OSD and Part ORO

Presented by

Régine Vadrot
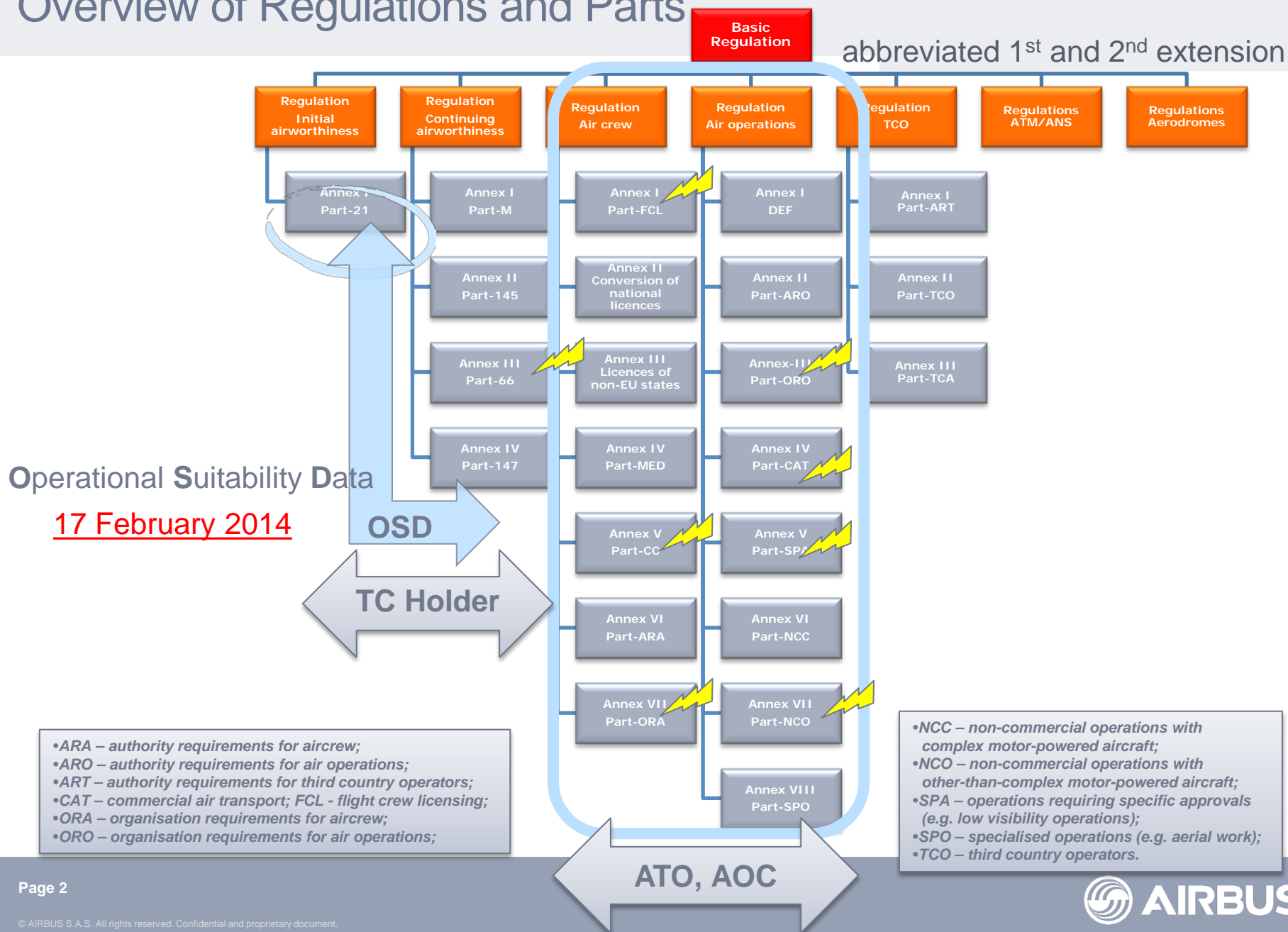HO Training & Operational Certification

Operational Suitability Data & Flight Domain

DGAC Paris, 9 April 2014

AIRBUS

Overview of Regulations and Parts

Basic Regulation

abbreviated 1st and 2nd extension

Regulation Initial airworthiness	Regulation Continuing airworthiness	Regulation Air crew	Regulation Air operations	Regulation TCO	Regulations ATM/ANS	Regulations Aerodromes
Annex I Part-21	Annex I Part-M	Annex I Part-FCL	Annex I DEF	Annex I Part-ART		
	Annex II Part-145	Annex II Conversion of national licences	Annex II Part-ARO	Annex II Part-TCO		
	Annex III Part-66	Annex III Licences of non-EU states	Annex-III Part-ORO	Annex III Part-TCA		
	Annex IV Part-147	Annex IV Part-MED	Annex IV Part-CAT			
		Annex V Part-CC	Annex V Part-SPA			
		Annex VI Part-ARA	Annex VI Part-NCC			
		Annex VII Part-ORA	Annex VII Part-NCO			
			Annex VIII Part-SPO			

Operational Suitability Data

17 February 2014

OSD

TC Holder

ATO, AOC

•ARA – authority requirements for aircrew;
•ARO – authority requirements for air operations;
•ART – authority requirements for third country operators;
•CAT – commercial air transport; FCL - flight crew licensing;
•ORA – organisation requirements for aircrew;
•ORO – organisation requirements for air operations;

•NCC – non-commercial operations with complex motor-powered aircraft;
•NCO – non-commercial operations with other-than-complex motor-powered aircraft;
•SPA – operations requiring specific approvals (e.g. low visibility operations);
•SPO – specialised operations (e.g. aerial work);
•TCO – third country operators.

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From JOEB to OSD

Voluntary process
&
Recommendations

Mandatory process
for TC Holder
&
OSD mantatory for
Operators and ATOs

JAA / JOEB

Pilot Training Courses

CC Training Courses

MMEL Data Base

STD Data Base

EASA / OEB

Pilot Minimum Syllabus

Cabin Crew Technical Data

MMEL Data Base

A/C Technical Data for STD

Maint. Cert.Staff Mini.Syllabus

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Basic Regulation - N°216-2008

REGULATION (EC) N°216-2008 - 20/02/2008

Article 5, **Airworthiness**, **paragraph 5(e):**

5. … Those measures shall specify in particular:

(…)

(e) conditions for issuing, maintaining, amending, suspending or revoking type-certificates, restricted type-certificates, approval of changes to type-certificates, individual certificates of airworthiness, restricted certificates of airworthiness, permits to fly and certificates for products, parts or appliances, including:

(…)

(iv) the minimum syllabus of maintenance certifying staff type rating training to ensure compliance with paragraph (2)(f);

(v) the minimum syllabus of pilot type rating and the qualification of associated simulators to ensure compliance with Article 7;

(vi) the master minimum equipment list as appropriate and additional airworthiness specifications for a given type of operation to ensure compliance with Article 8;

(…)

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Part 21 – 21A.15 Application - Opinion

21A.15(d) An application for a type-certificate or restricted type-certificate for an aircraft shall include, or be supplemented after the initial application to include the application for approval of **operational suitability data**, consisting of, as applicable:

1. the minimum syllabus of pilot type rating training, including determination of type rating;

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;

3. the minimum syllabus of maintenance certifying staff type rating training including determination of type rating;

4. determination of type or variant for cabin crew and type specific data for cabin crew training;

5. the master minimum equipment list and,

6. **other type related suitability elements.**

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Operational Suitability Data

21A.15(d)

CS-FCD
Pilot Type
Rating
Minimum
Syllabus

CS-SIMD
Validation
Source
Data

CS-CCD
Type
Specific
Data
For Cabin
Crew
training

CS-MMEL
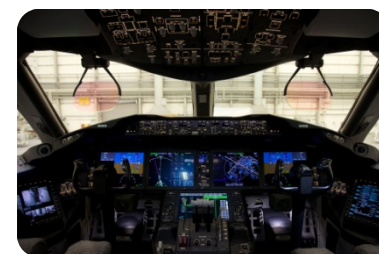
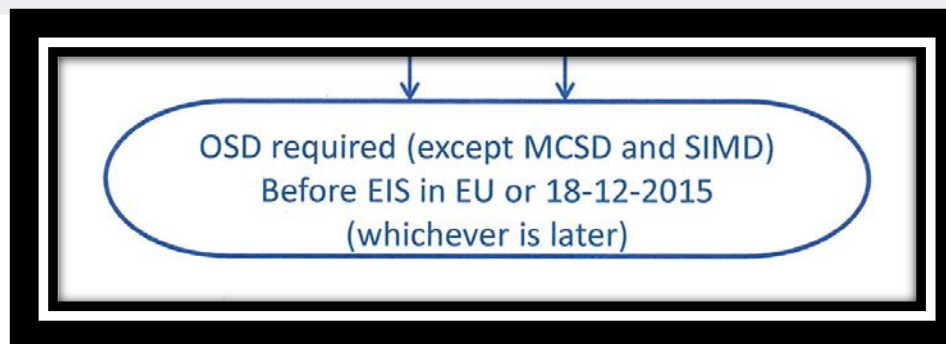Other Type
Related
OSD:
e.g. :EFB,
HUD,..

CS-MCS
Minimum
Syllabus
Maintenance
Certifying Staff

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OSD Applicability – Transition - Grandfathering

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OSD Applicability – Transition - Grandfathering

OSD required (except MCSD and SIMD)
Before EIS in EU or 18-12-2015
(whichever is later)
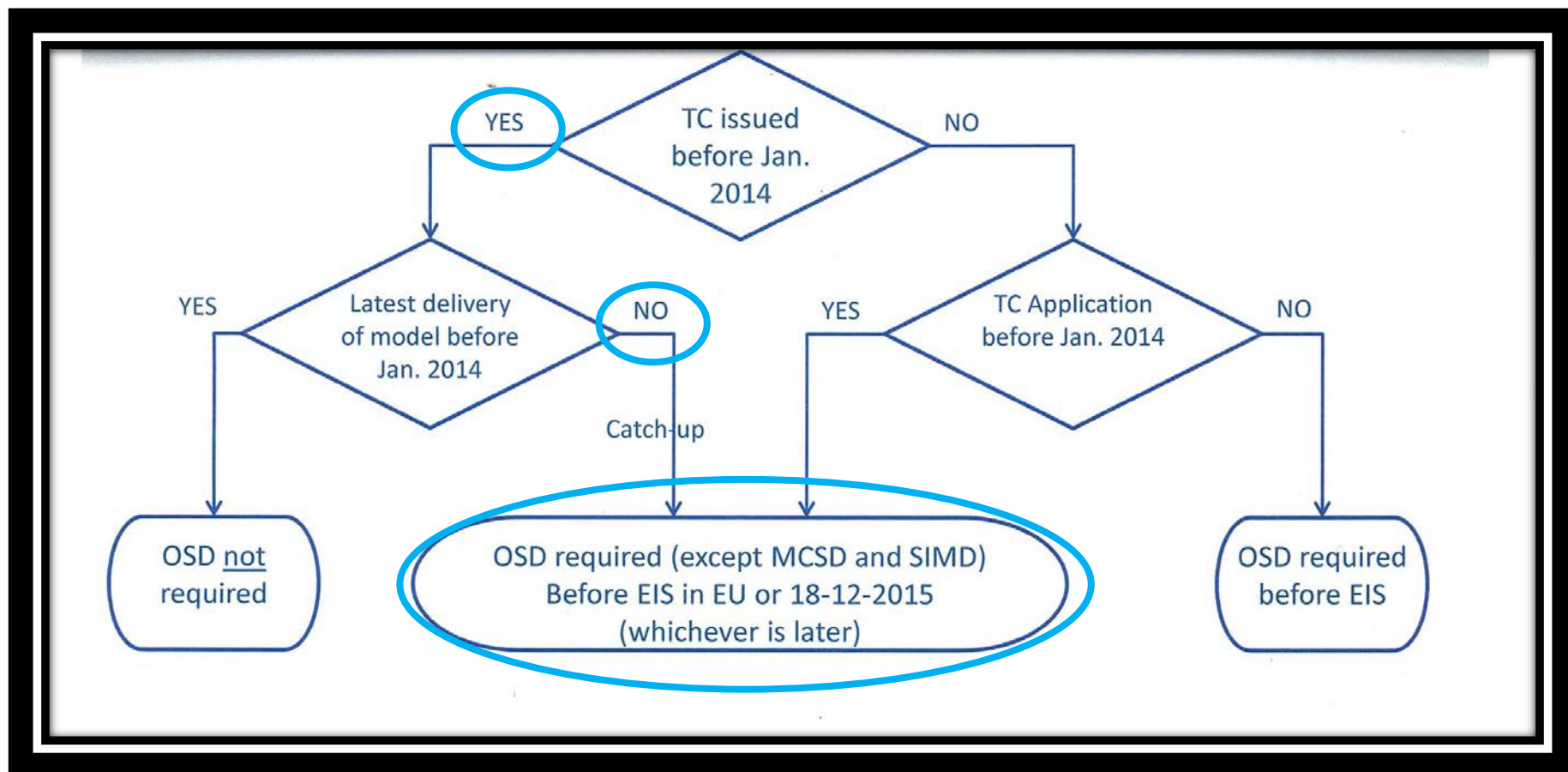
Grandfathering of OEB report – transfer into OSD by June 2014

- A320 Family JA A JOEB report – 21 August 2003
- A330 Family EASA OEB report FCL/OPS – 28 March 2011
- A340 Family JAA JOEB report – June 2003
- A380 EASA OEB report FCL/OPS – 18 July 2011
- A320 – A330 – A340 CCQ – MFF JAA JOEB report – 12 March 2004
- MMELs A300,A310,A320, A330, A340, A380
- A380 EASA OEB Cabin Crew – 22 August 2007
- Soon to be published A320 –A330-A340 Cabin Crew OEB report.
- A380 EASA OEB report EFB-OIS – 20 November 2008
- iPAD EFB EASA OEB report – 12 December 2013

**EASA Rules related to Changes to OSD
~ 3 years delayed effectivity**

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A320 neo applicable Operational Evaluation regulatory materials
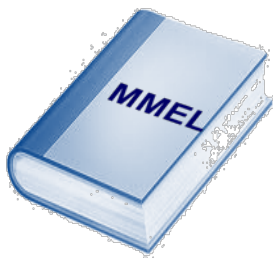
MMEL

Flight Crew:
• A320ceo – A320neo Same Type Rating (STR)
• ODR tables

Cabin Crew:
• A320 neo same type for Cabin Crew

A320 family : over 8,000 sold, over 5,500 in service
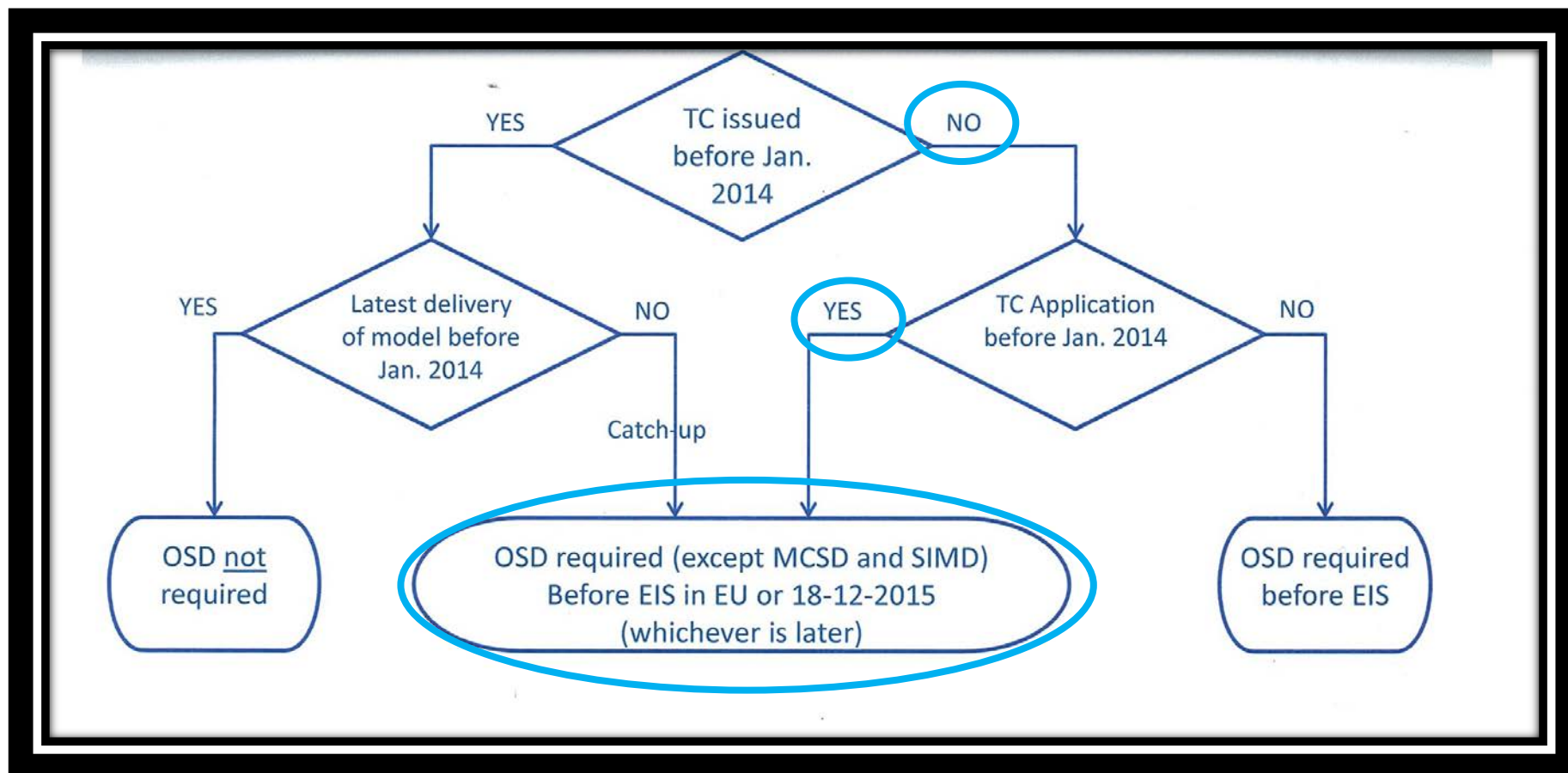
JAR MMEL-MEL

Common Procedure Document

Cabin Crew Procedure Document

CS-~~MMEL~~

CS-FCD ?

CS-CCD ?

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OSD Applicability – Transition - Grandfathering

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A350 Operational Evaluation Board

Flight Crew

EASA & FAA
Joint agreed test process

A350 OSD pilot case

A350 In Focus

EASA – FAA joint process

Flight Crew:
• A350 Training Areas of Special Emphasis TASE
• A330 – A350 CTR
• A320,A340,A380 CCQs to A350

A350 FSTD Validation Source Data

Cabin Crew:
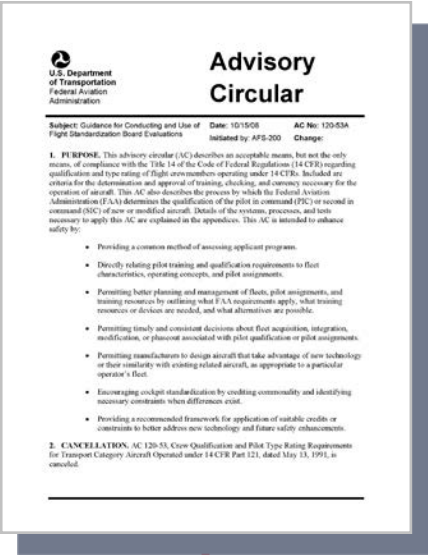• A35O Type Specific Data
• A330-A340 and A350 one type for Cabin Crew

Electronic Flight Bag Head-up-Display

MMEL

AIRBUS

FAA & EASA Ops Suitability evaluation basis

FAA world

EASA world

AC 120-53B

CS-FCD

AIRBUS
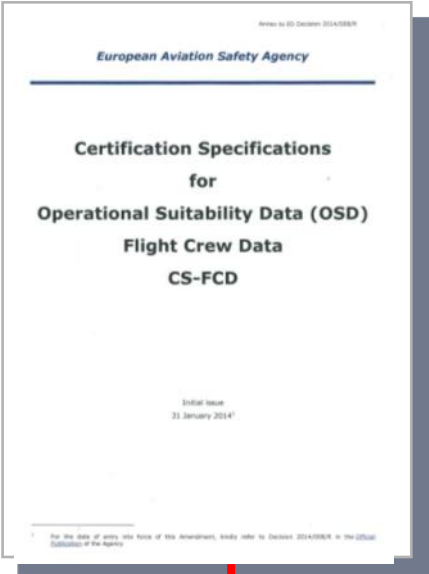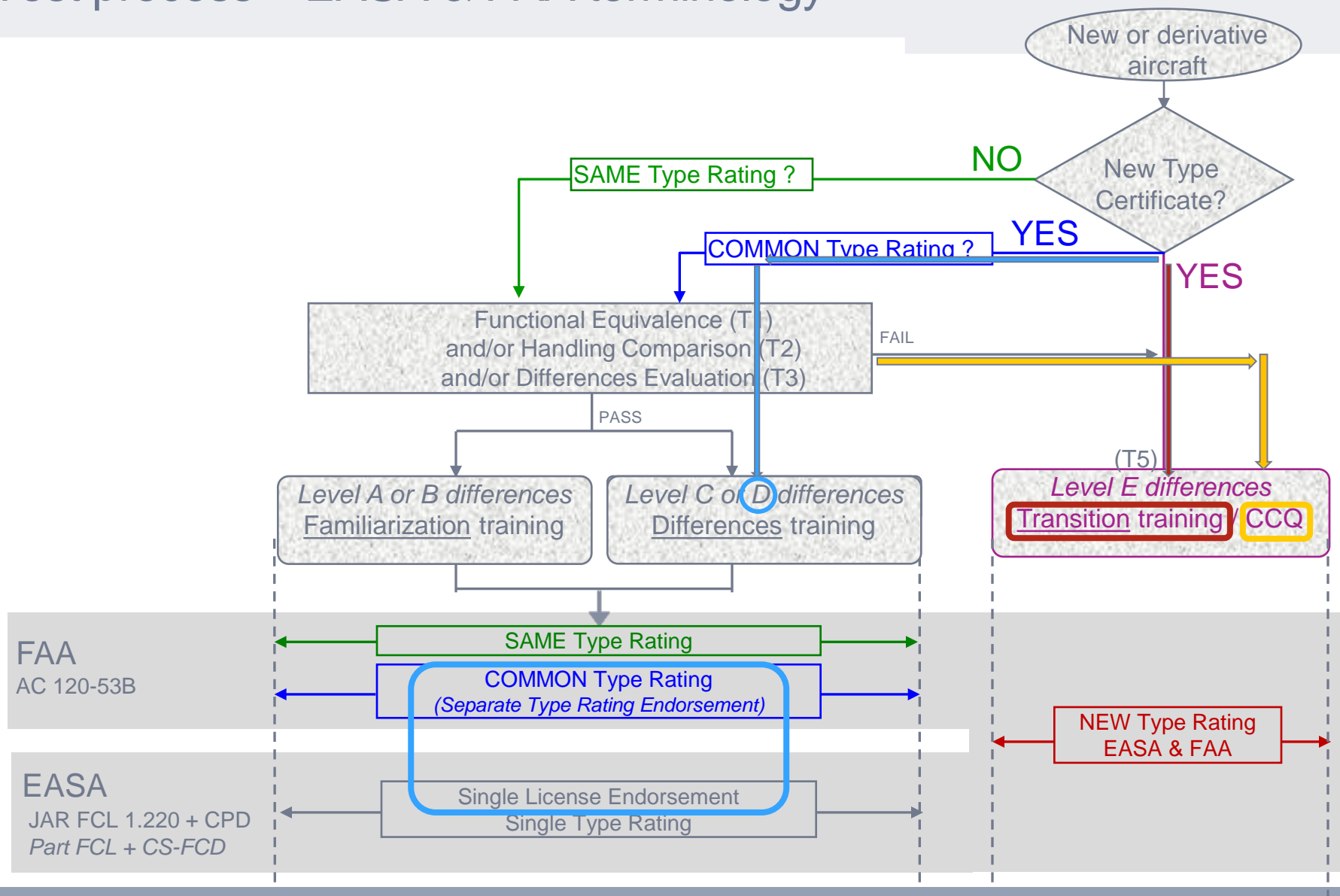
Training and Checking Levels – Expanded definitions

Difference level	Training	Minimum acceptable training media	Checking
A	Knowledge requirement Addressed through self-instruction	Operating manual, Bulletins, Difference handouts	Not applicable (or integrated with the next proficiency check)
B	System or procedure differences Addressed through aided instruction	Computer Based Training (CBT), Videotapes, Stand-up lectures	Particular task or systems check (following transition/recurrent)
C	'Part task' differences that affect skills or abilities, as well as knowledge, which cannot be addressed by knowledge requirement alone	Interactive CBT 'Part task' trainers (FMS, systems trainers) Cockpit procedure trainers	Partial proficiency check using a suitable training device (following transition/recurrent)
D	'Full task' differences of knowledge, skills and/or abilities Requires mastery of interrelated skills, and can only be accomplished with training devices capable of performing flight maneuvers and addressing 'full task' differences	Maneuver devices EASA Flight Training Device Level 2 FAA Flight Training Device Level 6	Partial proficiency check using a suitable training device (following transition/recurrent) Check performed using scenarios representing a 'real time' flight environment using devices permitted for level D or higher differences training
E	Significant 'full task' differences which require a high fidelity environment to attain/maintain knowledge, skills and/or abilities	Full Flight Simulator Level C or D, or aircraft	Full proficiency check on differences (following transition/recurrent)

FAA: AC 120-53B

EASA: CS-FCD

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Test process – EASA & FAA terminology

New or derivative aircraft

New Type Certificate?

SAME Type Rating ? — **NO**

YES

COMMON Type Rating ?

YES

Functional Equivalence (T1)
and/or Handling Comparison (T2)
and/or Differences Evaluation (T3)

FAIL

PASS

Level A or B differences
Familiarization training

Level C or D differences
Differences training

(T5)

Level E differences
Transition training / CCQ

FAA
AC 120-53B

SAME Type Rating

COMMON Type Rating
(Separate Type Rating Endorsement)

EASA
JAR FCL 1.220 + CPD
Part FCL + CS-FCD

Single License Endorsement
Single Type Rating

NEW Type Rating
EASA & FAA

AIRBUS

OEB Tests objectives – EASA & FAA definitions

Test	Purpose
T 1	To determine if training levels A and B are appropriate
T2	To compare handling qualities between base aircraft and candidate aircraft.utilizing specific flight maneuvres and to determine whether training level A,B,C,D or E is appropriate. **During T2, TO and Landing credits can be assessed**, using T6 criteria.
T3	To evaluate the proposed differences training / checking programs and training devices at levels B, C or D
T4	Used to define currency requirements if less restrictive for system procedural and maneuveuring differences(recurrent training)
T5	To validate the training course at level E (new type rating)
T6 New	To evaluate potential credits between related aircraft for TO and LDGs when not conducted during the T2 test. (CTLC: Common Takeoff and Landing Credit test).

Ref: **EASA** CPD or CS-FCD & **FAA** AC 120-53B

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OSD Overview

BR – 216/2008
Article 5 Airworthiness
Min Syllabus Type rating pilot & associated sim
Min Syllabus type training MCS
MMEL &

Aircraft
TC Holder

MANDATORY

- CS – MMEL
- CS- Fligt Crew
- CS – Simulator Data
- CS Cabin Crew Data
- CS Maintenance CS

EASA – OEB
(Operational Suitability
Evaluation Procedures)

OPTIONAL

OSD
OSD

MANDATORY

RECOM.

BR – 216/2008
Licensing
Operations
ATO & Operators

End user
ATO,
Operators

IR Part FCL
IR Part ORO
IR Part CC
IR Part ARO

AMC FCL
AMC ORO
AMC CC
AMC ARO

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Outcome of Proposed Process for Flight Crew : TASE
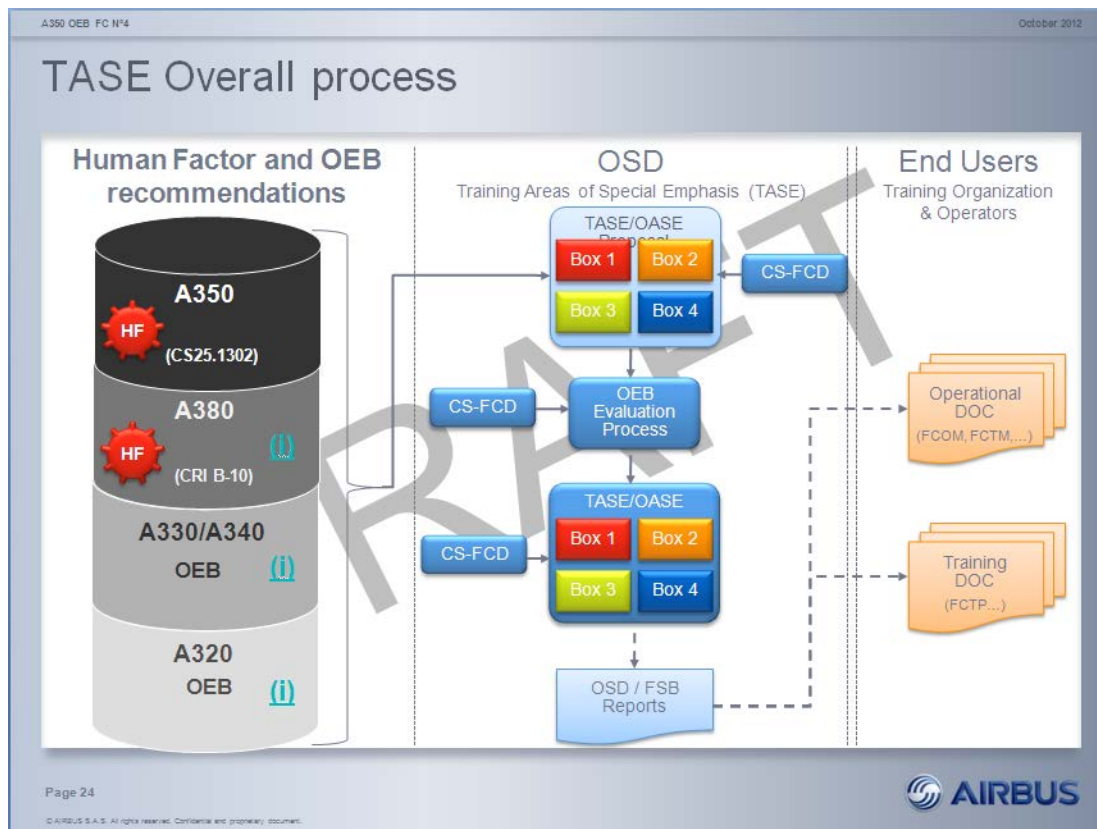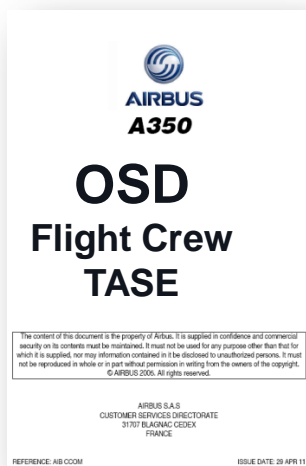
Outcome of Proposed Process for Flight Crew : ODR

CS-FCD

MANDATORY

AIRBUS
A350

OSD
Flight Crew
ODR

AIRBUS S.A.S
CUSTOMER SERVICES DIRECTORATE
31707 BLAGNAC CEDEX
FRANCE

REFERENCE: AIB CCOM   ISSUE DATE: 29 APR 11

AIRBUS
Training & Flight Operations Support and Services

Base aircraft: A330-200 Enhanced
Difference aircraft: A380-800

OPERATOR DIFFERENCE REQUIREMENT TABLES

N°	DESIGN	DIFFERENCES	FLT CHAR	PROC CHG	Difference Levels		
					TRNG	CHECK	CUR
1	General	Both A330-200 and A380-800 are long to very long range civil transport aircraft. Approximate range: - A330-200: 6600 NM - A380-800: 8000 NM	No	No	A	--	--
2	Dimensions	Length / Wing span / Height — A330-200: Meters 58.4 / 60.3 / 17.3, Feet 191 / 197 / 57 — A380-800: Meters 72.7 / 79.7 / 24.1, Feet 238.6 / 261.6 / 79	No	No	A	--	--
3	Cockpit	New cockpit design - Larger display units - Additional DU for OIS with key board	No	Yes	A	--	--

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Outcome of Proposed Process for Flight Crew : Footprint

CS-FCD

RECommendation

AIRBUS
**A350**

OSD
Flight Crew Recom.

Prerequiste: previous experience in commercial operations, previously qualified on multi engine transport jet aircraft .

Day1	Day 2	Day 3	Day 4	Day 5
CREW registration SYSTEM KNOWLEDGE & PTT	SYSTEM KNOWLEDGE & PTT	SYSTEM KNOWLEDGE & PTT	SYSTEM KNOWLEDGE & PTT	SYSTEM KNOWLEDGE & PTT
Day 6	Day 7	Day 8	Day 9	Day 10
SYSTEM KNOWLEDGE & PTT	THEORETICAL KNOWLEDGE EXAM (TKE FCL .725 b)	SOP PTT	FFS 1	APT+ 1
Day 11	Day 12	Day 13	Day 14	Day 15
APT+ 2	APT+ 3	FFS 2	FFS 3	FFS 4
Day 16	Day 17	Day 18	Day 19	Day 20
APT+ 4	APT+ 5	APT+ 6	FFS 5	FFS 6
Day 21	Day 22	Day 23	Day 24	
FFS 7	FFS 8	FFS 9	SKILL TEST	

Typical footprint

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Outcome of Proposed Process for Flight Crew

MANDATORY

OSD
Flight Crew TASE

OSD
Flight Crew ODR
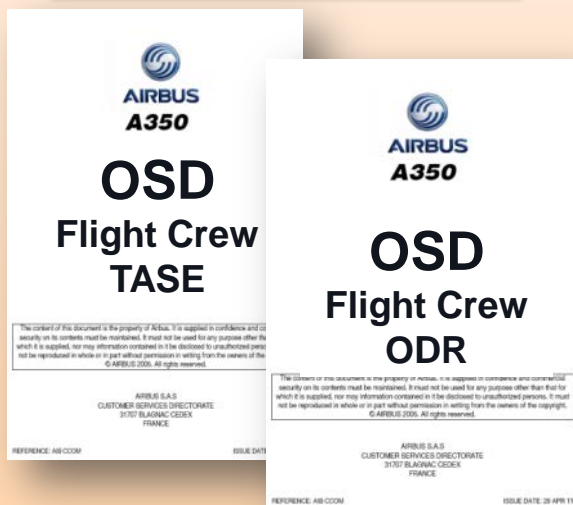
- Type rating assessment
- Training areas of special emphasis for the type (TASE) ,
- MDR,ODRs (Generic) (if elected by OEM)

Note: Corresponds to the Type Rating training, licensing area (IR-FCL)

Operator __MUST__ use the data

NON MANDATORY - RECommendations

OSD
Flight Crew Recom.

- Reference Training footprint associated to pilot entry prerequisite
- Operational recommendations for the type (Generic) (if elected by OEM)
  - Recurrent training, LVO, MFF

Note: Corresponds to the Operational requirements (Part ORO, Part CAT & Part SPA)

Operator __SHOULD__ use the data, and tailor them to its operations.

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Link between OSD and TCDS
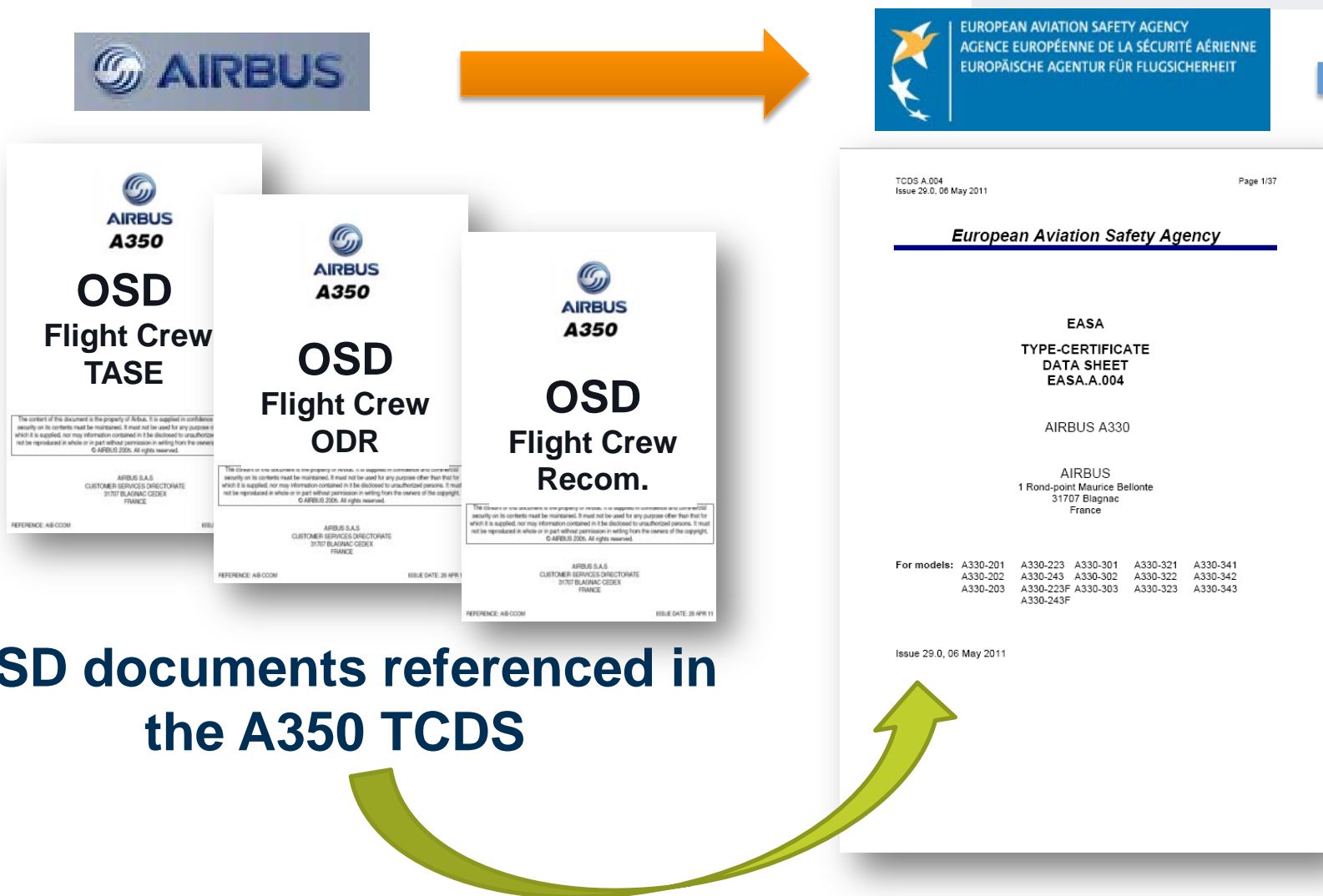
OSD documents referenced in the A350 TCDS

Outcome of FAA & EASA joint evaluation

FAA world

http://fsims.faa.gov/

Publications
Flight Standardization Board
(FSB) Reports
FSB A350 R0 – Airbus A350

EASA world

http://easa.europa.eu/

OSD Flight Crew TASE

OSD Flight Crew ODR

OSD Flight Crew Recom.

MANDATORY

NON MANDATORY

Overview of Regulations and Parts

Basic Regulation

abbreviated 1st and 2nd extension

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	Annex II Part-145	Annex II Conversion of national licences	Annex II Part-ARO	Annex II Part-TCO		
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		Annex V Part-CC	Annex V Part-SPA			
		Annex VI Part-ARA	Annex VI Part-NCC			
		Annex VII Part-ORA	Annex VII Part-NCO			
			Annex VIII Part-SPO			

Operational **S**uitability **D**ata

17 February 2014

OSD

TC Holder

ATO, AOC

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- *ARO – authority requirements for air operations;*
- *ART – authority requirements for third country operators;*
- *CAT – commercial air transport; FCL - flight crew licensing;*
- *ORA – organisation requirements for aircrew;*
- *ORO – organisation requirements for air operations;*

- *NCC – non-commercial operations with complex motor-powered aircraft;*
- *NCO – non-commercial operations with other-than-complex motor-powered aircraft;*
- *SPA – operations requiring specific approvals (e.g. low visibility operations);*
- *SPO – specialised operations (e.g. aerial work);*
- *TCO – third country operators.*

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Link between OSD, AirCrew (Part FCL) and Air Operations

ORO.FC.125 Differences training and familiarisation training

- (a) Flight crew members shall complete differences or familiarisation training when required by Annex I (Part-FCL) to Regulation (EU) No 1178/2011 and when changing equipment or procedures requiring additional knowledge on types or variants currently operated.

- (b) The operations manual shall specify when such differences or familiarisation training is required.

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Link between OSD, AirCrew (Part FCL) and Air Operations

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 data established in accordance with Regulation (EC) No 1702/2003 for the relevant types or variants.

- (b) Appropriate procedures and/or operational restrictions shall be specified in the operations manual for any operation on more than one type or variant.

AIRBUS

Link between OSD, AirCrew (Part FCL) and Air Operations

ORO.FC.145 Provision of training

(a) All the training required in this Subpart shall be conducted:

(1) in accordance with the training programmes and syllabi established by the operator in the operations manual;

(2) by appropriately qualified personnel. In the case of flight and flight simulation training and checking, the personnel providing the training and conducting the checks shall be qualified in accordance with Annex I (Part-FCL) to Regulation (EU) No 1178/2011.

(b) When establishing the training programmes and syllabi, the operator shall include the mandatory elements for the relevant type as defined in the data established in accordance with Regulation (EC) No 1702/2003.

(c) Training and checking programmes, including syllabi and use of individual flight simulation training devices (FSTDs), shall be approved by the competent authority.

(d)……

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Link between OSD, AirCrew (Part FCL) and Air Operations

ORO.FC.220 Operator conversion training and checking

(e) In the case of aeroplanes, pilots that have been issued a type rating based on a zero flight-time training (ZFTT) course shall:

(1) commence line flying under supervision not later than 21 days after the completion of the skill test or after appropriate training provided by the operator. The content of such training shall be described in the operations manual;

(2) complete six take-offs and landings in a FSTD not later than 21 days after the completion of the skill test under the supervision of a type rating instructor for aeroplanes (TRI(A)) occupying the other pilot seat. The number of take-offs and landings may be reduced when credits are defined in the data established in accordance with Regulation (EC) No 1702/2003. If these take-offs and landings have not been performed within 21 days, the operator shall provide refresher training. The content of such training shall be described in the operations manual;

(3) conduct the first four take-offs and landings of the LIFUS in the aeroplane under the supervision of a TRI(A) occupying the other pilot seat. The number of take-offs and landings may be reduced when credits are defined in the data established in accordance with Regulation (EC) No 1702/2003.

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Test process – EASA & FAA terminology

New or derivative aircraft

New Type Certificate?

SAME Type Rating ?   NO

COMMON Type Rating ?   YES

YES

YES

Functional Equivalence (T1) and/or Handling Comparison (T2) and/or Differences Evaluation (T3)

FAIL

PASS

(T5)

Level A or B differences
Familiarization training

Level C or D differences
Differences training

Level E differences
Transition training / CCQ

FAA
AC 120-53B

SAME Type Rating

COMMON Type Rating
(Separate Type Rating Endorsement)

NEW Type Rating
EASA & FAA

EASA
JAR FCL 1.220 + CPD
Part FCL + CS-FCD

Single License Endorsement
Single Type Rating

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Requirements for Operations of more than one type or variant

Issues:

- Recurrent training
- Recent Experience
- Line checks

AIRBUS

Requirements for Operations of more than one type or variant

The classical approach:

- ● *RECURRENT TRAINING & CHECKING*   ORO.FC.230 (b)
    - ✈ regular review of performance and handling in normal, abnormal
      and emergency situations
    - ✈ bi-annually <u>per a/c type</u>

- ● *RECENT EXPERIENCE/ RECENCY OF EXPERIENCE*   FCL.060
    - ✈ recent experience necessary for safe operation
    - ✈ typically 3 take-offs and 3 landings in 90 days <u>on type</u>

- ● *LINE CHECK*   ORO.FC.230 (c)
    - ✈ regular review of normal line operations
    - ✈ annually <u>per a/c type</u>

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FCL.060 Recent experience

(b) A pilot shall not operate an aircraft in commercial air transport or carrying passengers

(1) as PIC or co-pilot unless he/she has carried out, in the preceding 90 days, at least 3 take-offs, approaches and landings in an aircraft of the same type or class or an FFS representing that type or class. The 3 take-offs and landings shall be performed in either multi-pilot or single-pilot operations, depending on the privileges held by the pilot; and

(2) as PIC at night unless he/she: ……

(3)….

(4) When a pilot has the privilege to operate more than one type of aeroplane with similar handling and operation characteristics, the 3 take-offs, approaches and landings required in (1) may be performed as defined in the operational suitability data established in accordance with Part-21.

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Link between OSD, AirCrew (Part FCL) and Air Operations

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

(a) The procedures or operational restrictions for operation on more than one type or variant established in the operations manual and approved by the competent authority shall cover:

> (1) the flight crew members' minimum experience level;

> (2) the minimum experience level on one type or variant before beginning training for and operation of another type or variant;

> (3) the process whereby flight crew qualified on one type or variant will be trained and qualified on another type or variant; and

> (4) all applicable recent experience requirements for each type or variant.

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Link between OSD, AirCrew (Part FCL) and Air Operations

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

(vii) when credits are defined in data established in accordance with Regulation (EC) No 1702/2003 for the relevant type or variant, this should be reflected in the training required in ORO.FC.230 and:

(A) ORO.FC.230 (b) requires two operator proficiency checks every year. When credits are defined in data established in accordance with Regulation (EC) No 1702/2003 for operator proficiency checks to alternate between the types, each operator proficiency check should revalidate the operator proficiency check for the other type(s). The operator proficiency check may be combined with the proficiency checks for revalidation or renewal of the aeroplane type rating or the instrument rating in accordance with Regulation (EU) No 1178/2011.

(B) ORO.FC.230 (c) requires one line check every year. When credits are defined in data established in accordance for Regulation (EC) No 1702/2003 for line checks to alternate between types or variants, each line check should revalidate the line check for the other type or variant.

(C) Annual emergency and safety equipment training

AIRBUS

Requirements for Operations of more than one type or variant

The Airbus Way

● **RECURRENT TRAINING & CHECKING**   ORO.FC.230 (b) + AMC + **OSD**

→ regular review of performance and handling in normal, abnormal

and emergency situations

→ alternate bi-annually between a/c type

● **RECENT EXPERIENCE/RECENCY OF EXPERIENCE**   FCL.060 + **OSD**

→ recent experience necessary for safe operation

→ credit for 3 take-offs and 3 landings in 90 days between types

● **LINE CHECK**   ORO.FC.230 (c) + AMC + **OSD**

→ regular review of normal line operations

→ alternate annually between type

AIRBUS

Requirements for Operations of more than one type or variant

Methodology used to substantiate:

OSD

ODR Tables
+
Classes of
Equivalence
+
T3 test

- ● *RECURRENT TRAINING & CHECKING*
  - ✦ regular review of performance and handling in normal, abnormal and emergency situations
  - ✦ alternate bi-annually between a/c type

- ● *RECENT EXPERIENCE/RECENCY OF EXPERIENCE*
  - ✦ recent experience necessary for safe operation
  - ✦ credit for 3 take-offs and 3 landings in 90 days between types

ODR Tables
+
T2 Test

- ● *LINE CHECK*
  - ✦ regular review of normal line operations
  - ✦ alternate annually between type

ODR Tables
+
T3 Test

AIRBUS

Discussion

AIRBUS