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

EASA Operational Suitability Data (OSD) Implementation Workshop

Flight Crew Data

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21 January 2014

Your safety is our mission.

OSD Flight Crew Data

" A new EASA invention to burden the industry ? "

or

" A better way to integrate aircraft type specific elements for pilot licensing and operations ! "

JAA Joint Operational Evaluation Board – (JOEB) ✈ OEB ✈ OSD

JAA JOEB*

PILOT QUALIFICATION:
aircraft type/variant designation
training/checking/currency

SIMULATOR QUALIFICATION:
evaluation of the first simulator

CABIN CREW:
acft type assessment, CC training, operation

MMEL DEVELOPMENT

OTHER:
EFB, HGS, Steep Approaches, etc.

** voluntary evaluation on request by applicant*

JAA Joint Operational Evaluation Board – (JOEB) ✈ OEB ✈ OSD

EASA OEB*

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1 Jul 2009

** voluntary evaluation on request by applicant*

OEB ✈ OSD

≈ Jan / Feb 2014

EASA OEB*	EASA OSD#
PILOT QUALIFICATION: aircraft type/variant designation training/checking/currency	**PILOT QUALIFICATION:** aircraft type/variant designation training/checking/currency
SIMULATOR QUALIFICATION: evaluation of the first simulator	**SIMULATOR QUALIFICATION:** acft validation source data
CABIN CREW: acft type assessment, CC training, operation	**CABIN CREW DATA:** acft type/variant designation type specific data
MMEL DEVELOPMENT	**MMEL DEVELOPMENT**
OTHER: EFB, HGS, Steep Approaches, etc.	**OTHER**
	Maintenance Certifying Staff: type rating, minimum syllabus
** voluntary evaluation on request*	*# regulatory requirement*

Certification ⇔ OSD ⇔ Operation

- **Aircraft Type Specific Elements**

- **Part 21**
- **CS-23, -25**
- **…**

Aircraft Certification

OSD

Flight Crew Licensing

Air Operations

- **Part-FCL**
- **Part-ARO, -NCC, -ORO, -CAT, -SPA**
- **…**

Manufacturers

Approved Training Organisations

Operators

OSD Flight Crew – Framework

Flight Crew Operational Suitability Data (OSD) for all aircraft ?

OSD FCD for

- new aircraft designs, entering into service with an EU operator
- in-production aircraft, to be delivered to an EU operator
- aircraft for which data from previous OEB evaluations exist
- aircraft modifications, when impact on flight crew data

transition periods are established

Flight Crew Operational Suitability Data (OSD) for all aircraft ?

OSD FCD for

- complex motor-powered aircraft;
- helicopters except helicopters certified in accordance with CS-VLR;
- airships;
- other aircraft
  - upon request of the applicant;
  - If the Agency determines that type rating training is required, based on operational experience, data, its handling characteristics, performance, or level of flight deck technology.

Excluding sailplanes, powered sailplanes, balloons, aeroplanes that meet the definition of ELA 1 or ELA 2.

Operational Suitability Data (OSD) Flight Crew

Where are my data ?

- (J)OEB operational evaluation data are currently published on the EASA website http://easa.europa.eu/certification/experts/flight.php
- OSD Flight Crew Data are referenced in the relevant Type Certificate Data Sheet(s) – TCDS and are held by the TC Holder
- EASA will update and maintain the Type Rating and License Endorsement Lists

Operational Suitability Data (OSD) Flight Crew

Where are my data ?

- TC holder shall make relevant OSD flight crew data available to
  - EU operators
  - Competent Authorities
  - any person required to comply with the relevant set of operational suitability data

OSD Flight Crew – Mandatory/Non-Mandatory Data

What is the Status of Operational Suitability Data (OSD) ?

"FC OSD contain mandatory and non-mandatory (recommended) elements"

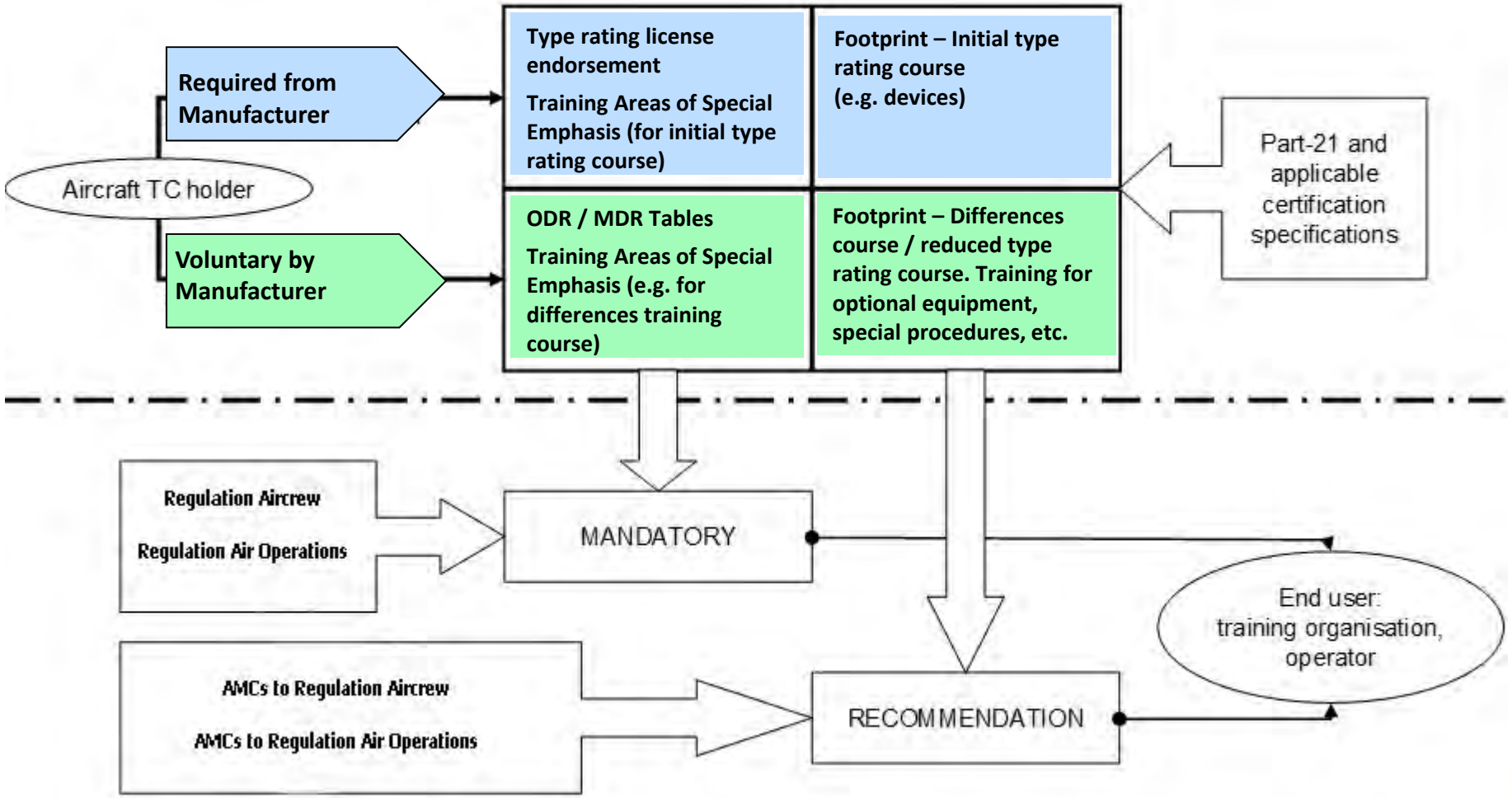
Division between mandatory and non-mandatory data:

- provides needed flexibility;
- in accordance with references in Implementing Rules for Air Crew and Air Operations;
- guidance contained in CS-FCD

Non-mandatory (recommended) data may be substituted through the regulatory process for altMOC (alternate means of compliance)

OSD Flight Crew – Mandatory/Non-Mandatory Data

What is the Status of Operational Suitability Data (OSD) ?



Operational Suitability Data (OSD)

What Data ?

- **The elements subject to OSD assessment are addressed in the Implementing Rules for Air Crew and Air Operations**
  (e.g. in Part-FCL, Part-ORA, Part-ORO, Part-SPA, …)

Operational Suitability Data (OSD)

What Data ?

OSD establishes aircraft as separate types or variants

Part-FCL, FCL.010:

- 'Type of aircraft' means a categorisation of aircraft requiring a type rating as determined in the operational suitability data …

ORO.FC.140 (a)

- flight crew members operating more than one type or variant of aircraft shall comply with the requirements … 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 …

Operational Suitability Data (OSD)

What Data ?

OSD establishes Training Areas of Special Emphasis (TASE)

Part-FCL, FCL.725(a):

- … The type rating training course shall include the mandatory training elements for the relevant type as defined in the operational suitability data ...

ORO.FC.145(b)

- When establishing the training programmes and syllabi, the operator shall include the relevant elements defined in the mandatory part of the operational suitability data …

Operational Suitability Data (OSD)

What Data ?

OSD establishes reduced flight training syllabus based on credit for previous experience on similar aircraft types

Part-FCL, Appendix 9 – CONTENT OF THE TRAINING, SKILL TEST/PROFICIENCY CHECK

- … The syllabus may be reduced to give credit for previous experience on similar aircraft types, as determined in the operational suitability data ...

Operational Suitability Data (OSD)

What Data ?

OSD may reduce the number of landings required after training

AMC2 ORA.ATO.125 (k) – Flight Training

- (1) … For MPAs where the student pilot has more than 500 hours of MPA experience in aeroplanes of similar size and performance, these should include at least four landings of which at least one should be a full-stop landing, unless otherwise specified in the OSD ... In all other cases the student should complete at least six landings ...

Operational Suitability Data (OSD)

What Data ?

OSD establishes credits for the operation on more than one type or variant

ORO.FC.140(a)

- Flight crew members operating more than one type or variant of aircraft shall comply with the requirements … for each type or variant, unless credits related to the training, checking, and recent experience requirements are defined in the … operational suitability data … for the relevant types or variants.

Operational Suitability Data (OSD)

What Data ?

OSD establishes credits for the operation on more than one type or variant

Credits for

- training, checking and recent experience;
- minimum time and hours on base aircraft prior to training on another type or variant;
- number of flight hours or sectors required for crewing of inexperienced flight crew members;
- line checks;
- alternating proficiency checks;

OSD Flight Crew – Data

- **OSD establishes data related to:**
  - Part-FCL experience requirements and prerequisites for the issue of class or type ratings;
  - For specific operations (e.g. steep approaches, ETOPS, etc.) additional flight training should be carried out based on available elements defined by the OSD;
  - Specific Approvals (Part-SPA) shall take into account the relevant elements defined in the OSD;
  - Change Part-FCL instruction requirements for theoretical knowledge and flight training courses for SP ME aeroplanes and SP aeroplanes-sea;
  - Progression to flight training phase prior to completion of theoretical knowledge examination;
  - Support reduction of 16 hours FFS time in combination with other qualified FSTD for training in MP aeroplanes;
  - Partial skill test based on credit for items common to other types or variants
  - Part-FCL validity period for class or type ratings;
  - Limitation of initial type rating privileges to flight under the supervision of an instructor;
  - Common Take-Off and Landing Credit (CTLC) for recent experience requirements;
  - For specific operations (e.g. steep approaches, ETOPS, etc.) additional flight training should be carried out based on available elements defined by the OSD;
  - Specific Approvals (Part-SPA) shall take into account the relevant elements defined in the OSD.

Operational Suitability Data (OSD)

What Process ?

OSD follows the same evaluation process as the (J)OEB

OSD FCD certification basis:

- CS Flight Crew Data (CS-FCD);
- any special condition prescribed in accordance with Part 21

CS-FCD contains:

- scope & applicability;
- operational evaluation process – transposed from (J)OEB process / harmonized with FAA/TCCA/CAAC

Operational Suitability Data (OSD)

What Process ?

- The OEB & OSD evaluation process uses the concept of:
  - Difference Levels (Level A - E)
  - "T Evaluations" (T1 - T6)
  - Operator Differences Requirements (ODR) Tables
  - Master Differences Requirements (MDR) Tables

Evaluation Process – Difference Levels

DIFFERENCE LEVEL	TRAINING	CHECKING	CURRENCY
A	Self-Instruction	Not applicable or integrated with next proficiency check	Not applicable
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	Partial proficiency check using qualified device	Designated manoeuvre(s)
E	FFS Level C or D (or aircraft)	Proficiency check using FFS Level C or D; or aircraft	in accordance with regulation, using FFS Level C or D; or aircraft

Evaluation Process – "T Tests"

	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 and requires T5
T3	Evaluate differences and sets training/checking requirements	Pass sets levels A/B/C/D Failure sets level E and requires T5
T4	Evaluate 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

Example of Operator Differences Requirements (ODR)

GENERAL OPERATOR DIFFERENCES REQUIREMENTS TABLE											
DIFFERENCE AIRCRAFT: BASE AIRCRAFT:				COMPLIANCE METHOD							
				TRAINING					CHKG/CURR		
General	Differences	Flt char	Proc chg	A	B	C	D	E	FLT CHK	REC EXP
GENERAL	Range ETOPS Certified	No	Yes		CBT					
DIMENSIONS	Configuration per AFM, FCOM	Yes	No		CBT					

SYSTEM OPERATOR DIFFERENCES REQUIREMENTS TABLE										
DIFFERENCE AIRCRAFT: BASE AIRCRAFT:				COMPLIANCE METHOD						
				TRAINING					CHKG/ CURR	
System	Differences	Flt char	Proc chg	A	B	C	D	E	FLT CHK	REC EXP
21 – AIR CONDITIONING	CONTROLS AND INDICATORS: - Panel layout	No	Yes	HO						
21 - AIR CONDITIONING	PACKS: - Switch type - Automatically controlled - Reset switch for both packs	No	Yes		CBT					

MANEUVER OPERATOR DIFFERENCES REQUIREMENTS TABLE										
DIFFERENCE AIRCRAFT: BASE AIRCRAFT:				COMPLIANCE METHOD						
				TRAINING					CHKG/CURR	
Manoeuvre	Differences	Flt char	Proc chg	A	B	C	D	E	FLT CHK	REC EXP
Exterior Preflight	Minor differences	NO	NO	HO						
Preflight	Differences due to systems, ECL	NO	YES		CBT	FTD				
Normal takeoff	FBW handling vs Conventional ; AFDS TAKEOFF: - Autothrottle engagement FMA indications	NO	YES		CBT			FFS		

Example MDR Tables

- **Example of a Master Differences Requirements (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	---

Example Training Syllabus Footprint

Day 1	Day 2	Day 3	Day 4	Day 5
Introduction (x:xx hrs) CBT Module 1 (x:xx hrs)	CBT Module 2 (x:xx hrs)	CBT Module 3 (x:xx hrs)	CBT Module 4 (x:xx hrs) OTD Module 1 (x:xx hrs)	Tutorial 1 EFB (x:xx hrs)
Day 6	**Day 7**	**Day 8**	**Day 9**	**Day 10**
CBT Module 5 (x:xx hrs) OTD Module 2 (x:xx hrs)	CBT Module 6 (x:xx hrs) OTD Module 3 (x:xx hrs)	CBT Module 7 (x:xx hrs) OTD Module 4 (x:xx hrs)	CBT Module 8 (x:xx hrs) OTD Module 5 (x:xx hrs)	CBT Module 9 (x:xx hrs) OTD Module 6 (x:xx hrs)
Day 11	**Day 12**	**Day 13**	**Day 14**	**Day 15**
FFS Module 1 (x:xx hrs) Windshear Briefing (x:xx hrs)	FFS Module 2 (x:xx hrs)	FFS Module 3 (x:xx hrs)	FFS Module 4 (x:xx hrs)	FFS Skill Test (x:xx hrs)
Notes: ***Times for OTD & FFS Modules do not include time for briefing and debriefing***				

Operational Suitability Data (OSD)

What Next ?

Relevant TC holders:

- identify mandatory/non-mandatory elements in existing (J)OEB reports, as applicable
- determine if any catch-up OSD evaluations are required

Approved Training Organisations (ATO):

- review relevant pilot training courses for inclusion of OSD data, as applicable;

EU operators:

- review compliance with applicable OSD provisions in its operation, where applicable

Competent Authorities:

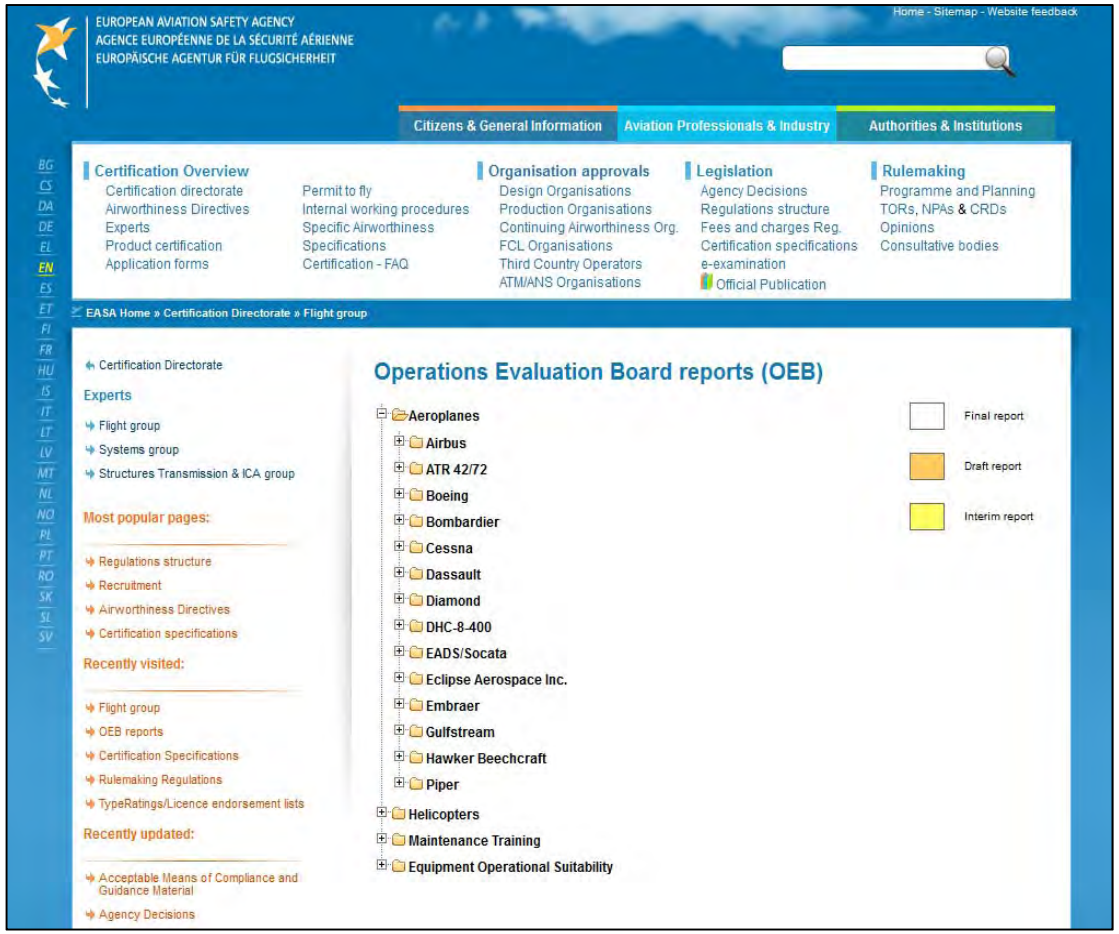
- consider OSD provisions in approval and compliance monitoring processes

Note: transition periods exist

OSD Flight Crew – Grandfathered OEB Reports

Published (grandfathered) OEB Reports – Aeroplanes

http://easa.europa.eu/certification/experts/OEB-reports.php



OSD Flight Crew – OEB Reports Aeroplanes

Operations Evaluation Board reports

- Aeroplanes
  - Airbus
  - ATR 42/72
  - Boeing
  - Bombardier
  - Cessna
  - Dassault
  - Diamond
  - DHC-8-400
  - EADS/Socata
  - Eclipse Aerospace Inc.
  - Embraer
  - Gulfstream
  - Hawker Beechcraft
  - Piper

OSD Flight Crew – OEB Reports Rotorcraft

Operations Evaluation Board reports

- Aeroplanes
- Helicopters
  - Agusta
    - Agusta A109E, A109S, AW109SP
    - Agusta A109S
    - Agusta AB/AW139
    - Agusta AW189
  - Bell Helicopter
    - Bell 206 L, L-1, L-3, L-4 (Long Ranger)
    - Bell 407 & 407GX
    - Bell 412EP
    - Bell 429
  - Eurocopter
    - Eurocopter AS350 Ecureuil/Single Engi
    - Eurocopter AS355
    - Eurocopter AS365-EC 155 B-B1
    - Eurocopter EC120B
    - Eurocopter EC135 Family
    - Super Puma Fleet
  - Helicopters Guimbal
    - Helicopters Guimbal
  - Sikorsky
    - Sikorsky S-92A















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Thank You

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