements

➤ Transition / Grandfathering





OSD FC – TCDS Content

The legal reference to Operational Suitability Data is established through the TC/TCDS

OSD Certification Basis

OSD Reference

TCDS EASA.A.999
Issue 99

Date: 21 October 2015

5. Environmental requirements

Fuel venting and emissions:
EASA Certification Specification 34, Initial Issue.

Noise:
EASA Certification Specification 36, Amendment 3.

6. Elect to comply

EASA Certification Specification 25, Amendment 8.

EASA Certification Specification 25, paragraph 25.795, Amendment 9, except CS 25.795(b)(3)(iii).

EASA Certification Specifications and Acceptable Means of Compliance for Airborne Communications, Navigation and Surveillance CS ACNS Initial Issue dated 17 December 2013, Subpart D Sections 2/3/4

7. Operational Suitability Data

The EASA Type Certification with respect to Operational Suitability Data (OSD) is defined as follows:

CCD: Certification Specifications and Guidance Material for Cabin Crew Data CS-CCD Initial Issue dated 31 January 2014

MMEL: Certification Specifications for Master Minimum Equipment List CS-MMEL Initial Issue dated 31 January 2014 (Book 1 only)

FCD: Certification Specifications for Operational Suitability Data (OSD) Flight Crew Data CS-FCD Initial Issue dated 31 January 2014



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TCDS EASA.A.999
Issue 99

Date: 21 October 2015

The following table provides details on the ETOPS approvals.

Model	Engine Type	180 min. Approval date	Beyond 180 min. Approval date

V. OPERATIONAL SUITABILITY DATA (OSD)

The Operational Suitability Data elements listed below are approved by the European Aviation Safety Agency under the EASA Type Certificate [original TC number] as per Commission Regulation (EU) 748/2012 as amended by Commission Regulation (EU) No 69/2014.

1. Master Minimum Equipment List

- The Master Minimum Equipment List has been approved as per the defined Operational Suitability Data Certification Basis and as documented in xxx MMEL (reference: ABCD9999) first revision dated 21 October 2015, or later approved revisions.
- Required for entry into service by EU operator.

2. Flight Crew Data

- The Flight Crew data has been approved as per the defined Operational Suitability Data Certification Basis and as documented in "Operational Suitability Data Flight Crew, (Ref: ABCD9 Issue 1, dated 21 October 2015)", or later approved revisions.
- Required for entry into service by EU operator.
- Pilot Type Rating: The licence endorsement for the B787 series aircraft is "B777/787". The B787 and the B777 series aircraft are variants of the same type of aircraft.

3. Cabin Crew Data

- The Cabin Crew data has been approved as per the defined Operational Suitability Data Certification Basis and as documented in "Operational Suitability Data Cabin Crew, Issue 1.0. (Ref: ABCD9999 dated 21 October 2015), or later approved revisions.
- Required for entry into service by EU operator.



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OSD FC – Operational Suitability Data (OSD) Approval

**An
Operational
Suitability Data
(OSD) Approval
Letter
is issued**



OPERATIONAL SUITABILITY DATA (OSD) APPROVAL

10059999

This Operational Suitability Data (OSD) Approval is issued by EASA, acting in accordance with Commission Regulation (EC) No. 216/2008 on behalf of the European Community, its Member States and of the European third countries that participate in the activities of EASA under Article 66 of the Regulation to

EASA AVIATION
Postfach 10 12 53
50452 Köln
GERMANY

and certifies that the Operational Suitability Data elements listed below are approved by the European Aviation Safety Agency under the EASA Type Certificate **EASA.A.999** as part of the Operational suitability Data (OSD) as per Commission Regulation (EU) 748/2012 as amended by Commission Regulation (EU) No 69/2014.

OSD element(s): Operational Suitability Data (OSD) - Initial Flight Crew Data (FCD) approval.

OSD Certification basis:
CS-FCD, Initial Issue, dated 31 January 2014

Associated technical documentation:

EASA Airline Dox 999 original issue, edition 2 dated 21 October 2015: "Aircraft - Operational Suitability Data - Flight Crew"

or later revisions of the above listed documents approved by EASA.

For the European Aviation Safety Agency,
Date of issue: 21 October 2015


Charles Lindbergh
Head of Large Aeroplanes Department

10033856
Operational Suitability Data Approval – 10099999/0010099999 – EASA AVIATION



➤ **Availability of Operational Suitability Data (21.A.62)**

The holder of the type-certificate or restricted type-certificate shall make available:

- (a) at least one set of complete operational suitability data prepared in accordance with the applicable operational suitability certification basis, to all known EU operators of the aircraft, before the operational suitability data must be used by a training organisation or an EU operator; and
- (b) any change to the operational suitability data to all known EU operators of the aircraft; and
- (c) on request, the relevant data referred to in points (a) and (b) above, to:
 - 1. the competent authority responsible for verifying conformity with one or more elements of this set of operational suitability data; and
 - 2. any person required to comply with one or more elements of this set of operational suitability data.



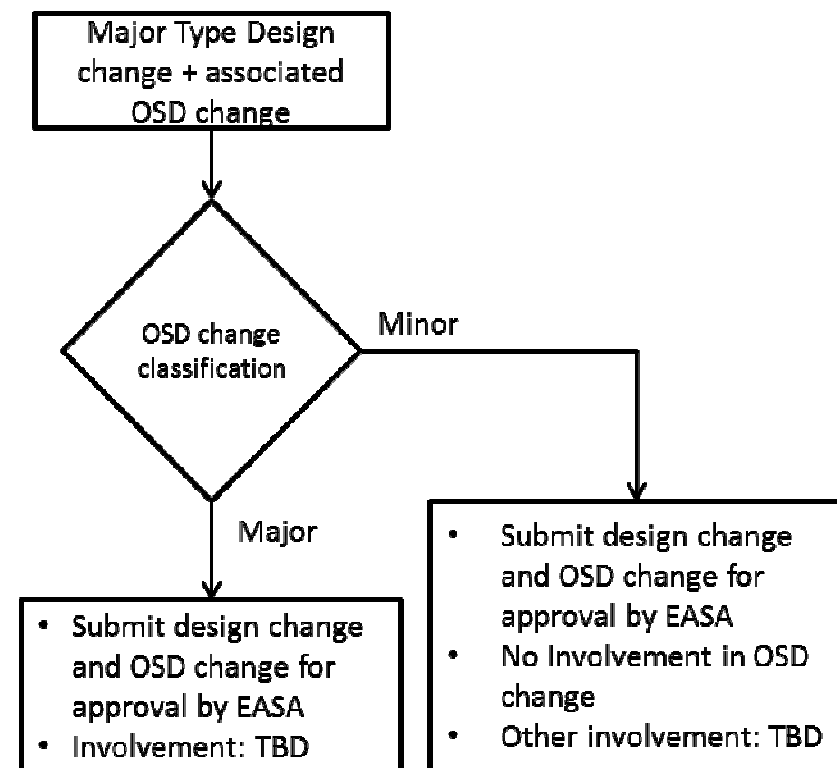
OSD FC – Changes to OSD FC

➤ **Changes to OSD (applicable after 18 Dec 2016)** **NPA 2015-12**

Classification of changes to a type design certificate into MAJOR or MINOR is to determine the approval route to be followed in Part-21 Subpart D.

Changes can be split up in changes to the type design and changes to the OSD. Both parts can be classified in minor or major separately.

In case the change to type design is classified major, while the associated change to OSD is classified minor, an approved design organisation can propose to the Agency not to verify the classification and the minor OSD change itself as part of its proposal for the Level of Involvement by the Agency. The Agency should then accept the OSD part of the change without further verification.

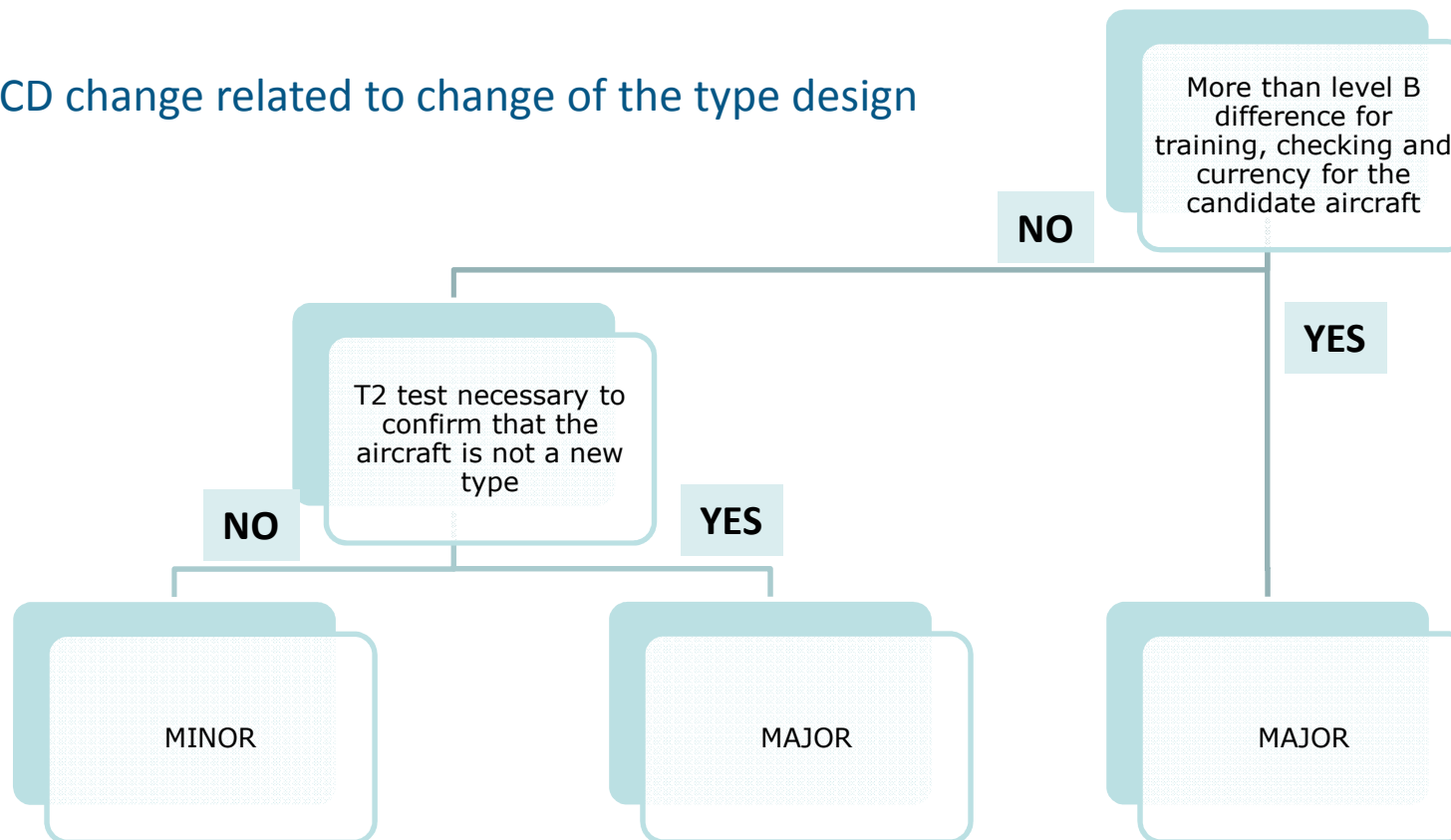




OSD FC – Changes to OSD FC

➤ Classification of Changes to OSD (applicable after 18 Dec 2016) NPA 2015-12

FCD change related to change of the type design





OSD FC – Changes to OSD FC

➤ **Classification of Changes to OSD (applicable after 18 Dec 2016)** **NPA 2015-12**

FCD stand-alone change not related to change of the type design

Editorial change or corrections

MINOR

Stand-alone changes that
correspond to a change of the
intent of data

MAJOR

Introduction of credits in
training, checking or currency

MAJOR



OSD FC – The EASA Team

Andrea BOIARDI – OSD Chief Expert



Roel HUYSMANS



Georgios MORAITIS



Herb MEYER – Section Manager / OSD FC Senior Expert



Frank VAN DE BROEK



Kevin BONFIELD



Klaus WALKNER





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Thank You
Your Safety Our Mission

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OSD FC: OEB – OSD Evolution / Harmonization

