NOTICE OF PROPOSED AMENDMENT (NPA) NO 2011-10

DRAFT DECISION OF THE EXECUTIVE DIRECTOR OF THE EUROPEAN AVIATION SAFETY AGENCY

on Certification Specifications and Guidance Material related to the Operational Suitability Data

'Certification Specifications - Cabin Crew'

Executive Summary

The NPA 2011-10 contains the draft decision for Certification Specifications for Cabin Crew and comprises information related to the type specific elements for cabin crew, as required under the OSD concept.

The Certification Specifications include the proposal of the following:

a) A uniform process and criteria for determination of a new type and a variant for cabin crew operation. The determination process is based on the comparison of candidate and base aircraft and assessment of similarity of the type specific elements related to aircraft configuration, doors and exits, aircraft systems and normal and emergency operations.

b) Provision of aircraft type specific data for development of training programmes for cabin crew. The mandatory provision of data, necessary for the development of type specific and differences training programmes, relates to aircraft description, flight crew compartment, cabin compartment and aircraft systems including associated equipment. The voluntary provision represents supplementary data the applicant may elect to provide to support the development of training programmes.

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A. EXPLANATORY NOTE

I. General

1. The purpose of this Notice of Proposed Amendment (NPA) is to develop a Decision on Certification Specifications (CS) and Guidance Material (GM) related to Operational Suitability Data - Cabin Crew. The scope of this rulemaking activity is outlined in the Terms of Reference (ToR) 21.039.

2. The European Aviation Safety Agency (the 'Agency') is directly involved in the rule-shaping process. It assists the Commission in its executive tasks by preparing draft regulations, and amendments thereof, for the implementation of the Basic Regulation[1] which are adopted as 'Opinions' [Article 19(1)]. It also adopts Certification Specifications, including Airworthiness Codes and Acceptable Means of Compliance and Guidance Material to be used in the certification process [Article 19(2)].

3. When developing rules, the Agency is bound to follow a structured process as required by Article 52(1) of the Basic Regulation. Such a process has been adopted by the Agency's Management Board and is referred to as 'The Rulemaking Procedure'[2].

4. This rulemaking activity is included in the Agency's Rulemaking planning. It implements the rulemaking task 21.039(f).

5. The text of this NPA has been developed by the Agency, based on the input from the 21.039(f) subgroup, deriving from the 21.039 rulemaking group. It is submitted for consultation of all interested parties in accordance with Article 52 of the Basic Regulation and Articles 5(3) and 6 of the Rulemaking Procedure.

II. Consultation

6. To achieve optimal consultation, the Agency is publishing the draft decision of the Executive Director on its internet site. Comments should be provided within 3 months in accordance with Article 6(5) of the Rulemaking Procedure. Comments on this proposal should be submitted by one of the following methods:

CRT: Send your comments using the Comment Response Tool (CRT) available at **http://hub.easa.europa.eu/crt/**

E-mail: **Only** in case the use of CRT is prevented by technical problems these should be reported to the CRT webmaster and comments sent by email to NPA@easa.europa.eu.

Correspondence: If you do not have access to internet or e-mail you can send your comments by mail to:

Process Support

Rulemaking Directorate

EASA

Postfach 10 12 53

D-50452 Cologne

Germany

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1 Regulation (EC) No 216/2008 of the European Parliament and of 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), as last amended by Commission Regulation (EC) 1108/2009 of the European Parliament and of the Council of 21 October 2009 (OJ L 309, 24.11.2009, p. 51).

2 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 08-2007, 13.6.2007.

Comments should be received by the Agency before **6 September 2011**. If received after this deadline, they may not be taken into account.

III. Comment Response Document

7. All comments received in time will be responded to and incorporated in a Comment Response Document (CRD). The CRD will be available on the Agency's website and in the Comment Response Tool (CRT).

IV. Content of the draft Decision

Scope

8. This NPA includes a proposal for Certification Specifications for determination of a new type and a variant for cabin crew operation and provision of aircraft type specific data for the development of relevant training programmes for cabin crew.

Background

9. The approvals of specifications for the operation of a given type of aircraft were, in the past, the responsibility of the National Aviation Authorities (NAA). To promote a uniform approach for such approvals, the Joint Aviation Authorities (JAA) members decided to follow a single voluntary approval process called the Joint Operational Evaluation Board (JOEB). Each JOEB was established on a case-by-case basis and composed of relevant stakeholders, including non-JAA authorities as appropriate, to examine the operational conditions for the use of an aircraft type and to make the appropriate recommendations.

10. To provide for uniformity, which was one of the main objectives for establishing the EASA system, the Agency recommended in its Opinion No 03/2004[3] that the additional airworthiness specifications for the operational suitability of a given type of aircraft should be mandatory for all aircraft registered by Union Member States. Taking into account that agencies cannot set generally binding standards, such a decision could only be adopted by the Agency if the additional specifications were directly linked to the product. To reach this objective, the Basic Regulation was amended to establish that the additional specifications for the operation of a given aircraft type shall be determined as part of the certification of the product.

11. JAA ended its activity in 2009. Taking into account the amended Basic Regulation, the Agency established a process called Operational Evaluation Board (OEB) to replace the JOEB. This process, including OEB for Cabin Crew (OEB CC), will be maintained by the Agency until the applicable implementing rules enter into force.

12. The Basic Regulation establishes the Agency's responsibility to approve relevant information necessary for the safe operation of a specific aircraft type. This information relates to type specific elements for pilots, cabin crew, maintenance certifying staff and includes the Master Minimum Equipment List (MMEL) and Flight Simulation Training Devices (FSTD). The information is to be concluded and approved under Operational Suitability Data (OSD) that will complement the Type Certificate (TC). The applicant for an aircraft type certificate will obtain approval of operational suitability data before the aircraft can be operated by an EU operator. Once issued, the approved elements in the OSD will be used by the operators of the particular aircraft type or training organisations to develop the appropriate training programmes or MEL.

13. The development of the OSD concept is included in the Agency's rulemaking programme as a rulemaking task 21.039 "Amending Regulation 1702/2003 (Part-21) to include the

[3] Opinion No 03/2004 of the European Aviation Safety Agency for amending Regulation (EC) No 1592/2002 of the European Parliament and of the Council on common rules in the field of civil aviation and establishing a European Aviation Safety Agency, to extend its scope to the regulation of pilot licensing, air operations and third country aircraft, 16 December 2004. (http://www.easa.europa.eu/agency-measures/opinions.php#2004).

OSD concept" and is currently published on EASA the website as CRD 2009-01[4] for public consultation.

14. The focus of this NPA is the Certification Specifications for Cabin Crew (CS-CC) containing the information related to the type specific elements for cabin crew, as required under the OSD concept.

15. The working method selected by the Agency, on the advice of its consultative bodies (the Advisory Group of National Authorities (AGNA) and the Safety Standards Consultative Committee (SSCC)), was the use of a rulemaking group, further creating subgroups for the development of the individual CSs.

16. During the development of the proposed provisions in Part-21, the rulemaking group faced several challenges. As regards cabin crew, the development of the *minimum syllabus for type rating training*, as initially mentioned in ToR, was not supported by all group members. It was finally agreed that the OSD should include the *type specific data* required for development of type specific training programmes and, as intended, specifications for determination of a candidate aircraft as a new type or as a variant for cabin crew operation.

17. The approved OSD elements will become the mandatory basis for operators and training organisations when developing the type related elements of the training programmes for cabin crew.

18. The initial JOEB and the current OEB CC is a voluntary process based on a request initiated by the manufacturer for aircraft with a maximum passenger seating configuration of more than 19 seats. Following the comparison of candidate and base aircraft, the determination of a candidate aircraft as a new type or variant is based on a concept of assigning different levels of training methods[5] required to be used for cabin crew training to achieve the desired knowledge. The outcome of the OEB CC represents determination whether a candidate aircraft is a new type or a variant of the base aircraft, it also provides a common basis for the NAAs to approve operator's training syllabi and it contains recommendations for training.

    The CS-CC under the OSD concept deals with the provision of comprehensive type specific data (mandatory and voluntary) and determination of a new type and a variant based on the determination process conducted by the Agency, not using the concept of different levels of training methods. The CS-CC does not provide an additional basis for development of training recommendations.

19. The content of the type specific data, as detailed in the CS-CC, aims at supporting the training providers to obtain comprehensive data required for the development of the appropriate training programmes for cabin crew competence. To establish the link between the OSD and the training programmes, specific requirements are included in the operational requirements of Part-ORO Subpart CC.

20. Customised configurations existing on rotorcraft or business/private aircraft with less than 19 installed seats were also taken into consideration. The applicant may elect to apply for the cabin crew evaluation process to facilitate prospective operation with cabin crew.

Structure summary

21. The CS-CC is structured into three subparts; Subpart A 'General', Subpart B 'Determination of a new type and a variant' and Subpart C 'Type specific data for cabin crew training'.

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4 CRD 2009-01 (EN, comment response summary and resulting text "Operational Suitability Certificate and Safety Directives").

http://easa.europa.eu/rulemaking/comment-response-documents-CRDs-and-review-groups.php

5 Level 1 – method of self-instruction - variant; Level 2 – method of aided instruction - variant; Level 3 – method of hands-on training - variant; Level 4 – combined methods of aided instruction and hands-on training - new type.

22. Subpart A 'General' describes the scope and applicability of the CS and contains specifications to be fulfilled by the applicant when applying for the OSD approval. This Subpart also includes definitions of guiding terminology within the CS-CC: applicant, base aircraft, candidate aircraft, new type, training provider, type specific data and variant.

23. Subpart B 'Determination of a new type and a variant' specifies the process and criteria for determining a new type and a variant. Determination elements to be assessed for similarity are *aircraft configuration*, *doors and exit*s, *aircraft systems* and *normal and emergency operations*.

24. *Assessment of similarity of doors and exits:* the basis for CS-CC-205(b)(2) is ACJ OPS 1.1005/1.1010/1.1015/1.1020. The criteria were complemented by '*door/exit electrical warning system'*, as this element plays a significant role in assessing the similarity of the door/exit and has an impact on the door/exit operation and resulting procedures. (e.g. Type A door and floor level Type I door on Airbus 300 and 330).

    The rulemaking subgroup agreed on the assessment of similarity of *doors and exits* referring to door/exit *operation*. In addition, the Agency considered the elements listed in the aircraft difference table, as described in the point 27, and also the factors specified in IEM OPS 1.990[6]. As a consequence, the Agency refined the assessment criteria for *doors and exits* specified in CS-CC-205(b)(2), and has included the '*number, type and location of doors and exits'* as elements to be also taken into account during the determination process.

25. Determination elements to be considered and assessed when determining a new type were subject to extensive discussions within the rulemaking subgroup. The question was whether the element 'doors and exits' *(*referring to their *operation)* alone would be sufficient or whether other elements should also be taken into account. Considering only *aircraft configuration* and *doors and exits operation* could lead to the conclusion that two aircraft having no differences in these aspects belong to the group of the same type. However, there may be significant differences in other areas related to cabin crew operation (e.g. aircraft systems or design related element(s) impacting on normal and/or emergency operation). It was therefore concluded that the elements *aircraft configuration* and *doors and exits* are to be considered when determining a new type. In the case of candidate and base aircraft having no differences in these two factors, but being equipped with different aircraft systems and/or design related element(s) that would impact on normal and/or emergency procedures, the impact of the differences shall be weighed for a potential determination of the candidate aircraft as a new type. The Agency is of the opinion that their impact cannot be ignored and should be taken into account. For the explanation of the safety concern of the described, please refer to the RIA in Appendix 1.

26. In the case of aircraft being determined as a variant, all determination elements will be taken into account to identify differences between the two aircraft.

27. The Agency, with the help of the rulemaking subgroup, developed an Aircraft Difference Table (ADT) containing elements which cannot be customised or configured on request of the operator(s). The candidate and the base aircraft will be compared in the specified areas and the identified differences will be compiled and described in the ADT[7]. The content of the ADT will be used as a primary reference in the determination process.

28. The concept of 'Difference levels' established in the JOEB and currently used in the OEB CC, as described in the point 18, has been opposed by the manufacturers, thus not leaving a hook of a reference system for the OSD evaluation between the applicant and the Agency. The Agency, however, considers that the OSD evaluation needs to be conducted having a common reference system to limit cases in which the conclusion of

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6 TGL 44 – JAA Administrative & Guidance Material, Section Four: Operations, Part Three: Temporary Guidance Leaflet N°44: JAR-OPS 1 Amt 13 Section 2, Update to incorporate section 2 text proposals from suspended JAA NPAs.

7 The ADT may be substituted by the Applicant's form if it is acceptable to the Agency.

the applicant may differ from that of the Agency. Following extensive discussions, the manufacturers proposed that the ADT contains two columns '*Impact on operation*' and '*Impact on procedures*[8]' or '*No impact*' and '*Impact on operation*', in the latter case, each column implying a training method to attain the required knowledge. The applicant would mark the appropriate column in relation to the identified element. The Agency proposed to extend the number of columns to four[9]. This would facilitate the type/variant evaluation by both the applicant and the Agency, it would also support the training providers in the development of their training programmes, as each column implies a method of training that may be used for cabin crew training and, finally, it would support operators, as the mark in the relevant column indicates the area of impact the identified difference may have. The commentators are welcomed to propose other area(s) in which they consider that impact(s) should be identified by the manufacturers.

29. Subpart C 'Type specific data for cabin crew' training establishes specifications for the applicant to provide all necessary data for the development of both type specific and differences training programmes by training providers. Subpart C specifies areas in which the provision of data is mandatory. It also foresees voluntary provision of supplementary data which OSD applicants may elect to provide, to support the development of relevant training programmes by training providers. Such supplementary data could contain information on elements that may be subject to individual customer configuration and/or elements that are not manufactured by the manufacturer but can, in the case of the individual customer-configured aircraft, be supplied by the manufacturer. Further, the supplementary data could contain information to support the establishment of training courses. The commentators are welcomed to propose additional supplementary data which they would consider useful.

30. The rulemaking subgroup agreed on the comprehensive content of the type specific data, however, the provision of technical information was challenged. Whilst manufacturers expressed that it was not difficult for them to provide such data, as they already do today, the general opinion was that technical knowledge is not necessary and not relevant to cabin crew safety duties, and that receiving training on irrelevant elements would occupy time required for essential parts that need to be covered by training. The Agency, however, considers that additional information, which is useful to obtain general knowledge of the aircraft cabin crew members will be qualified on, is necessary. The Agency considers that cabin crew need to continue to have access to technical information to be able to provide flight crew with accurate information and to have correct knowledge when assisting flight crew in safety related matters. Over the years, such technical knowledge has become increasingly relevant in particular since the security rules require the flight crew compartment door to be locked. The flight crew are restricted in going to the passenger compartment(s) to assess abnormal situations. It is therefore crucial that flight crew can rely on the information provided by cabin crew in such cases. The detailed level of technical information, as provided based on CS-CC, however, does not have to be included in checking/examination process, unless it is specified by the applicable operational requirements and/or determined by the training provider(s).

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8 *Impact on procedures* in the ADT would indicate that operators may have to develop their own procedures in relation to the identified element.

9 'No impact'; 'Impact on operation of element'; 'Potential impact on procedures'; 'Combined impact on operation of element and potentially on procedures'.

B. DRAFT DECISION ON CERTIFICATION SPECIFICATIONS AND GUIDANCE MATERIAL FOR OPERATIONAL SUITABILITY DATA (CABIN CREW)

EASA

CERTIFICATION SPECIFICATIONS

for

Operational Suitability Data

Cabin Crew

CS-CC

Book 1

SUBPART A

GENERAL

CS-CC-050 Scope

These Certification Specifications for Cabin Crew (CS-CC) establish the specifications for the applicant for a type certificate, change approval or supplemental type certificate to develop and provide:

(a) data for the determination process of a new type or variant for cabin crew; and

(b) type specific data for cabin crew training.

CS-CC-100 Applicability

These Certification Specifications are applicable to:

(a) aircraft with a maximum passenger seating configuration of more than 19 seats; and

(b) any other aircraft with a maximum passenger seating configuration of 19 seats or less if voluntarily elected by the applicant to facilitate operations with cabin crew.

CS-CC-105 Definitions

Within the scope of these Certification Specifications, the following definitions apply:

(a) *Applicant* means an applicant for, or a holder of, a type certificate (TC), change approval or supplemental type certificate (STC), applying for the approval by the Agency of the related operational suitability data (OSD) for cabin crew.

(b) *Base aircraft* means an aircraft or group of aircraft used as a reference to compare differences with another aircraft.

(c) *Candidate aircraft* means an aircraft or group of aircraft subject to the evaluation process.

(d) *New type* means an aircraft or group of aircraft having differences requiring a completion of aircraft type specific training.

(e) *Training provider* means an operator or training organisation approved by the competent authority to provide training courses for cabin crew.

(f) *Type specific data* means all design and design related data relevant to new type(s) or variant(s) within the same type.

(g) *Variant* means an aircraft within the same type that has significant differences to the base aircraft and for which differences training is required.

SUBPART B

DETERMINATION OF A NEW TYPE AND A VARIANT

CS-CC-200 Determination process

The candidate aircraft is determined as a new type or a variant of the base aircraft following the determination process conducted by the Agency. For this purpose the applicant:

(a) identifies differences by comparing at least the type specific elements specified in CS-CC-205; and

(b) completes:

(1) the aircraft difference table using the form specified in Appendix 1 to CS-CC-200(b)(1); or

(2) the applicant's standard form provided it contains at least all applicable elements specified in the aircraft difference table.

CS-CC-205 Determination elements

(a) At least the following type specific elements, as specified in Appendix 1 to CS-CC-200(b)(1) are assessed to determine whether a candidate aircraft is a new type or a variant of the base aircraft:

(1) aircraft configuration;

(2) doors and exits;

(3) aircraft systems; and

(4) normal and emergency operations.

(b) When determining the similarity of the elements specified in (a), the applicant assesses the following:

(1) for aircraft configuration:

(i) number of aisles - single/twin; narrow/wide bodied;

(ii) number of decks; and

(iii) customised configuration for rotorcraft or business/private aircraft, as applicable;

(2) for doors and exits:

(i) direction of movement of the operating handle;

(ii) direction of door/exit opening;

(iii) door/exit arming/disarming;

(iv) power assist mechanism;

(v) assisting evacuation means;

(vi) door/exit electrical warning system; and

(vii) number, types and location of doors and exits;

(3) for aircraft systems:

(i) system operation (i.e. system function, method of operation, malfunction, reset, duration); and

(ii) location;

(4) for normal and emergency operations, any design or design related element that would impact on normal operations and/or emergency operations.

CS-CC-210 Determination of a new type

(a) The candidate aircraft is determined a new type:

(1) if so documented in the application and demonstrated to the Agency; or

(2) as a result of the determination process required by CS-CC-200.

(b) For the purpose of (a)(2), the candidate aircraft is determined a new type if one or more of the type specific elements of CS-CC-205(b)(1) and (b)(2) are neither identical nor similar to the base aircraft.

Self-help exits alone, for example Type III and Type IV exits, need not be a factor to determine candidate aircraft as a new type.

(c) If no differences are identified in the type specific elements of CS-CC-205(b)(1) and (b)(2) but differences are identified in the type specific elements of CS-CC-205(b)(3) and/or (b)(4), the impact of the differences is assessed and possible determination of the candidate aircraft as a new type is considered.

CS-CC-215 Determination of a variant

(a) The candidate aircraft that has not been determined as a new type is determined a variant of the base aircraft.

(b) All determination elements in accordance with CS-CC-205 are considered when identifying differences between base aircraft and candidate aircraft.

(c) The differences and their assessed impact are compiled in the aircraft difference table in accordance with CS-CC-200(b)(1), or using the applicant's standard form in accordance with CS-CC-200(b)(2), to support the development of the differences training by training provider(s).

Appendix 1 to CS-CC-200(b)(1)

For the purpose of filling in the aircraft difference table, the applicant selects the base and the candidate aircraft.

The aircraft difference table complies with the following format, or equivalent in accordance with CS-CC-200(b)(2).

Appendix 1 to CS-CC-200(b)(1) Aircraft difference table

Aircraft difference table							
Base aircraft							
Candidate aircraft							
Determination elements	**Existing difference from base aircraft**		**Description of identified differences**	**Impact assessment**			
	Yes	**No**		**No impact**	**Impact on operation of element**	**Potential impact on procedures**	**Combined impact on operation of element and potentially on procedures**
AIRCRAFT CONFIGURATION							
Single aisle							
Multi aisle							
Narrow bodied							
Wide bodied							
Customised configuration of business or private aircraft							
Rotorcraft							
Single deck							
Multi deck							
DOORS AND EXITS							
Entrance/Service doors/Emergency exits							
Type(s)							

Aircraft difference table							
Base aircraft							
Candidate aircraft							
Determination elements	**Existing difference from base aircraft**		**Description of identified differences**	**Impact assessment**			
	Yes	**No**		**No impact**	**Impact on operation of element**	**Potential impact on procedures**	**Combined impact on operation of element and potentially on procedures**
Number							
Location							
Features							
Controls							
Electrical operation and malfunction							
Direction of movement of the operating handle							
Direction of door/exit opening							
Door/exit arming/disarming							
Power assist mechanism and malfunction							
Door/exit electrical warning system							
Operation from inside in normal mode							
Operation from inside in emergency mode							

Aircraft difference table							
Base aircraft							
Candidate aircraft							
Determination elements	**Existing difference from base aircraft**		**Description of identified differences**	**Impact assessment**			
	Yes	**No**		**No impact**	**Impact on operation of element**	**Potential impact on procedures**	**Combined impact on operation of element and potentially on procedures**
Operation from outside							
Integral stair							
Assisting evacuation means							
Type and number of units (escape slide/slide raft/ramp slide/life raft)							
Single/multi lane units							
Length and width of units							
Single/multi buoyancy chamber units							
Life lines							
Location and stowage of units							
Location for additional floatation means (e.g. life raft)							
Description and operation / Deployment (automatic / manual) and duration							
Slide arm/disarm (manual/automatic)							

Aircraft difference table							
Base aircraft							
Candidate aircraft							
Determination elements	**Existing difference from base aircraft**		**Description of identified differences**	**Impact assessment**			
	Yes	**No**		**No impact**	**Impact on operation of element**	**Potential impact on procedures**	**Combined impact on operation of element and potentially on procedures**
Signalling means of slide readiness (e.g. stop sign/barber pole)							
Capacity and overload							
Detaching and separating from aircraft							
Canopy installation							
Limited operation of inverted slide/life raft							
Slide/life raft equipment (incl. survival kit)							
Possibility to transfer of slide/raft to another door/exit							
Possibility to use slide/raft as a hand held chute							
Emergency signalling system (e.g. attached ELT; built-in radio locator beacon (RLB)) and operation on land/in water							

Aircraft difference table							
Base aircraft							
Candidate aircraft							
Determination elements	**Existing difference from base aircraft**		**Description of identified differences**	**Impact assessment**			
	Yes	**No**		**No impact**	**Impact on operation of element**	**Potential impact on procedures**	**Combined impact on operation of element and potentially on procedures**
AIRCRAFT SYSTEMS							
(a) emergency lighting system:							
Controls							
Interior emergency lighting							
Exterior emergency lighting							
(b) evacuation alarm signal system:							
Availability of activation / indication panel (flight crew/cabin compartment)							
Alert indications							
(c) smoke detection system:							
Function							
Alert indications							
Availability of smoke barrier							
(d) automatic fire extinguishing system:							

Aircraft difference table							
Base aircraft							
Candidate aircraft							
Determination elements	**Existing difference from base aircraft**		**Description of identified differences**	**Impact assessment**			
	Yes	**No**		**No impact**	**Impact on operation of element**	**Potential impact on procedures**	**Combined impact on operation of element and potentially on procedures**
Function of built-in fire extinguishing system							
(e) drop-down oxygen system:							
Activation							
Indications associated with activation of oxygen system;							
(f) communication system:							
Location of handset unit(s)							
Possibility of interphone calls in normal and emergency circumstances between cabin and flight crew compartment							
Availability of aural/visual indications associated with interphone calls in normal and emergency circumstances							
Signalling panels associated with communication system							

Aircraft difference table							
Base aircraft							
Candidate aircraft							
Determination elements	**Existing difference from base aircraft**		**Description of identified differences**	**Impact assessment**			
	Yes	**No**		**No impact**	**Impact on operation of element**	**Potential impact on procedures**	**Combined impact on operation of element and potentially on procedures**
(g) public address system:							
Location of microphone unit when independent from handset unit							
Public announcement broadcast to the entire cabin compartment							
Priority order of public announcement system (flight crew handset/purser handset/any other cabin crew handset/evacuation signal alarm)							
(h) control panels:							
Cabin crew panel(s) - controls related to evacuation, lavatory smoke, emergency lights							
(i) water system:							
Availability of manual water shut-off valve							
(j) other systems as applicable:							

SUBPART C

TYPE SPECIFIC DATA FOR CABIN CREW TRAINING

CS-CC-300 Mandatory provision of data

(a) The applicant includes the following in the type specific data for cabin crew:

(1) all necessary data in accordance with CS-CC-310 to become the basis for the development of type specific training programme(s); and

(2) all necessary data in accordance with CS-CC-205 to become the basis for the development of differences training programmes.

CS-CC-305 Voluntary provision of supplementary data

In addition to CS-CC-300, the applicant may elect to provide supplementary data to support the development of relevant training programme(s) by training provider(s), such as:

(a) type specific data to be used as the mandatory basis by training provider(s), such as:

(1) portable safety and emergency equipment when supplied by the applicant;

(2) passenger seat (seatbelt; seat operation; passenger control unit (PCU); body support floatation equipment where relevant);

(3) overhead stowage compartment (direction of opening/closing; weight limit);

(4) galley components (steam/microwave oven; bakery warmer; freezer; supplemental cooling system; hot beverage brewers/steamers; trash compactor);

(5) layout/description and use of installed galley compartments/components;

(b) data used on a voluntary basis by training provider(s), such as information that may be based on the training provided to cabin crew members participating in the emergency evacuation demonstration required by CS 25.803:

(1) theoretical and practical modules for training programmes;

(2) delivery methods of the relevant training elements;

(3) duration of training to ensure the attainment of required knowledge and skills.

CS-CC-310 Type specific data content

The applicant includes in the type specific data for cabin crew at least the following elements in accordance with Appendix 1 to CS-CC-310, as applicable:

(a) aircraft description, including:

(1) general;

(2) flight crew compartment;

(3) cabin compartment; and

(b) aircraft systems including associated equipment.

Appendix 1 to CS-CC-310

Type specific data content

The type specific data for cabin crew include the following, as applicable:

Aircraft description

General

(a) type of aircraft – narrow/wide bodied; single/multi deck;

(b) range of operation and maximum operating altitude;

(c) principal dimensions (length; height; width; wing span);

(d) main characteristics (engines; landing gear; fuel tanks; flight controls; speed; maximum take-off weight);

(e) engine danger area;

(f) general information (air conditioning; pressurisation system; electrical power; auxiliary power unit (APU); slats; flaps);

(g) location of cargo compartments;

(h) entrances and emergency exits (entrance and service doors; emergency exits; flight crew compartment window; flight crew compartment emergency hatch; avionics compartment);

(i) passenger seating capacity (as determined during the applicable TC or STC certification process);

(j) number and composition of flight and cabin crew identified by the evacuation demonstration or analysis;

(k) aircraft crash estimated attitudes (e.g. nose or main landing gear retracted; afloat following a ditching).

Flight crew compartment

(a) layout - number and type of installed seats (e.g. column mounted; comfort seat; folding seat);

(b) description and operation of installed seat type (electrical/ manual; vertical/horizontal/recline/rotating movement; restraint system, i.e. seat belt/crotch strap/shoulder harness and locking mechanism);

(c) oxygen system (stowage; type and description of mask; smoke goggles; N/100% and Emergency pressure selector; operation);

(d) flight crew compartment door and its monitoring system:

(1) door type (e.g. intrusion/penetration resistant);

(2) door components (e.g. locking latches; mortise lock; escape/decompression panel; viewing lens);

(3) door access control panel (in the case of installed security bullet proof door);

(4) door operation – normal/emergency access;

(5) means of monitoring (viewing lens; CCTV system);

(e) exits and escape routes (primary/secondary; sliding window; emergency exit hatch; door escape panel) and escape devices (escape rope; inertia reels);

(f) avionics compartment (location; purpose; operation of avionics access hatch; access from inside/outside).

Cabin compartment

(a) layout:

(1) number and type of installed crew seats (e.g. swivel/high-comfort/folding seat);

(2) description and operation of installed crew seats (restraint system, i.e. seat belt/shoulder harness; quick release buckle; shoulder harness inertial mechanism);

(b) doors and exits - entrance/service doors/emergency exits:

(1) type(s) and number of door(s)/exit(s)/location/sill height;

(2) description of features/controls/operation – manual/electrical and malfunction;

(3) operation from inside in normal/emergency modes;

(4) operation from outside;

(5) arm/disarm system;

(6) power assist system and malfunction;

(7) integral stair;

(8) crew assist space;

(9) life lines;

(10) access door/opening port to cargo compartment from cabin compartment;

(11) critical surfaces on aircraft wings requiring 'no step' precautions;

(12) water level door clearance;

(c) escape slide/slide raft/ramp slide/life raft:

(1) location and stowage;

(2) type and number of units (single/multi lane; single/multi buoyancy chamber/length and width);

(3) description and operation;

(4) slide arm/disarm;

(5) deployment and duration (automatic/manual);

(6) signalling means of slide readiness (e.g. stop sign/barber pole);

(7) capacity and overload;

(8) detaching and separating from aircraft;

(9) canopy installation;

(10) limitation/operation of inverted slide/life raft;

(11) slide/life raft equipment (description/operation/use);

(12) attached survival kit (location/content/operation);

(13) malfunction (transfer of slide/raft to another door; use as a hand held chute);

(14) emergency signalling system (e.g. attached ELT, built-in radio locator beacon (RLB) – operation on land/in water);

(d) crew rest compartment:

(1) location(s) and layout;

(2) description and operation of entrance door and applicable access control panel;

(3) escape routes/emergency exit hatch – description/location/operation from the crew rest/ cabin compartment;

(4) systems (fire/smoke detection and prevention; oxygen; communication; lighting; air conditioning);

(5) crew control panels;

(6) cabin signs;

(e) lavatories:

(1) smoke detection system;

(2) built-in automatic extinguishing system;

(3) water system (water supply/water shut off/water heater);

(4) waste system;

(5) flush/vacuum reset;

(6) electrical power;

(7) lavatory service unit (LSU);

(8) lavatory door - lock/unlock system from inside/outside;

(f) passenger service unit (PSU) (oxygen container; pictogram(s); loudspeaker; reading light; call light; seat row identifier; air vent);

(g) lift – location; description and operation; control panel; malfunction;

(h) galley - description of galley systems.

Aircraft systems including associated equipment

(a) lighting system:

(1) location and operation;

(2) interior normal and emergency lighting (ceiling; door sill; over wing exit handle light; exit location/marking sign; floor proximity escape path marking);

(3) exterior emergency lighting (slide/raft integrated emergency lights; over wing lights);

(b) evacuation alarm signal system:

(1) description, location and operation of activation/signal panel(s) (flight crew/cabin compartment);

(2) aural/visual alert indications;

(3) horn silence at cabin door/exit and flight crew compartment;

(c) smoke detection system:

(1) location and function (passenger cabin/lavatory/crew rest compartment(s)/cargo compartment);

(2) location and description of aural/visual indications (warning chime/light; signalling means; reset);

(3) potential cause of smoke alarm activation;

(4) smoke barrier/removal (e.g. crew rest compartment staircase hatch; smoke curtain - description/operation/pre-flight check);

(d) fire prevention system:

(1) type – automatic/manual (e.g. temperature sensor; FES Discharge switch (fire extinguishing system));

(2) location and function of built-in fire extinguishing system (crew rest compartment(s); lavatory/cargo compartment/engines);

(3) built-in fire extinguishers – type of agent/content/operation/duration;

(e) oxygen system:

(1) location (passenger cabin/crew station/crew rest compartment(s)/ lavatory/galley);

(2) number and distribution of masks in container unit(s);

(3) activation/operation/duration of oxygen system and malfunction;

(4) aural and visual indications associated with activation of oxygen system;

(5) medical oxygen port;

(f) electrical system:

(1) galley - hot water container; control panel – control switches; circuit breakers; galley emergency power off switch;

(2) lift (unit operation; control panel; circuit breakers/stop switch on secondary power distribution box (SPDB));

(3) door electrical warning system (cabin pressure/slide armed/safeguard sensor);

(4) power socket (flight crew/cabin compartment);

(5) lavatory (razor outlet; built-in hairdryer; water heating system);

(6) passenger seat (electrical operation; seat power outlet);

(7) video control centre/passenger individual screen/cabin main screen;

(8) aircraft own electrical power and APU;

(g) communication system:

(1) location of handset unit(s) (crew station/flight crew/crew rest compartment(s));

(2) description and use of interphone integrated keys;

(3) operation of interphone and initiating calls in normal and emergency circumstances (calls: cabin to flight crew compartment; cabin crew to cabin crew station; cabin/flight crew compartment to crew rest compartment(s); cabin crew/flight crew to purser and vice versa);

(4) aural/visual indications associated with interphone calls in normal and emergency circumstances;

(5) location and description of signalling panels associated with communication system;

(6) emergency communication alert system (ECAS) – description/location/operation in cabin and flight crew compartment;

(h) passenger address system:

(1) location/description/operation of handset unit(s) (crew station/flight crew compartment/crew rest compartment(s));

(2) description of operation in cabin/flight crew/crew rest compartment(s);

(3) description/operation of the public announcements broadcast to the entire/individual cabin compartment(s);

(4) availability of loudspeakers in passenger cabin/flight crew/crew rest compartment(s)/galley/lavatory and muted volume;

(5) description of the priority order of public announcement system (e.g. flight crew handset/purser handset/any other cabin crew handset/evacuation signal alarm);

(6) automatic broadcast of public announcements (description / operation);

(i) passenger call system:

(1) location of activation (passenger seat/lavatory);

(2) way to initiate/cancel/disable passenger call system;

(3) signalling system (indication (aural/visual); control panels);

(j) water system:

(1) areas of supply;

(2) location and operation of water supply manual shut-off valve (galley/lavatory; partial or entire cabin supply);

(3) water tanks (location of checking water tanks status);

(k) waste system:

(1) location (galley/lavatory);

(2) waste tanks (location of checking waste tanks status);

(l) air conditioning/ventilation/pressurisation – source of supply (engines/external ground power (EGP)/APU); control management);

(m) control panels:

(1) cabin crew panel (cabin management system) – main/additional panel(s); location; description of installed functions; operation; malfunction;

(2) cabin crew indication panel - type (i.e. area indication panel/area call panel); location (crew station/galley/crew rest compartment(s)); description of functions;

(3) cabin air/floor temperature control panel – location and operation; areas of effect;

(4) cabin signs – location (door/exit area; passenger cabin; crew station; crew rest compartment(s); galley; LSU); type (e.g. fasten seatbelt/no smoking/return to seat/lavatory occupied/exit sign); aural/visual indication;

(n) other systems – installed emergency locator transmitter.

EASA

CERTIFICATION SPECIFICATIONS

for

Operational Suitability Data

Cabin Crew

CS-CC

Book 2

GM1-CS-CC-205(b)(2)(v) Determination elements

ASSISTING EVACUATION MEANS

Assisting evacuation means include, but are not limited to, escape slide, slide raft, ramp slide, life raft, life lines, signalling means of slide readiness, e.g. barber pole or stop sign.

GM1-CS-CC-205(b)(4) Determination elements

NORMAL AND EMERGENCY OPERATIONS

Design or design related elements that could impact on normal operations and/or emergency operations include, but are not limited to, cabin interior stairs, smoke barrier, e.g. smoke curtain.

GM1 to Appendix 1 to CS-CC-200(b)(1) Aircraft difference table

INSTRUCTIONS

The ADT may be used by the applicant to include, in addition to the listed elements, a detailed list of differences between the base and the candidate aircraft. For the purpose of filling in the aircraft difference table to identify differences between the base and the candidate aircraft, the following instructions should apply:

1. Differences to any of the specified determination elements should be identified in column 'Existing differences from the base aircraft';
2. Identified differences should be described in column 'Description of identified differences';
3. The corresponding sub-column of 'Impact assessment' should be marked, as relevant to the assessed element:
    a. Column '*No impact*' should be marked if the identified difference affects neither the operation of the element nor potentially the procedures, however, information of the identified difference needs to be provided to the user, e.g. location of manual water shut-off valve, location of emergency lighting control button on forward attendant panel (FAP). Identification implies knowledge requirement attained by self-instruction or aided instruction as applicable.
    b. Column '*Impact on operation of element*' should be marked if the identified difference affects the operation of the element, e.g. power assist mechanism on door/exit, detaching and separating slide raft from the aircraft, installation of canopy, controls related to evacuation, smoke, emergency lights on cabin crew control panel. Identification implies knowledge requirement attained by aided instruction and potentially hands-on training where required.
    c. Column '*Potential impact on procedures*' should be marked to indicate that operators, in relation to the identified difference, may need to assess if their procedures need to be amended, or new procedures be developed, e.g. built-in fire extinguishing system, evacuation alarm alert indications, capacity and overload of slide raft. Identification implies knowledge requirement attained by aided instruction.
    d. Column '*Combined impact on operation of element and potentially on procedures*' should be marked to indicate that the identified difference affects the operation of the element and may require the operators to assess if their procedures need to be amended or new procedures be developed, e.g. function of smoke detection system, door/exit electrical warning system, communication system. Identification implies knowledge requirement attained by aided instruction and hands-on training.

GM1-CS-CC-305(b)

VOLUNTARY USE OF DATA

Voluntary use of data refers to information or practices presented by the applicant and considered by the training providers as recommendations that may be used when developing corresponding training programmes.

GM1 to Appendix 1 to CS-CC-310 Type specific data content

SOURCE DOCUMENTS FOR TYPE SPECIFIC DATA

Type specific data for cabin crew need not be developed new by the applicant. They may originate from any technical documentation issued by the original manufacturer of the aircraft, aeronautical products, parts or appliances (e.g. aircraft flight manual (AFM), aircraft operating manual (AOM), aircraft maintenance manual (AMM), component maintenance manual (CMM), design documentation).

TYPE SPECIFIC DATA

Type specific data required by this Appendix contain detailed technical information useful for cabin crew to obtain general knowledge on the type of aircraft they are to be qualified on. The detailed technical information may not necessarily be examined or checked unless specified by the applicable operational requirements and/or if determined by the training provider(s).

Appendix A – Regulatory Impact Assessment

TABLE OF CONTENTS

0. Process and consultation

The scope of this rulemaking activity is outlined in the Terms of Reference (ToR) Issue 2 for rulemaking task 21.039 issued on 9th July 2007, Reference Part-21. The ToR describes the rulemaking task's subject as the elaboration and adoption of additional airworthiness specifications for a given type of aircraft and type of operation within the Union framework, thus setting common requirements within the European Union (EU). The ToR identifies a list of items that were part of the former JOEB and that are currently part of the voluntary OEB CC process, and for which appropriate approval requirements in Part-21 need to be developed. One of the ToR objectives is to consider the need to develop Certification Specifications (CS) to provide technical standards for the approval of the elements for operations.

The working method selected by the Agency, on the advice of its consultative bodies (the Advisory Group of National Authorities (AGNA) and the Safety Standards Consultative Committee (SSCC)), was the use of a rulemaking group. The composition of the drafting group 21.039 consisted of experts from the aircraft manufacturers industry, air operators, pilots, maintenance engineers, a cabin crew association, national authorities and the Agency. Third country authorities (Federal Aviation Administration (FAA) and Transport Canada (TCCA)) were also invited to participate as observers, as the result of this task could affect not only third country industry but also third country aviation authorities. The work carried out by the rulemaking group (core group) was to identify possible options to implement and to transfer the (J)OEB process into the European regulatory framework.

Additionally, the Agency decided to create subgroups for the development of the CSs. The rulemaking subgroup for development of the CS for cabin crew was formed based on nominations by members of the core group. The composition of the subgroup consisted of experts from the aircraft manufacturers industry, the associations of operators, a national authority, a cabin crew association, a Third country authority and the Agency.

The cabin crew subgroup started its activity in October 2010 and the proposals included in this NPA and RIA were discussed and reviewed during several meetings and by written procedure until March 2011.

1. Issue analysis and risk assessment

1.1 What is the issue?

Regulation (EC) No 216/2008 extends the Agency's remit to include, amongst others, the field of air operations. The Agency, in NPA 2009-01 for amending Commission Regulation (EC) No 1702/2003 (Part-21), presented the Operational Suitability Certificate (OSC) concept. This concept is in principle applicable to all aircraft categories and requires an applicant for an aircraft type certificate to obtain approval of operational suitability data, before the aircraft can be operated by an EU operator. Due to comments received the OSC was modified into the Operational Suitability *Data* (OSD). The OSD approval will be included in the type certificate. The Agency has been given the responsibility to approve relevant information necessary for the safe operation of a specific aircraft type. The Agency will issue the OSD if the information meets the applicable technical standards specified in the individual CSs. Once issued, the approved elements in the OSD must be used by operators of the particular aircraft type. It is essential to note that in contrast to the current voluntary status of the OEB process, the OSD is mandatory. The impact of transferring the current voluntary process into the mandatory OSD concept was discussed in NPA 2009-01. Therefore, this RIA does not concentrate on the principle decision to introduce the OSD concept, but it analyses the content of the required CS for cabin crew related to type specific elements.

As per the proposed Part-21 provision, for cabin crew, the content of OSD includes 'determination of type or variant and type specific data for cabin crew training'.

The Agency will conduct the OSD cabin crew evaluations in order to:

a) determine, as a result of a comparative analysis, whether the candidate aircraft is a *new type* or *variant* of an existing type for cabin crew operation as relevant to the type specific elements[10]; and

b) assess the applicable data related to the candidate aircraft.

The outcome resulting from the determination process conducted by the Agency will be part of the OSD approval and will be used by:

a) operators and training organisations as the mandatory basis for developing the relevant training programmes for cabin crew;

b) National Aviation Authorities (NAA) as a common basis for the approval of their operators' training syllabi for cabin crew.

To establish the mandatory link between the OSD elements and cabin crew training programmes and syllabi, specific requirements are included in operational requirements.

1.2 Who is affected?

The parties affected by the OSD are the applicants for, or holders of, a Type Certificate (TC), change approval and/or Supplemental Type Certificate (STC)[11], as the required and submitted data will be subject to the approval by the Agency before the aircraft is operated by any EU operator. The Certification Specifications for Cabin Crew (CS-CC) will be applicable to aircraft with a maximum passenger seating configuration of more than 19 seats and to any other aircraft with a maximum passenger seating configuration of 19 seats or less, if voluntarily elected by the applicant, with the view to facilitate prospective operation with cabin crew.

The operators and training organisations should benefit from the approved data, which will be the mandatory basis to be used for development of relevant training programmes for cabin crew. This should facilitate harmonisation of cabin crew training and contribute to a level playing field. Further, the approved data will be a common basis for the National Authorities to approve their operators' training syllabi for cabin crew.

Qualified personnel are not directly affected by the OSD rules. Personnel already qualified will remain qualified unless otherwise determined by the applicable transition measure of the applicable personnel regulations.

1.3 What are the risks (probability and severity)?

Provision of limited data on limited areas only would result in a limited training content therefore cabin crew members obtaining limited knowledge of the aircraft. Not harmonising the data for development of training would represent continually receiving a different level of aircraft type related training by various training providers, a fact resulting from too many differences in the training programmes, caused by the absence of supporting data. The fact that technical information is not provided to cabin crew may result in their inability to assist flight crew in safety related matters. Further, not receiving the necessary data will cause that cabin crew would be provided with no reference (e.g. in the Cabin Crew Operations Manual (CCOM)) to essential and required information related to the aircraft, with a consequence of performing no, limited or incorrect actions.

A determination process based on one or two determination elements only may result in a disproportionate number of aircraft within *one type* with some significant differences. As a consequence, an excessive number of differences and resulting procedures may therefore lead to confusions and decreased awareness affecting the accuracy of decision making and performance that may have an impact on safety as described in chapter 4.1.

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[10] A candidate aircraft determined as a variant by the OSD evaluation may still be considered a new type by operator and National authority, in accordance with the applicable operational requirements.

[11] Aircraft manufacturers and Design organisations.

2. Objectives

The overall objectives of the Agency are defined in Article 2 of Regulation (EC) No 216/2008. This proposal will contribute to these objectives by addressing the issues outlined in Section 2. The specific objective of this proposal is as follows:

The OSD concept is in line with the Basic Regulation and establishes a European harmonisation by allowing the Agency to set the standard for operational suitability for a specific aircraft type and type of operation. The Agency will develop CSs containing technical standards for each area of the OSD. The objective is to ensure that new aircraft are released for operation with all required and approved data, information and instructions, necessary for a safe operation.

With the aim of achieving a high level of safety, the approved type specific data will establish a uniform set of elements to constitute a common basis for the development of training, a situation different from that today, hence harmonising the scope, level and quality of information cabin crew will receive when undergoing the applicable type specific or variant related training. Providing comprehensive data will enable cabin crew to have a reference and to obtain knowledge of e.g. technical aspects necessary for the ability to assist flight crew when demanded to do so. It will also achieve a clear differentiation between type specific, as defined by the manufacturer, and operator specific, as customised by the customer (operator). Further, the OSD will establish a uniform process and criteria to be considered when determining a new type and a variant of the base aircraft for cabin crew operation. This will ensure consistency between certification and operations in the interest of the overall level of safety, including the aspects more specific to cabin and passenger safety.

3. Identification of options

In view of the above objectives and in accordance with the Basic Regulation, the part of the OSD approval relevant to cabin crew includes provision of type specific data for the concerned aircraft and specifications for the determination process of a new type and a variant for cabin crew operation. The following options to both elements have been identified:

Type specific data for cabin crew training

The options are related to the extent of the provided data:

Option 1: basic information on a limited number of areas only (e.g. cabin layout, doors and exits, assisting evacuation means; fire prevention/smoke detection system, oxygen system and communication system); or

Option 2: comprehensive information on all areas related to cabin crew operation; in addition to the areas described in Option 1, further information required and useful for cabin crew to obtain general knowledge of the aircraft on which they will operate on (e.g. electrical system, lighting system, water/waste system, technical information).

Determination of a new type or variant

The options are related to the determination elements:

Option 1: determination of a new type based on the assessment of *doors and exits* only, which expects the following to be assessed for similarity: direction of opening, direction of movement of the operating handle, arming/disarming, power assist mechanism, assisting evacuation means, electrical warning system and number, type and location of doors and exits. Aircraft not determined as a new type will be determined as a variant.

Option 2: determination of a new type based on the assessment of *doors and exits* and *aircraft configuration* only which, in addition to the element described in Option 1, further includes the similarity assessment of number of aisles and number of decks. Aircraft not determined as a new type will be determined as a variant.

The case of customised configuration would be assessed if applicable.

Option 3: determination of a new type based on the assessment of *doors and exits, aircraft configuration, aircraft systems* and *normal and emergency operations*. In

addition to the elements described in Options 1 and 2 above, elements of aircraft systems are assessed for similarity (e.g. emergency lighting, smoke detection system, automatic fire extinguishing system, drop-down oxygen, communication system, evacuation alarm system, control panels) and so is any design or design related element that could have an impact on normal and/or emergency operations. If the type specific elements of these two areas are different from the base aircraft, a possible determination of the aircraft as a new type should be considered. Aircraft not determined as a new type will be determined as a variant.

4. Analysis of impacts

4.1 Safety impact

The CS-CC does not represent a stand-alone module; it complements the OSD package attached to the TC or STC, thus contributing to the overall safety interest.
The existence of OSD elements approved in accordance with Part-21 represents a mandatory use by training providers. The CS-CC aims at harmonising data that are to be provided to training providers for developing relevant training programmes, thus cabin crew trained by different training providers would receive the same level and accuracy of information. Further, it aims at recognition, thorough consideration and identification of all relevant differences between base and candidate aircraft that allow a thorough evaluation determining whether a candidate aircraft is a variant of the base aircraft or rather, based on the identified differences and their impact, a new type.

Current operational requirements limit the number of *types* cabin crew may be assigned to operate on, however they do not address the number of variants within that *type*. Being assigned on several aircraft *types,* each with a number of 'subgroups' and a number of modifications on individual aircraft within each 'subgroup', leads to confusions resulting from too many differences. The associated risk lies in a decrease of awareness affecting cabin crew member's accuracy in decision making when operating on each and every aircraft and this may have a considerable impact on safety.

According to the current operational rule EU-OPS 1.1030[12], cabin crew may operate on three aircraft types and, with certain conditions and the approval of the authority, on four aircraft types. The OSD concept does not affect the future operational rules regarding the number of aircraft types cabin crew may operate on. The future operational rules will not differ in substance from the currently applicable EU-OPS requirements.

An aircraft type can represent a 'family', e.g. Airbus 'A330 family' includes 330-200/330-300, Airbus '340 family' includes 340-300/340-500/340-600 or Airbus 'A320 family' includes 318/319/320/321. Such a 'family' can also include an aircraft that has been, during the certification process, determined as a variant of the type, e.g. A340-600 or A321. In addition,

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12 ***EU-OPS 1.1030***

(a) An operator shall ensure that each cabin crew member does not operate on more than three aeroplane types except that, with the approval of the Authority, the cabin crew member may operate on four aeroplane types, provided that for at least two of the types:

(1) Non-type specific normal and emergency procedures are identical; and

(2) Safety equipment and type specific normal and emergency procedures are similar.

(b) For the purposes of subparagraph (a) above, variants of an aeroplane type are considered to be different types if they are not similar in all the following aspects:

(1) Emergency exit operation;

(2) Location and type of portable safety equipment; and

(3) Type specific emergency procedures.

such a 'family' can consist of aircraft that have modified aircraft systems, cabin configurations (with resulting adjustments of the minimum required number of cabin crew) – they are equipped with all cabin doors/exits either being identical or two different types (e.g. A330 can be equipped with 8 Type A doors or 6 Type A doors and 2 floor level Type I doors) or are equipped with a different number of cabin doors/exits (e.g. Boeing 777-300 and 777-200). An aircraft can have either one of the mentioned modifications or a combination of some of them or all of them. The number of modifications is not limited, as market and technology are continuously moving forward. Further, some of the 'families' can be merged to create a *type family* (e.g. 330-200/330-300/340-300/340-500 plus a variant 340-600).

Today, the applicable operational rule is being adhered to and cabin crew operate within the allowed limit of aircraft types. It is the case, however, that such a *type family* (as described above) not only consists of several subgroups of aircraft, some of which include aircraft productions with various combinations of modifications, the subgroups also include various cabin layouts with the resulting adjustments of cabin crew direct view constraints. All these aircraft still belong to the group of the *same type* and are for cabin crew operation considered as *one type*. Cabin crew can further operate on another *two types*, each of which may consist of variations as described above. For a clearer illustration, please see the following example of cabin crew being qualified and active on aircraft types which include combinations of all the described modifications:

1st *type*	Airbus 319/320 + variant 321
2nd *type*	Airbus 330-200/330-300 Airbus 340-300 + variant 340-600
3rd *type*	Airbus 300-600 + variant 310
4th *type*	another type (e.g. Bxxx)

The determination process focuses on a thorough evaluation and assessment of every relevant element that needs to be considered for determining an aircraft as a new type or a variant. The safety interest aims at increasing the level of crew member's awareness and preparedness for the particular types/variants on which the individual will be qualified and operate on, by reducing the disproportionate number of varieties and differences, and therefore the risk of errors.

Safety impact of identified options:

Type specific data for cabin crew training

The extent of provided data:

Option 1: providing basic information on a limited number of areas would limit the amount of information provided in training, therefore cabin crew obtaining limited knowledge of the aircraft they will operate on. Further, it would result in providing cabin crew with no reference to additionally required information and knowledge. A low level of preparedness resulting in no, limited or incorrect actions performed by cabin crew members may significantly impact on safety.

Option 2: providing comprehensive information on all areas related to the particular aircraft would reduce the potential safety concerns identified in Option 1. Training with comprehensive content foresees obtaining and possessing required and complete knowledge, which in turn results in cabin crew being competent for the particular aircraft. Comprehensive data containing extra technical information gives the opportunity to have a reference to required information and correct knowledge, in particular to provide flight crew with accurate

information and assistance when assisting them with safety related matters, such as operating the flight crew oxygen system or checking the mechanical system on aircraft wings indicating the position of main landing gear once airborne.

Determination of a new type or variant

Elements to be considered:

Option 1: determination of a new type based on the assessment of *doors and exits* only may result in a high number of aircraft within the *same type* with significant differences in other areas related to cabin crew operation that would not be taken into consideration. This would increase the number of aircraft subgroups within the *type family* and the number of variants within each subgroup cabin crew would be able to operate on, as the operational requirements limit the number of *types* only. This option implies a considerable safety risk due to the potential disorientation and risk of errors resulting from the number of varieties within each type.

Option 2: determination of a new type based on the assessment of *doors and exits* and *aircraft configuration* only would result in cases where two aircraft being identical or similar in these two elements, could be automatically determined as belonging to the group of the *same type*. Other existing differences relevant to cabin crew operation in e.g. fire prevention system, smoke detection system, communication system, crew control panels would not be considered and the fundamental differences in systems between both aircraft would be overlooked. This option implies a negative safety impact as there would be a number of aircraft subgroups within one type family considered to be the *same type*, having differently functioning aircraft systems. This would result in operators establishing series of different/modified/amended procedures applicable to aircraft subgroups within the *same type*. Taking into account three or four *types* cabin crew can operate on, the outcome would represent an excessive number of differences and procedures, with the associated risk of confused knowledge, easy mistakes-making or conducting incorrect safety actions related to any of the systems.

Option 3: determination of a new type based on the assessment of *doors and exits, aircraft configuration, aircraft systems* and *normal and emergency operations* would lead to an evaluation of all relevant elements and their combined impact, therefore preventing significant differences to be overlooked or considered irrelevant. It may limit the number of aircraft determined to belong to the group of the *same type* for cabin crew operation. The knowledge and awareness of an individual qualified on groups of aircraft would be maintained at a high level, as the focus would be concentrated on a limited number of varieties and modifications. This would preclude incorrect safety related actions arising from confusions resulting from an excessive number of differences. A positive safety impact can be expected.

4.2 Environmental impact

No such impact is expected in any of the options.

4.3 Social impact

It is expected that the social impact, if any, would be very similar for all options. This results from the fact that the main difference will be the transfer from a voluntary to a mandatory process.
Training providers being provided with the same data for development of their training, hence cabin crew receiving the same level of information, aims at achieving a common European standard for type specific training. A positive social impact may be assumed as this should facilitate free movement of equally trained personnel.

4.4 Economic impact

As with other documentation and information provided by the TC or STC holder, it is expected that the approved elements of the OSD will be provided with the aircraft after its purchase. As the type specific training will be based on the elements approved as part of the OSD, training providers and their competent authorities should benefit, as there would be a European standard to be used when developing training.

Economic impact with regard to the applicant vs. the transfer of the voluntary system into the mandatory status:

No economic impact has been identified for those applicants who made use of the JOEB in the past and continue to make use of the current OEB CC, as today they already provide data for the applicable process and bear the expenses.

Increased economic cost has been identified for those applicants who did not make use of the JOEB and do not make use of the OEB CC, as the decision with the OSD concept is to transfer a voluntary process into a mandatory system.

Economic impact with regard to type specific data:

As today, operators will be responsible for developing their customised type specific training for their cabin crew. Training organisations will base the development of training courses on type specific data provided either by the OSD holders or by the operators. Moreover, the operators could reduce their own efforts and associated costs for the development of the training programmes. As the difference between the two identified options relates to the extent of provided information, no significant difference between Options 1 and 2, in terms of economic burden, has been identified. No economic impact has been identified with regard to the NAAs, as they would continue to approve the operators' training courses.

Economic impact with regard to determination of a new type or variant:

No economic impact related to the number of determination elements, to be considered in the determination process, has been identified for the applicant.
No significant difference related to the determination elements considered by Options 1 and 2 and associated economic impact has been identified for the recipient.
Option 3 suggests some negative economic impact on those operators whose fleet includes a wide range of aircraft types, as the resulting determination may limit the number of aircraft types that would belong to the group of the *same type* for cabin crew operation. It could result in the need to split the cabin crew into groups, each being qualified on certain fleet only. To be in compliance with the applicable operational rule regarding the number of types cabin crew may operate on, operators may need to recruit more personnel to cover their operation. As it is the case today, depending on the individual customer configuration, the operator and the respective NAA may also decide to consider an aircraft determined as the same type or as a variant, a different type for their operation. Such cases represent the same economic burden on the operator irrespectively of the proposed options in the CS-CC under the OSD.

4.5 Proportionality issues

The proportionality objective is respected as the CS-CC is foreseen to apply to aircraft with a maximum passenger seating configuration of more than 19 seats required to carry cabin crew. Any other aircraft with a maximum passenger seating configuration of 19 seats or less may be subject to the evaluation process if voluntarily elected by the applicant.

4.6 Impact on regulatory coordination and harmonisation

With regard to regulators outside the EU that have similar OEB evaluations, the harmonisation may depend on the process used (e.g. joint/non-joint evaluation). Therefore, no difference can currently be identified between the options.

5. Conclusion and preferred option

5.1 Summary and final assessment

Following the proposal to amend Part-21 with the OSD concept in NPA 2009-01, in the case of CS-CC, there are two options: to provide and assess the very basic – with the aim of the least possible liability and to conform to the minimum rule, or to provide and assess thoroughly - with the aim of achieving a high level of safety.

After comparison of the possible options and their impacts, the following has been concluded for the OSD approval concerning cabin crew:

With regard to type specific data, Option 2 has been chosen in order to continue with the practice established under JOEB, currently continuing under OEB CC, that the provision of type specific data contains comprehensive information on all relevant areas for the particular aircraft. It is to ensure that a uniform level of data creates the basis for development of relevant training programmes and that a high level of accurate information is provided to cabin crew in order to obtain a comprehensive and thorough knowledge on safety related matters.

With regard to the determination of a new type or variant, Option 3 has been chosen. The assessment of similarity of all elements *aircraft configuration, doors and exits, aircraft systems, normal and emergency operation* is to be taken into account. It is to eliminate the risk of errors, disorientation and mistaken performance resulting from a high number of differences that can have a considerable impact on safety. A low negative economic impact has been identified for this option, but the Agency considers that this is outweighed by the expected safety benefits and improved harmonisation across the EU.

The preferred options represent the best options to ensure the main objective of the Agency: to establish and maintain a high uniform level of safety in civil aviation in Europe.