NOTICE OF PROPOSED AMENDMENT (NPA) NO 2009-02A

DRAFT OPINIONS OF THE EUROPEAN AVIATION SAFETY AGENCY, FOR A COMMISSION REGULATION establishing the implementing rules for air operations of Community operators

and

DRAFT DECISIONS OF THE EXECUTIVE DIRECTOR OF THE EUROPEAN AVIATION SAFETY AGENCY on acceptable means of compliance, certification specifications and guidance material related to the implementing rules for air operations of Community operators

"Implementing Rules for Air Operations of Community Operators"

A. Explanatory Note and Appendices

NOTE: This NPA contains the draft Opinion on the Implementing Rules for Air Operations of Community Operators, the Subparts related to Air Operations of the draft Opinion on the Implementing Rules for Organisation Requirements, the Subparts related to Air Operations of the draft Opinion on the Implementing Rules for Authority Requirements and the related draft Decisions (AMC, CS and GM). The NPA is split into seven separate NPAs (2009-02**A**, 2009-02**B,** 2009-02**C,** 2009-02**D**, 2009-02**E,** 2009-02**F** AND 2009-02**G**) as indicated in the Table of Reference below. The documents are published in the Comment-Response Tool (CRT) available at http://hub.easa.europa.eu/crt/.

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A. EXPLANATORY NOTE

I. General

1. The purpose of this Notice of Proposed Amendment (NPA) is to develop an Opinion on the Implementing Rules for Air Operations of Community Operators and a Decision on the related Acceptable Means of Compliance (AMC) and Guidance Material (GM). The scope of this rulemaking activity is outlined in the Terms of Reference (ToR) OPS.001 and is described in more detail below.

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 following a structured process as required by Article 52(1) of the Basic Regulation. Such process has been adopted by the Agency's Management Board and is referred to as "The Rulemaking Procedure"[2].

4. This rulemaking activity is included in the Agency's Rulemaking Programme for 2009. It implements the rulemaking task OPS.001.

5. The text of this NPA has been developed by the Agency, based on the inputs of the OPS.001 and MDM.032 rulemaking groups. 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 opinion and draft decision of the Executive Director on its internet site. Comments should be provided within 4 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.

[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).

[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

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

Comments should be received by the Agency before **30 April 2009**. If received after this deadline they might 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 Opinions and Decisions

Background

8. On 15 December 2004 the Agency issued an Opinion[3] to extend the scope of Regulation (EC) No. 1592/2002 of the European Parliament and of the Council of 15 July 2002 on common rules in the field of civil aviation and establishing a European Aviation Safety Agency, to the regulation of pilot licensing, air operations and third country aircraft.

9. In November 2005, the Commission presented its proposal for the amendment of Regulation (EC) No. 1592/2002[4] which was accompanied by a Communication[5], where the Commission explained the main objectives of its proposal:

- To establish in the form of Essential Requirements, high level safety objectives to be achieved by the regulation of air operations;
- To require all commercial operators to be subject to certification on the basis of common rules;
- To subject non-commercial operations to common rules tailored to the complexity of the aircraft used. Where such operations are conducted with complex motor-powered aircraft, the operators concerned should declare that they comply with the applicable requirements;
- To give executive powers to the Commission to adopt the necessary Implementing Rules and to the Agency to issue certification specifications, comprising in particular standard flight time limitation schemes, as acceptable means of compliance with the Essential Requirements and to certify itself individual operators' flight time limitation

[3] Opinion No 3/2004 of the European Aviation Safety Agency of 15 December 2004 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. (http://www.easa.europe.eu/ws_prod/g/rg_opinions_main.php#2004)

[4] Proposal for a Regulation of the European Parliament and of the Council amending Regulation (EC) No 1592/2002 of 15 July 2002 on common rules in the field of civil aviation and establishing a European Aviation Safety Agency (presented by the Commission), COM(2005)579 final, 16 November 2005. (http://ec.europa.eu/prelex/detail_dossier_real.cfm?CL=en&DosId=193564)

[5] Communication from the Commission to the Council, the European Parliament, the European Economic and Social Committee and the Committee of the Regions, "Extending the tasks of the European Aviation Safety Agency – An Agenda for 2010", COM(2005)578 final, 15 November 2005. (http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=COM:2005:0578:FIN:EN:PDF)

schemes when so required to provide for uniformity and fair competition in the market.

10. When adopting its proposal, the Commission recommended, as suggested by the Agency itself, that common requirements to be specified in Implementing Rules be based as much as possible on existing material such as Annex III to Regulation (EEC) No 3922/91 ("EU-OPS")[6]/JAR-OPS 1 and 3 and draft JAR-OPS 0, 2 and 4 as well as on the Joint Aviation Authorities (JAA) Joint Implementation Procedures (JIPs) and that they be tailored to the risks to be mitigated. In order to develop these Implementing Rules, the Agency included in its rulemaking programme the task OPS.001. The ToR of this task, as well as the composition of the rulemaking group, were adopted in July 2006[7], and the group started the drafting in August 2006.

11. The ToR defined the objective of the task as the development of common requirements for the implementation of the extended Basic Regulation as regards air operations, including Implementing Rules and AMC/GM for:

- commercial air transport, based on existing EU-OPS/JAR-OPS 1 and 3 requirements;
- aerial work using as appropriate the draft of JAR-OPS 0 and 4;
- non-commercial operations with complex motor-powered aircraft using as appropriate the draft of JAR-OPS 0 and 2;
- non-commercial operations with other than complex motor-powered aircraft using as appropriate the input from task MDM.032;
- flight time limitations, initially based on EU-OPS;
- training and medical fitness of cabin crew, initially based on JAR-OPS 1/EU-OPS;
- the conduct of oversight by competent authorities, making use of the relevant JAA JIPs and of similar provisions included in other Implementing Rules.

12. The ToR established that due consideration should be given to the conclusions reached during the legislative process relative to the extension of scope of Regulation (EC) No 1592/2002, so as to adjust the deliverables to the likely result of these negotiations. They also called for coordination with the rulemaking tasks FCL.001 and MDM.032. The latter would provide input for the regulation of other than complex motor-powered aircraft engaged in non-commercial operations.

13. The OPS.001 rulemaking group decided early on to divide itself into subgroups, in order to better deal with the different issues contained in its ToR. Accordingly, the ToR and composition of four subgroups were adopted in October 2006[8]. These subgroups were:

- The *subgroup commercial air transport*;
- The *subgroup non-commercial operations with complex motor-powered aircraft*;
- The *subgroup commercial operations other than commercial air transport*; and
- The *subgroup authority requirements and safety management system*.

14. The first subgroup *(commercial air transport)* was tasked with the incorporation of requirements of EU-OPS in conjunction with subsequent amendments of JAR-OPS 1 for commercial air transport by aeroplane and development of related AMC/GM based on

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6 Annex III to Council Regulation (EEC) No 3922/91 of 16 December 1991 on the harmonisation of technical requirements and administrative procedures in the field of civil aviation (OJ L 373, 31.12.1991, p. 4). Regulation as last amended by Commission Regulation (EC) No 859/2008 of 20 August 2008 (OJ L 254, 20.9.2008, p. 1).

7 See ToR OPS.001 published on EASA website at: http://www.easa.europa.eu/ws_prod/r/r_tor.php.

8 See footnote 7 above.

JAR-OPS 1 (Section 2) and appropriate Temporary Guidance Leaflets (TGL) of the JAA Administrative Guidance Material Section 4, Part 3. It was also tasked with the development of requirements and related AMC/GM for commercial air transport by helicopter based on JAR-OPS 3 (Section 1 and 2) and related TGL of the JAA Administrative Guidance Material Section 4, Part 3. Consideration had also to be given to JAA NPAs sufficiently advanced in the JAA process meaning that they had to be at least adopted at JAA OST level with sufficient technical consensus. For operations of balloons and airships, which were not included in the JAR provisions, new requirements were to be developed on the basis of existing national legislation and by taking into account ICAO Annex 6, as feasible. The subgroup was required to liaise with rulemaking group FCL.001 so as to clarify operators and personnel responsibilities as regards qualification and training requirements, as well as with the subgroup of authority requirements and management system. The main challenge of this group was to adapt the JARs to the EASA legal framework.

15. The task of the second subgroup *(non-commercial operations with complex motor-powered aircraft)* was to develop requirements and related AMC/GM for those kind of operations, based as much as possible on existing material such as draft JAR-OPS 0 and 2, as well as considering the standards and recommended practices of ICAO Annex 6 Part II.[9] The subgroup was required to liaise with rulemaking group FCL.001 so as to clarify operators and personnel responsibilities as regards qualification and training requirements as well as MDM.032 on non-commercial operations of other than complex motor-powered aircraft and the other subgroups of OPS.001.

16. The third subgroup *(commercial operations other than commercial air transport)* was tasked to develop requirements and related AMC/GM for aerial work. These provisions were to encompass requirements and related AMC and GM for aeroplane, helicopter, balloons and airships using as appropriate the draft of JAR-OPS 0 and 4 and also considering existing national standards in the field. The subgroup was asked to ensure coordination with rulemaking group MDM.032 and the subgroup on non-commercial operations with complex motor-powered aircraft to properly address non-commercial aerial work. It was also asked to develop CS in the field of flight time limitation where consideration should be given to the special flexibility that is needed in aerial work. Similar to the two other groups, coordination had to take place with rulemaking group FCL.001 so as to clarify operators and personnel responsibilities as regards qualification and training requirements and the subgroup of authority requirements and safety management system.

17. The task of the last subgroup *(authority requirements and safety management system)* was firstly, to develop requirements and related AMC/GM for competent authorities using appropriate ICAO documents and JAA JIPs and taking into account the need for consistency with similar provisions included in other Implementing Rules. It also had to draft a proposal for safety management system requirements based on ICAO Annex 6, ICAO Doc 9859 and work carried out by the JAA. This subgroup was asked to develop its work in close coordination with the equivalent subgroup of FCL.001, in order to harmonise requirements for authorities and organisations as much as possible. As recommended by the JAA reflection on the "Consistency of Organisation Approvals" (COrA)[10], the applicable requirements have been made generic as they were considered similar for aircraft operators, maintenance organisations, air traffic services providers and aerodrome operators, although it was not precluded to have specific provisions on operations, if deemed necessary. Adequate coordination had to take place with the other subgroups of OPS.001.

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[9] The subgroup worked with the revised ICAO Annex 6 Part II text, now published as Amendment No. 27.

[10] See A-NPA 15/2006 published on EASA website at: http://www.easa.europa.eu/ws_prod/r/r_archives.php

18. In order to provide for the necessary proportionality of requirements applicable to non-commercial operation of other than complex motor-powered aircraft, the MDM.032 group[11] was asked to provide input to the OPS.001 group. The group started its work in March 2006 and by summer 2007 provided OPS.001 with such an input.

19. The OPS.001 subgroups finished their tasks, in accordance with their ToR, in summer 2007, by delivering their input to the OPS.001 core group. Since then the Agency and the core group have been working on the finalisation of the draft Implementing Rules, using the material received from the subgroups as well as from the MDM.032 rulemaking group.

20. In February 2008 the legislative process to extend the scope of Regulation (EC) No 1592/2002 reached a conclusion with the adoption of the Regulation (EC) No 216/2008 of the European Parliament and of the Council of 20 February 2008[12] (hereinafter referred to as the 'Basic Regulation'). The Basic Regulation entered into force on 8 April 2008 and, in accordance with its article 70, the provisions related to flight crew licensing, air operations and third country operators shall become applicable on the dates specified in their respective Implementing Rules, but in any case not later than on 8 April 2012.

21. During the legislative process, the Commission proposal was subject to amendments by the European Parliament and the Council and therefore the final text of the Basic Regulation differs, in some aspects, from that proposal. The main aspects of the Basic Regulation in what refers to air operations are the following:

- Operations of aircraft:
  - registered in a Member State, unless their regulatory safety oversight has been delegated to a third country and they are not used by a Community operator (Article 4(1)(b) of the Basic Regulation); and
  - registered in a third country and used by an operator for which any Member State ensures oversight of operations or used into, within or out of the Community by an operator established or residing in the Community (Article 4(1)(c) of the Basic Regulation);

  shall comply with the Essential Requirements for air operations laid down in Annex IV to the Basic Regulation (Article 8(1) of the Basic Regulation).
- The European Commission is empowered to adopt Implementing Rules specifying the conditions to operate an aircraft for the implementation of the Basic Regulation and the Essential Requirements. These Implementing Rules (Article 8(5) and 8(6) of the Basic Regulation) shall:
  - reflect the state of the art and best practices in the field of air operations;
  - take into account worldwide aircraft in service experience and scientific and technical progress;
  - define various types of operations according to their complexity and associated risk and provide for proportionate requirements and compliance demonstrations;
  - be based on a risk assessment and be proportional to the scale and scope of the operations, and
  - allow for immediate reaction to established causes of accidents and serious incidents.

[11] See ToR MDM.032 published on EASA website at: http://www.easa.europa.eu/ws_prod/r/r_tor.php
[12] See footnote 1 above.

- Operators[13] engaged in commercial operations[14] shall be subject to a certification process in which they demonstrate their capability and means of discharging the responsibilities associated with their privileges. The privileges granted to an operator and the scope of operations shall be specified in the certificate. Certificates are issued by the Member States' competent authorities. The Implementing Rules may determine the conditions under which a certificate shall be replaced by a declaration of the capability and means of discharging the responsibilities associated with the operation of the aircraft (Article 8(2) and 8(5)(b) of the Basic Regulation). With regard to commercial air transport by aeroplane, the Implementing Rules shall be based initially on EU-OPS.
- Operators engaged in non-commercial operations of complex motor-powered aircraft[15] shall declare their capability and means of discharging the responsibilities associated with the operation of the aircraft. The Implementing Rules may determine the conditions under which a declaration shall be replaced by a demonstration and the issuance of a certificate (Article 8(3) and 8(5)(d) of the Basic Regulation).
- Operators of aircraft having a clear historical relevance (Annex II (a)(ii) of the Basic Regulation), of military design (Annex II (d) of the Basic Regulation) and replicas of historic or military aircraft (Annex II (h) of the Basic Regulation) when used for commercial air transportation shall comply with the relevant Essential Requirements as specified in the appropriate Implementing Rules.
- Cabin crew involved in the operation of aircraft shall comply with the relevant Essential Requirements laid down in Article 8(4) of Annex IV of the Basic Regulation as established in the related Implementing Rules. The Implementing Rules shall specify the composition of the cabin crew, as well as the training and checking requirements in order to ensure that cabin crew attain and maintain an adequate level of competency (Articles 7(a) and 7(b)(i) of Annex IV of the Basic Regulation). To safely exercise their duties, cabin crew shall be medically fit; the Implementing Rules shall prescribe the conditions under which such fitness assessment shall be conducted based on aero-medical best practice (Article 7(b)(ii) of Annex IV of the Basic Regulation).
- Cabin crew members involved in commercial operations shall hold a cabin crew attestation (Article 8(4) of the Basic Regulation). The Implementing Rules shall specify the conditions under which such an attestation shall be issued, maintained, amended, limited, suspended or revoked, thus ensuring appropriate compliance with the applicable requirements (Article 8(5)(e) of the Basic Regulation). Member State may task an operator or training organisation to issue cabin crew attestations if they have specifically been approved therefore.

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[13] An operator is any legal or natural person, operating or proposing to operate one or more aircraft. (Article 3(h) of the Basic Regulation)

[14] Article 3(i) of the Basic Regulation defines commercial operations as any operation of an aircraft, in return for remuneration or other valuable consideration, which is available to the public or, when not made available to the public, which is performed under a contract between an operator and a customer, where the latter has no control over the operator.

[15] According to Article 3(j) of the Basic Regulation, a complex motor-powered aircraft shall mean an aeroplane
- with a maximum certificated take-off mass exceeding 5 700 kg, or
- certificated for a maximum passenger seating configuration of more than nineteen, or
- certificated for operation with a minimum crew of at least two pilots, or
equipped with (a) turbojet engine(s) or more than one turboprop engine, or a helicopter certificated
- for a maximum take-off mass exceeding 3 175 kg, or
- for a maximum passenger seating configuration of more than nine, or
- for operation with a minimum crew of at least two pilots, or
- a tilt rotor aircraft. (Article 3(j) of the Basic Regulation)

- With regard to flight time limitation, the Agency shall issue applicable flight time limitation Certification Specification (CS) to ensure compliance with the related Implementing Rules taking into account the latest scientific and technical evidence. Member States may approve individual flight time limitation schemes, which deviate from those issued by the Agency, but in this case they shall inform the Agency, the Commission and other Member States. The Agency shall within one month assess the individual scheme. If a Member State disagrees with the Agency's conclusions, it shall refer the issue to the Commission. The content of individual schemes, which are acceptable to the Agency or on which the Commission has taken a positive decision, shall be published (Article 22(2) of the Basic Regulation).

22. The present NPA contains the draft rules (requirements, flight time limitation CS, AMC/GM) the Agency is envisaging at this stage for the implementation of the Basic Regulation and the Essential Requirements for air operations, based on the work of the OPS.001 and MDM.032 rulemaking groups.

Structure

23. After issuing its Opinion for the extension of the Basic Regulation to air operations, flight crew licensing and third country operators[16], the Agency started defining the tasks necessary to develop the related Implementing Rules, making use of the regulatory material already developed by the JAA. When doing so, it realised that the structure underlying the set of JARs might not be the most appropriate for establishing a consistent set of rules governing all aspects of civil aviation safety regulation. The set of rules applicable to these fields in Europe originates from different regulators, such as the JAA and national administrations. They were developed over several decades, the responsibilities for drafting were sometimes changed and trade-offs, which may not be appropriate anymore, were made. Furthermore, the JARs do not cover all necessary elements, not only because they primarily aim at harmonising some elements of national rules and presume therefore the existence of an appropriate set of national rules, but also because the scope of the Basic Regulation is wider than that of the existing JARs – for example, JAR-OPS only covers commercial air transport with aeroplanes and helicopters, whereas the Basic Regulation covers, commercial and non-commercial operations with aeroplanes, helicopters, tilt-rotor aircraft, airships, sailplanes and balloons. In parallel, the objective of the Agency is to develop operational and licensing rules that would be integrated in a global regulatory system for aviation safety, covering not only airworthiness, but also the safety regulation of air traffic management and aerodromes. All these considerations lead the Agency to conclude that changing the way rules are structured and presented would provide for better consistency and ease of use by the regulated persons.

24. In addition to these aspects, other considerations of a more legal nature made it necessary to change the JAR structure. These issues stem from the different legal value of JARs and of Implementing Rules as these are Community law and need therefore to comply with a specific set of requirements on how they are drafted. In this context, one of the major legal reasons why the JAR structure cannot be kept is related to the multiplication of similar or even identical requirements included in various JARs by virtue of the way they are structured. For example, JAR-OPS is divided into JAR-OPS 1, which contains the requirements for aeroplanes, and JAR-OPS 3, which contains the requirements for helicopters. JAR-OPS 1 and 3 contains therefore many repeated requirements, those that were common to both categories of aircraft, alongside those that were really specific to each of the categories. Some of the common requirements are repeated *verbatim*, but in some cases slight differences in wording exist, stemming from the separate rulemaking processes for the two JARs, rather than from an actual specificity in the requirements for each category of aircraft. This lead to difficulties in the

[16] See footnote 3 above.

interpretation of the requirements and cannot be replicated in the Implementing Rules. It is a general principle of law that separate sets of provisions shall only exist when the requirements are different; if the legislator makes a distinction in the provisions, the European Court of Justice has concluded that this could only imply that different requirements were meant[17]. This general principle, when applied to rulemaking in the Community system, prevents the existence of two different provisions when the objective of the requirement is the same, contrary to what was done many times in the JARs. As paragraph 12 of the Joint Practical Guide[18] for drafting of Community legislation states, "enacting terms of a binding act shall not (…) repeat or paraphrase passages or articles from the Treaties or those which restate legal provisions already in force. Acts shall not include provisions which enunciate the content of other articles or repeat the title of the act. (…) Such repetition is dangerous, since any departure from the original wording may give the impression that a different result was intended, and even give rise to a sort of presumption to that effect". Therefore, it is not possible for the Implementing Rules to be organised in the same way as the JARs are.

25. Thus, the Agency started to work, with the help of a few experts from national aviation authorities, to develop an overall regulatory structure. This structure took into account ICAO Annexes and existing national or Community rules. It should address all fields of civil aviation safety regulation. Its objective was to establish a consistent regulatory structure that complies with the Community requirements for drafting legislation and that ensures the necessary links between the different regulations. The result of this work, called the General EASA Rules Template (GERT), together with envisaged working methods to develop the related rules, was presented to the Advisory Group of National Authorities (AGNA) and the Safety Standards Consultative Committee (SSCC) for discussion and comments.

26. The GERT was discussed by the AGNA and SSCC. However, these discussions never led to any formal decision on the adoption of the template, since it was clear that it would be difficult to discuss the structure in abstract, without going into detail about the content of the Implementing Rules. It was therefore decided that the rulemaking groups FCL.001 and OPS.001 would take the structure presented in GERT as a possible model for their work, but the final outcome would take into account the content of the requirements.

27. Based on the input from the FCL.001 and OPS.001 groups, and taking into account the objectives described above, the Agency developed a structure for the future Implementing Rules for air operations, flight crew licensing and third country operators. This structure, while inspired by GERT, is based on a 'tool-box' approach, designed to allow stakeholders to identify the Parts that apply to their specific activity and apply the relevant requirements. The structure is represented in Fig. 1 below. Since the work on air operations as well as organisation requirements and authority requirements was not concluded by the time NPA 2008-17 Implementing Rules for Pilot Licensing was published

[17] This is the principle at the basis of European Court Decisions such as in Case C-308/06, where the Court stated that "The general principle of legal certainty, which is a fundamental principle of Community law, requires, in particular, that rules should be clear and precise, so that individuals may ascertain unequivocally what their rights and obligations are and may take steps accordingly (see Case C-110/03 Belgium v Commission [2005] ECR I-2801, paragraph 30, and IATA and ELFAA, paragraph 68)." The jurisprudence of the Court of Justice applies this principle in the most general way, using it also as a basis to verify the legality of national measures, as in the Judgement of the Court of 2 February 1977 (Amsterdam Bulb BV v Produktschap voor Siergewassen. - Reference for a preliminary ruling: College van Beroep voor het Bedrijfsleven - Netherlands - Case 50-76), where the Court stated that national measures that alter, obstruct, or obscure the nature of the Community regulation are considered to be a breach of Community law: " The Member States may neither adopt nor allow national organizations having legislative power to adopt any measure which would conceal the Community nature and effects of any legal provision from the persons to whom it applies."

[18] Joint practical guide of the European Parliament, the Council and the Commission for persons involved in the drafting of legislation within the Community Institutions (http://europa.eu/eur-lex/lex/en/techleg/index.htm),

and as indicated in the explanatory note to this NPA, the structure underwent further modifications mainly related to the Part on organisation requirements and authority requirements. Parts and Subparts contained in this NPA are highlighted in grey.

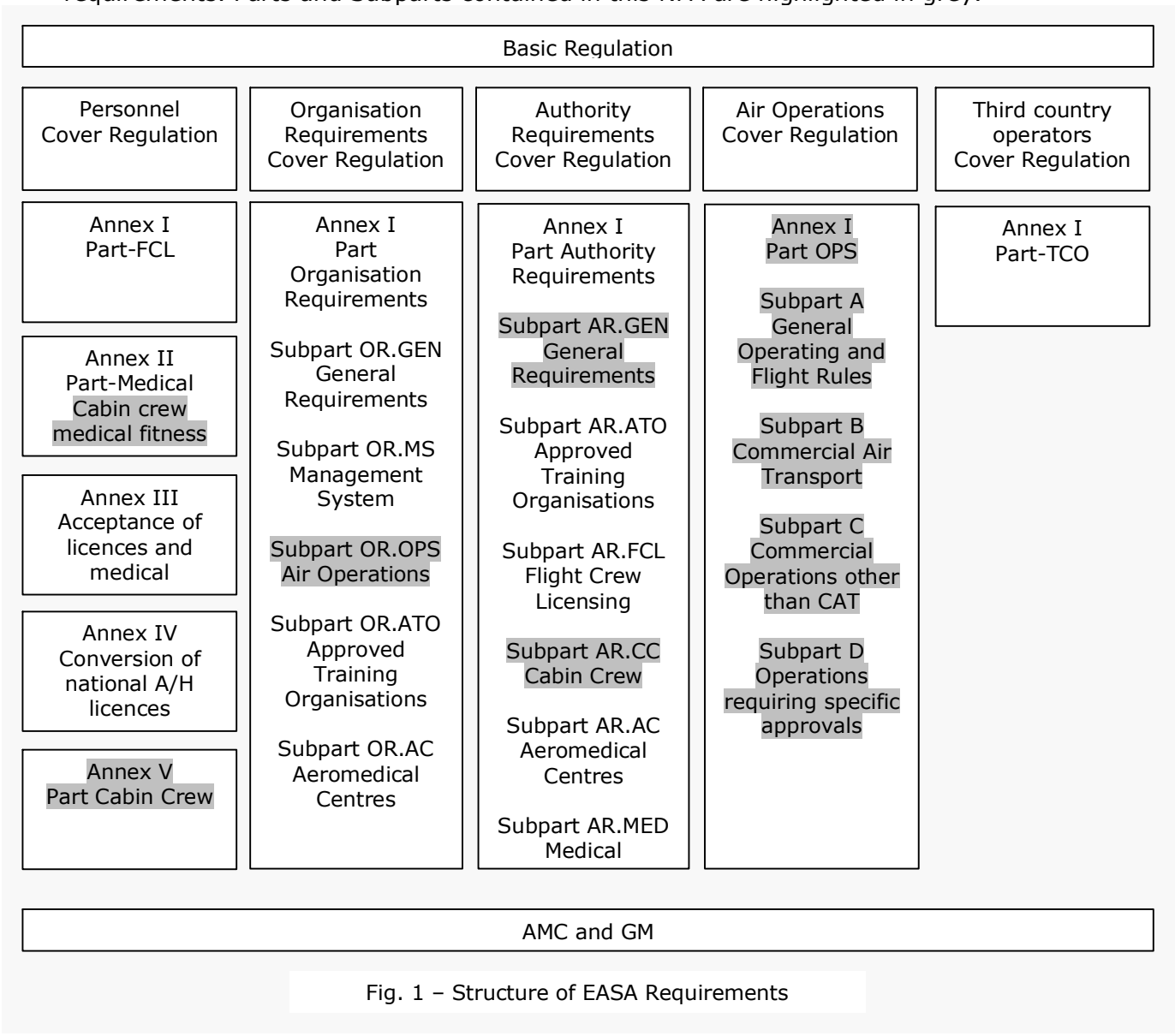

Fig. 1 – Structure of EASA Requirements

28. The proposed structure deviates from the JARs in one fundamental point: the separation between technical requirements (contained in the Personnel and the Air Operations Cover Regulations) from the requirements applicable to the organisation requirements and management system of organisations (contained in the Organisation Requirements Cover Regulation). This difference reduces the administrative burden on organisations, which perform more than one activity. The separate development of the JARs, specifically JAR-OPS and JAR-FCL, creates different requirements for organisations in each field of activity, which forces organisations that carry out more than one activity (for example, air operators that were also training organisations, or commercial air transport operators that were also maintenance organisations) to have different management structures for each of those activities, with the inevitable consequence of a multiplication of the resources needed. This situation not only creates difficulties for European organisations from an economic point of view, but also places a heavy burden on the resources and time organisations and national aviation authorities have to invest on oversight activities: multiple activities meant multiple management systems, and multiple audit/oversight processes.

29. The proposed structure also deviates from the structure of the current EASA Implementing Rules[19], in that requirements applicable to competent authorities are contained in a separate Regulation, and not in each 'operational' Regulation. This difference has a similar objective as the separation of organisation requirements from operational requirements: to streamline the activity of competent authorities, avoiding, as much as possible, the duplication of processes.

30. The proposed structural changes have the additional advantage to facilitate the introduction of requirements applicable to other fields of aviation, in accordance with the total system approach for aviation safety. The "Total System Approach" is based on the fact that the aviation system components – products, operators, crews, aerodromes, Air Traffic Management, Air Navigation Systems, on the ground or in the air - are part of a single network. Uniformity is achieved through common implementing rules adopted by the Commission. The Total System Approach eliminates the risk of safety gaps or overlaps, conflicting requirements and confused responsibilities. Regulations are interpreted and applied in one single way throughout the 31 EASA Member States and best practices are recommended.

31. The intention of the Agency is, after allowing some time for the consolidation of the new requirements, to amend the existing airworthiness Implementing Rules[20] to adapt them to the new structure[21]. Similarly, once the scope of the Basic Regulation is extended to the safety regulation of aerodromes and air traffic management[22] the proposed structure will allow an easy introduction of new Implementing Rules in these fields.

32. Consequently, the structure of the Implementing Rules regarding air operations is changed to take into account the legal issues referred to above as well as the extended scope. EU-OPS/JAR-OPS 1 and 3 only apply to aeroplanes and helicopters, while the new requirements shall also apply to other categories of aircraft, such as sailplanes, balloons, airships and tilt-rotor aircraft, as well as other types of operation such as non-commercial operations and 'aerial work'. Furthermore, as already explained in paragraph 24, the division between requirements applicable to aeroplanes and helicopters, as made in EU-OPS/JAR-OPS 1 and 3 cannot be kept. The new structure of air operations follows the logic of the Essential Requirements of Annex IV of the Basic Regulation in so far as there are general technical requirements applicable to all operations (Chapters 1 to 7) and additional organisational requirements for the operation for commercial purposes and operation of complex motor-powered aircraft (Chapter 8). Accordingly, the operational requirements are split into a Part Air Operations (Part-OPS containing the technical requirements to operate an aircraft) and the organisational requirements (containing those for non-commercial operators of complex motor-powered aircraft and commercial operators) located in the Part Organisation Requirements (Part-OR).

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19 Commission Regulation (EC) No 1702/2003 of 24 September 2003, laying down implementing rules for the airworthiness and environmental certification of aircraft and related products, parts and appliances, as well as for the certification of design and production organisations (OJ L 243, 27.9.2003, p.6). Regulation as last amended by Commission Regulation (EC) No 287/2008 of 28 March 2008 (OJ L 87, 29.3.2008, p.3).
and
Commission Regulation (EC) No 2042/2003 of 20 November 2003 on the continuing airworthiness of aircraft and aeronautical products, parts and appliances, and on the approval of organisations and personnel involved in these tasks (OJ L 315, 28.11.2003, p.1). Regulation as last amended by Commission Regulation (EC) No 376/2007 of 30 March 2007 (OJ L 94, 4.4.2007, p. 18).

20 See footnote 19 above.

21 By inserting what is now contained in Section B of the Implementing Rules in specific Subparts for these issues in both Part Organisation Requirements and Part Authority Requirements.

22 http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=COM:2008:0390:FIN:EN:PDF

33. Part OPS consists of 5 Subparts as follows:

Part Air Operations (Part-OPS)
Subpart A General operating and flight rules (OPS.GEN)
Subpart B Commercial Air Transport (OPS.CAT)
Subpart C Commercial operations other than commercial air transport (OPS.COM)
Subpart D Operations requiring specific approval (OPS.SPA)
Subpart E Third country operators

34. Subparts A to D apply to Community operators and are part of this NPA. Subpart E on third country operators will be addressed in a subsequent NPA related to Agency's rulemaking task OPS.004.

35. As regards the designation of Part Air Operations and its Subparts, a consistent numbering system has been applied that starts with the assignment of the three letter code "OPS" to indicate the Part. It is followed by a three letter code designation for the appropriate Subpart such as GEN, CAT, COM and SPA.

36. Subpart A of Part-OPS, OPS.GEN, contains general operating and flight rules applicable to all types of operations and aircraft. It contains the requirements for non-commercial operations with other than complex motor-powered aircraft as well as common technical requirements for non-commercial operations with complex motor-powered aircraft and commercial operations. Subpart OPS.GEN is composed of 6 Sections as follows:

Subpart A General operating and flight rules (OPS.GEN)
Section I - General Requirements (OPS.GEN.001)
Section II - Operational procedures (OPS.GEN.100)
Section III - Aircraft performance and operating limitations (OPS.GEN.300)
Section IV - Instruments, data and equipment (OPS.GEN.400)
Section V - Manuals, Logs and Records (OPS.GEN.600)
Section VI – Security (OPS.GEN.700)

37. A consistent paragraph numbering system has been applied, whereas every section starts with a new block of numbers by hundreds. The amount of paragraphs in Section II - Operational Procedures and Section IV - Instruments, Data and Equipment makes it necessary to go by blocks of two hundreds. Paragraphs within each section are numbered consecutively by 5, e.g. OPS.GEN.100, OPS.GEN.105, OPS.GEN.110, etc. The three digit number is sometimes followed by additional letters "A", "H" or "B" to indicate that the paragraph applies to one category of aircraft only, such as aeroplanes (A), helicopters (H) or balloons (B). This is for example the case with paragraph OPS.GEN.140.H Rotor engagement that is applicable to helicopters only. Where considered necessary, the aircraft category is also repeated in the paragraph title.

38. The order of paragraphs within each section of OPS.GEN goes from general to specific, so that each section starts with universal provisions for all categories of aircraft and operations and thereafter, as appropriate, becomes more specific for certain types of aircraft or operations.

39. Subpart B of Part-OPS, OPS.CAT, contains additional or specific requirements for commercial air transport operations and follows the same section structure as OPS.GEN.

Subpart B Commercial Air Transport (OPS.CAT)
Section I - General Requirements (OPS.CAT.001)
Section II - Operational procedures (OPS.CAT.100)
Section III - Aircraft performance and operating limitations (OPS.CAT.300)
Section IV - Instruments, data and equipment (OPS.CAT.400)

40. Subpart C of Part-OPS, OPS.COM contains additional or specific requirements for commercial operations other than commercial air transport and, again, follows the same section structure as OPS.GEN.

Subpart C Commercial operations other than commercial air transport (OPS.COM)
Section I - General Requirements (OPS.COM.001)
Section II - Operational procedures (OPS.COM.100)
Section III - Aircraft performance and operating limitations (OPS.COM.300)
Section IV - Instruments, data and equipment (OPS.COM.400)

41. As explained in paragraph 28 above, organisational requirements for operators are contained in the appropriate sections of Part-OR. Manuals, logs and records and security provisions are based on Chapter 8 of the Essential Requirements of the Basic Regulation and required from organisations only. The applicable requirements are therefore included in Part-OR.

42. Unlike JAR-OPS, an issue that is already sufficiently regulated in OPS.GEN is not repeated in OPS.CAT/OPS.COM. The means of compliance on how to achieve the safety objective and expected level may be different but the implementing rule shall still be the one of OPS.GEN. To facilitate usability of the Implementing Rules, a consistent numbering system across Subparts OPS.GEN, OPS.CAT and OPS.COM has been applied so that the same three digits are always used when addressing the same issue. For example, OPS.GEN.180 contains requirements on the routes and areas of operations; OPS.CAT.180 contains additional requirements on routes and areas of operations for CAT operators; as there are no additional requirements in OPS.COM, there is no OPS.COM.180.

43. There are cases where the requirements of OPS.CAT or OPS.COM may deviate from the requirements in OPS.GEN. For OPS.CAT, this is the case when OPS.GEN does not sufficiently address complex commercial air transport operations and the expected level of safety for such operations. This is for example the case as regards the selection of aerodromes when flying in instrument meteorological conditions; OPS.CAT specifies then a mandatory deviation to OPS.GEN which is indicated by the word "notwithstanding". For OPS.COM, this may be the case for specialised aerial tasks requiring specific provisions. This is for example the case with paragraph OPS.COM.175 Minimum flight altitudes, which allows flying below minimum altitudes if necessary for the specialised task.

44. Subpart D of Part-OPS, OPS.SPA, contains requirements for specific operations that require a specific approval.

Subpart D Operations requiring specific approvals (OPS.SPA)

Section I	General requirements (OPS.SPA.001.GEN)
Section II	Operations in areas with specified navigation performance (OPS.SPA.001.PBN/MNPS)
Section III	Operations with reduced vertical separation minima (OPS.SPA.001.RVSM)
Section IV	Low visibility operations (OPS.SPA.001.LVO)
Section V	Transport of dangerous goods (OPS.SPA.001.DG)
Section VI	Helicopter operations without an assured safe forced landing capability (OPS.SPA.001.SFL)
Section VII	Helicopter operations with night vision imaging systems (OPS.SPA.001.NVIS)
Section VIII	Helicopter hoist operations (OPS.SPA.001.HHO)
Section IX	Helicopter emergency medical service operations (OPS.SPA.001.HEMS)

45. For holders of an air operator certificate, such approvals will be an additional privilege on their certificate. For non-commercial operators, an approval will be issued by the State of Registry or State of the Operator, as appropriate, and in compliance with ICAO. The numbering system of this Subpart and its sections is similar to the one in Subparts OPS.GEN, OPS.CAT and OPS.COM with the exception that the three digits are followed by the appropriate designation of the section. Also here, consistent paragraph numbers have been used throughout all sections as follows:

001 General
005 Applicability
010 Equipment
015 Communication
020 Operating minima
025 Performance
030 Crew requirements
035 Manual
040 Information and documentation
045 Facilities

As not all sections contain provisions in all these fields, for example requirements on communication, there may be a larger step in numbering in one or the other section.

46. As already explained in paragraph 24 above, one of the principles of Community legislation is not to repeat requirements. The Implementing Rules therefore complement the Essential Requirements where additional implementing measures were necessary to detail them further. Due to this constraint and taking into account the Commission Communication on General and Business Aviation[23], the Implementing Rules where developed from a bottom-up approach starting with the Essential Requirements and then developing provisions for non-commercial operations with other than complex motor-powered aircraft, to which were added successively those for non-commercial operations with complex motor-powered aircraft and thereafter those applicable to commercial operations.

47. By following this approach, it was possible to elaborate a simpler structure as it was not necessary anymore to develop separate Appendices to the Implementing Rules to alleviate certain types of operations from the main requirements (operations with other than complex aircraft or operations within a local area or VFR day only operations), contrary to what had to be done in EU-OPS (Appendix 1 to JAR-OPS 1.005(a)) and JAR-OPS 3 (Appendix 1 to JAR-OPS 3.005 (f) and (g)).

48. Further details on each of the Part-OPS Subparts and respective sections can be found in the explanatory memorandum to Part-OPS, which is Appendix I to this NPA.

49. The Subpart Air Operations of the Part-OR is applicable to non-commercial operators with complex motor-powered aircraft and all commercial operators and is divided into 9 sections:

Section I	Operator requirements (OR.OPS.001.GEN)
Section II	Manuals, logs and records (OR.OPS.001.MLR)
Section III	Air operator declaration (OR.OPS.001.DEC)
Section IV	Air operator certification (OR.OPS.001.AOC)
Section V	Flight crew (OR.OPS.001.FC)
Section VI	Cabin crew (OR.OPS.001.CC)
Section VII	Technical crew (OR.OPS.001.TC)

[23] Communication from the Commission, "An Agenda for Sustainable Future in General and Business Aviation", COM(2007)869 final, 11 January 2008 (http://ec.europa.eu/transport/air_portal/internal_market/general_aviation/doc/en.pdf)

Section VIII Flight and Duty Time Limitations and Rest Requirements (OR.OPS.001.FTL)
Section IX Security (OR.OPS.001.SEC)

50. The numbering system resembles the one used in Part-OPS and fits into the general numbering system of Part-OR. As regards Sections I-IV, a consistent numbering has been ensured with Subparts OR.GEN and OR.MS, which are included in NPA 2008-22. This means that for example the paragraph on record-keeping is assigned the same three digits as its equivalent in Subpart OR.GEN. Each section starts with a paragraph scope (005) followed by a paragraph on definitions (010), if applicable.

51. The Subpart Air Operations of Part Authority Requirements (Part-AR) contains the requirements for national competent authorities, specific to air operations (in addition to Subpart AR.GEN). The Subpart AR.OPS contains four sections dealing with general requirements, certification of commercial air operators, specific operations approvals and the approval of flight time specification schemes.

52. The structure of AMC and GM follows the structure of the Implementing Rules. For each AMC or GM subheadings have been assigned to clarify the content of the applicable material.

53. To help stakeholders in their day-to-day activity and to facilitate the use of the new structure and requirements, the Agency is developing an e-tool providing for easy identification of the requirements applicable to any kind of activity. It has asked stakeholders for their input through a short survey on its website in October 2008 before finalising the document specifying the details for software development. However, due to the time needed to finalise this work, the tool will only be available when the final rules are adopted.

Content

54. The content of the present NPA transposes, for the larger part, the content of EU-OPS/JAR-OPS 1 and 3 as well as the material of JAR-OPS 0, 2 and 4. However, some differences in relation to EU-OPS/JAR-OPS 1 and 3 were necessary. A more detailed description of these differences can be found in the explanatory memorandums to Parts OPS and OR, which constitute Appendices I and II, respectively, to this NPA. However, a general explanation of the reasons for such differences is given in the following paragraphs.

55. The differences that can be found between the proposed requirements in this NPA and the requirements of EU-OPS/JAR-OPS can be generally explained through the different legal value of the requirements in the JAA and EASA systems. As already referred above, the JARs aimed at harmonising some elements of national executive rules (adopted at the level of regulators): they presumed therefore the existence of an appropriate legal basis (aviation basic act) and of a set of rules, which they would modify partially. They had no legal value themselves, and needed to be 'transposed' into the legal system of each JAA member by its competent regulator. At the contrary, the Implementing Rules that will originate from the present NPA will be adopted through a Commission Regulation, which is a legislative act (not an executive one). They will, therefore, be directly applicable in the Member States and binding in all their elements; this means that neither stakeholders nor Member States' competent authorities will be able to deviate from them, other than in the cases covered by Article 14 of the Basic Regulation (flexibility provisions[24]). This represents a significant difference with the JAA system, where JARs

[24] Article 14 of the Basic Regulation provides for the cases where Member States may derogate or grant exemptions from the provisions of the Basic Regulation and implementing rules, in order to safeguard safety and to face cases of operational needs. These derogations and exemptions are subject to the control of the European Commission.

were written by regulators to produce executive acts they would adopt nationally (subject eventually to national variants) and to which they would be able to grant exemptions in accordance with their own national procedures.

56. The specific nature of European Regulations would therefore justify in itself a difference in the way the requirements are presented, as opposed to the JARs. Since Member States may no more deviate or derogate from the requirements in the Implementing Rules (outside the cases of article 14 of the Basic Regulation), if the present regulatory structure would be maintained, the result would be a static system where any deviation or flexibility versus the Implementing Rules would have to be dealt with by the legislator, i.e. the Commission. To maintain the necessary level of flexibility it is imperative that only essential safety elements are contained in the rule, leaving non-essential implementation aspects to CS or AMC, so as to provide for a sufficient flexibility as required by the principle of subsidiarity. Such is the fundamental reason for the 'performance based approach' to rulemaking that the Agency has followed, which is not only the most adequate in the EASA institutional environment, but also probably the best suited for the implementation of the safety management system concept as required by ICAO[25].

57. With regard to commercial air transport by aeroplane, it can be argued that EU-OPS itself is already Community legislation and should have been transferred without any change. However, there are several reasons in addition to those mentioned in paragraph 24, why this was not done. First of all, the implementation of EU-OPS in Member States shows that its prescriptive requirements do not fit all operations. Up to today, numerous exemptions and derogations notified by Member States demonstrate the difficulties encountered to make it applicable, especially for smaller operators such as on demand charter. Also, as explained above, the philosophy of the ICAO Safety Management System is not inherent in EU-OPS which calls for a change to performance-based rulemaking, is not inherent in EU-OPS. Furthermore, EU-OPS does not include the AMC/GM material on the demonstration of compliance, which is necessary to provide for the appropriate flexibility.

58. Therefore, one of the main differences between the proposed Implementing Rules for air operations and the text of EU-OPS/JAR-OPS is precisely a change in the level of some texts, i.e. some provisions that were in EU-OPS/Section 1 of JAR-OPS have become AMC. This change was made whenever it was considered that such provisions were not essential safety objectives, but merely one of several acceptable means to comply with a certain safety objective. One example is the detailed content of the operations manual; while the main elements that shall be covered by such a manual are contained in the rules, the detailed description of its content was transferred to AMC, in order to allow operators to adapt it to their type and scope of operations. By doing so, it will also be faster to adopt an amendment to the AMC instead of going through an amendment of the Implementing Rules every time there is the need to make changes.

59. In order to ensure that this difference in the level of the text has no negative effect on safety and uniform implementation, the Agency proposes a change in the way AMC are used today. The related provisions are included in the draft Part-OR and Part-AR; they detail the nature of AMC and the way that both stakeholders and national competent authorities should use them. AMC will retain their non-binding nature but, similarly to what is already applicable to CS developed by the Agency, they will be part of the approval basis for organisations. Once an approval is granted to an organisation based on

[25] See, for example, Appendix C to ICAO Assembly Resolution A36-13 – Consolidated statement of continuing ICAO policies and associated practices related specifically to air navigation, where it is stated that panel activity shall support a performance based approach to SARPs development to the extent possible.

compliance with AMCs adopted by the Agency, they become binding for that particular organisation by virtue of their integration in the legal basis for the approval.

60. If and when an organisation wants to use alternative means of compliance, this will imply a change to the approval of that organisation and is therefore subject to prior control by the competent authority[26]. Provisions in Part-AR specify criteria to be used by the competent authorities when evaluating these alternative means of compliance; they will also create the obligation for authorities to both publish and notify to the Agency any alternative means of compliance they approve[27]. Upon receiving notification of such alternative means of compliance, the Agency will analyse them and, if it considers that they fully meet the safety criteria, will initiate a (streamlined) rulemaking task in order to adopt them as AMC. In case the Agency considers that such alternative means of compliance do not meet the safety criteria, action will be taken in accordance with the standardisation requirements and procedures. This system will guarantee an equal playing field, transparency and harmonisation, while still providing for the necessary flexibility. Initially this new system will only apply to air operations and flight crew licensing, but the intention of the Agency is to propose its extension to other fields of the EASA system later on.

61. Other differences that can be found between the content of the present NPA and the text of EU-OPS/JAR-OPS 1 and 3 stem from the extended scope of the Implementing Rules as compared to the JARs. As already explained above, the draft Implementing Rules contain requirements for all types of aircraft and operations. This extended scope made it necessary to complement the JARs.

62. Additionally, even though the latest amendments of EU-OPS/JAR-OPS 1 and 3[28] were taken as a basis for the development of the draft Implementing Rules, NPAs that were in an advanced phase of adoption in the JAA system were introduced in the present NPA[29]. The criteria for their inclusion were the maturity of the NPAs within the JAA rulemaking process and the necessity to align with ICAO Standards. Similarly, several JAA working papers were forwarded by the Operations Sectorial Team of the JAA to the Agency with a view including them in this NPA[30], depending on their level of maturity. The same can be said for JAA TGL, the content of which was in some cases introduced in the present

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26 A similar system is also applicable to organisations that do not need an approval, but will merely have to declare their activity (as is the case for non-commercial operators of complex motor-powered aircraft. In this case, the compliance with the Agency adopted acceptable means of compliance will be part of the organisation's declaration; this means that every time that the organisation intends to have an alternative means of compliance, it will have to notify to the competent authority a change to its declaration, which will be subject to oversight by the authority.

27 Similar provisions will apply to alternative means of compliance developed by the competent authorities themselves.

28 Annex III to Council Regulation (EEC) No 3922/91 of 16 December 1991 on the harmonisation of technical requirements and administrative procedures in the field of civil aviation (OJ L 373, 31.12.1991, p. 4). Regulation as last amended Commission Regulation (EC) No 859/2008 of 20 August 2008 (OJ L 254, 20.9.2008, p. 1). And associated JAA TGL 44 with the appropriate AMC/GM, Amendment 5 of JAR-OPS 3.

29 NPA-OPS 39B2 TAWS B, NPA-OPS 39B3 Pitot, NPA-OPS 39C Type IA FDRs & Fuel Codes, NPA-OPS 48A Data Link Recording Forward Fit, NPA-OPS 51 FAK/EMK, NPA-OPS 53 Noise Abatement, D-NPA-OPS 43 Circuit Protection Devices, D-NPA-OPS 57B RVSM, D-NPA-OPS 61 Selection of Aerodromes and In-Flight Fuel Management, D-NPA-OPS 65 Subpart N ICAO Amd. 29 Alignment, D-NPA-OPS 66 SMS, D-NPA-OPS 67 JAR-OPS 3 Type IVA FDRs, D-NPA-OPS 68 JAR-OPS 3 Use of Headsets, D-NPA-OPS 69 JAR-OPS 3 Hoist Operations, D-NPA-OPS 70 JAR-OPS 3 Dangerous Goods.
NPA-OPS 29, D-NPA-OPS 32, 47, 48B, 59, 62, JAA OPSG proposal on runway incursions, JAA HSST proposal on JAR-OPS 3 VHM, A-NPA-OPS 40B and JAA working paper on power controlled aircraft concept were transferred to the EASA inventory as future RM tasks. D-NPA-OPS 63 and the work of the JAA SWWG are subject of EASA tender 2007.OP.28.

30 OPSG WP Approach Ban Point, OPSG WP Critical Phase of Flight, HSST WP HEMS performance.

NPA[31]. Moreover, the JAA had published Safety Information Communications (SICs), some of which have been included in the OPS NPA as well[32].

63. Finally, changes were made to the content of EU-OPS/JAR-OPS requirements to ensure consistency with the Basic Regulation, existing Implementing Rules and the envisaged scope and content of the future ones related to air operations, organisation and authority requirements. These differences will be further explained in the explanatory memorandums.

64. In addition to changes in the content of the requirements, the draft Implementing Rules also present differences in drafting style in relation to the text of EU-OPS/JAR-OPS. As already mentioned, the drafting of Community legislative acts needs to obey to a specific set of principles[33]: they need to be drafted clearly, simply and precisely. The drafting of a European legislative act must be clear; easy to understand; unambiguous; simple and concise, containing no unnecessary elements; and precise, leaving no uncertainty in the mind of the reader. The need to follow these principles made it inevitable to change the way the requirements were drafted in EU-OPS/JAR-OPS, which was much more a technical manual than a legal text. One of the examples of the changes that were necessary to obey to this set of drafting principles was the need to develop provisions to complement the paragraphs in the JARs that left the determination of detailed requirements to the discretion of the national authorities. In order to ensure an adequate level of legal certainty, the definition of requirements on operators cannot be left to the discretionary powers of authorities: the essential elements need to be defined in the law. Therefore, in some cases changes were made to the text of the JARs in order to achieve this required level of legal certainty.

65. When developing the air operations Implementing Rules, the OPS.001 group realised relatively early that it did not have sufficient expertise for developing appropriate requirements for airships. Taking into account the feedback received from some national authorities, it was ascertained that there is presently only one commercial operator of airships in the Community. It was therefore suggested to postpone the task to address it as a separate rulemaking task at a later stage. The Agency decided to follow the recommendation of the OPS.001 group.

66. Similarly, there are presently no tilt-rotor-aircraft being used in civil aviation. The type certification process for one aircraft type (BA 609) is being carried out by the Agency at the moment but progresses slowly. Having this is mind and taking into account the lack of expertise within the OPS.001 rulemaking group, the group proposed to the Agency to exclude this category of aircraft from the initial Implementing Rules and to make it a dedicated rulemaking task to be handled in due time. The Agency decided to follow the recommendation from the group.

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[31] Section 4 Operations, Part 3 TGL 3, 11, 21, 23, 27, 29, 32, 34. TGL 12 was not included as it was considered outdated and instead the latest amendment of EU-OPS and associated TGL 44 to be used. TGL 25 and 40 are considered to need further review before including it into AMC/GM material. TGL 26 and 42 will be part of rulemaking task 21.039. TGL 28 was not considered necessary as the Agency provided AMC material addressing the issue sufficiently. TGL 36 is included in EASA RM task 20.002(b). TGL 43 and JAA OST action items to develop TGLs on DG and AWO training were transferred to the EASA inventory.
Section 1 General, Part 3 TGL 6, 7, 10, 17 are transferred through EASA RM task 20.006. TGL 2 has been published as AMC 20-4, TGL 3 as AMC 20-5, TGL 16 as 20-10. TGL 5 is considered a future task as it interrelates with rules of the air and aerodrome requirements.

[32] SIC No. 1, 3 and 4 are being reviewed, SIC No. 2 published in an updated version as EASA Safety Information Notice (SIN) 2008-29, SIC No. 5 and 6 included in this NPA, Sic No 7 is part of EASA RM task 20.002.

[33] These principles are defined in the Joint practical guide of the European Parliament, the Council and the Commission for persons involved in the drafting of legislation within the Community Institutions (http://europa.eu/eur-lex/lex/en/techleg/index.htm), as well as in the Commission's Manual on legislative drafting.

67. In addition, due to time constraints, other issues have to be deferred to future Agency's rulemaking tasks as they need more thorough discussions to elaborate substantiated proposal. This covers firstly, the issue of certain Annex II aircraft used in commercial air transport[34]. The legislator, by amending the Commission proposal, requires the development of appropriate Implementing Rules for historic aircraft, military aircraft and replicas of those aircraft to show compliance with the relevant Essential Requirements of Annex IV. Secondly, the emergence of Very Light Jets (VLJ) is also challenging the present set of air operations legislation. Although the Agency took great care to tailor the Implementing Rules to the type of aircraft being used, it would like to conduct a further review of these rules to check their proportionality to VLJs' operations. Thirdly, while transferring the equipment provision from EU-OPS/JAR-OPS 3, the Agency came across several exemptions for aircraft that were type certificated, or whose initial Certificate of Airworthiness was issued, before specified dates. The Agency would like to review whether such aircraft are still being used in commercial air transport. Fourthly, since commercial operations other than commercial air transport (aerial work) encompass so many specialised aerial operations, not all of these could be yet captured in the appropriate Implementing Rules and AMC with specific provisions. For the time being, the proposed rules mitigate the general risks. Specific risks inherent to specific aerial operations will need to be addressed. For this purpose, the subgroup on *commercial operations other than commercial air transport* developed a template that should assist operators in carrying out a risk assessment and establishing appropriate standard operating procedures for a specific type of operation. The Agency welcomes the establishment of industry best practices in that field and encourages trade associations, as well as individual operators, to develop alternative AMC and to notify them so that they can be published as AMC/GM material to Part-OPS following an appropriate consultation process. It intends moreover to make use of the new approach to AMCs described in the general part of this NPA, to produce as many alternative AMCs as possible. Lastly, due to the late finalisation of discussions in Council and Parliament as regards flight time limitations, specific FTL Certification Specifications beyond the transfer of EU-OPS Subpart Q could not be developed; while work is progressing to present more options, it seems more appropriate to consider the related proposals in due time through a fully-fledged rulemaking process.

68. Some of the OPS.001 subgroups discussed whether Search and Rescue (SAR) and fire fighting operations should be considered to be within the scope of the Basic Regulation.

69. Some subgroup members argued that SAR should be included in the scope of EASA as some of these operations are conducted through a contract between the State responsible for SAR and an operator conducting those operations, therefore qualifying under the definition of commercial operation and thus within the scope of the Basic Regulation. This interpretation is questionable as a provision of the regulation (such as the definition of commercial operation) cannot modify the scope of Community competence as set by Article 1(2), which does not include State Aircraft, defined as aircraft involved in the execution of military, customs, police and "similar services". The Agency has reached the conclusion that public services conducted under the responsibility of States are such "similar services" for the following reasons:

- Military, customs and police services have in common that they serve a public interest and or exercise a public service/duty (of care), which assumes that the service is provided by or under the control or responsibility of a government or public authority pursuing to fulfil a public interest. SAR and fire fighting operations share this common element of public interest and or service/duty, as well as governmental control.
- The fact that the governmental responsibility is exercised in one way or another by a private entity does not change per se the public character of these operations.

[34] Article 8(5)(g) of the Basic Regulation.

- Other (non-technical) arguments can be found, e.g. in ICAO Annex 12, which specifically states that governments are obliged to put in place a legal framework and establish authorities and create the necessary environment for SAR operations.[35]
- Advisory Circular Joint (ACJ) to Appendix 1 to JAR-OPS 3.005(d) states, inter alia, that SAR operations, because they are conducted with substantial alleviations from operational and performance standards; are strictly controlled; the crews are trained to the appropriate standard; and they are held at a high state of readiness. Control and tasking is usually exercised by the Police (or the Military or Coastguard in a maritime State) and mandated under State Regulations.

70. As a consequence the present draft does not cover explicitly SAR and fire fighting, nothing precludes Member States to give their own interpretation of "similar service" and to make the air operations Implementing Rules applicable to these kinds of operations if they so wish.

71. Another noteworthy discussion took place in the MDM.032 group on the applicability of the Implementing Rules for non-commercial operations with other than complex motor-powered aircraft. The MDM.032 group concluded in its 8th meeting in April 2007 that:

- for aircraft below 2 000 kg MTOM, the Essential Requirements of Annex IV of the Basic Regulation should be applied directly, complemented only by three Implementing Rules specifying additional requirements for communication/navigation equipment, safety equipment and fuel reserves;
- for aircraft above 2 000 kg MTOM, Part-OPS should apply.

72. However, the consultation (CRD[36] to A-NPA 14-2006[37]) on 'A concept for better regulation in General Aviation (Aircraft other than Complex Motor Powered Aircraft, used in Non-commercial activities)' led to a different conclusion:

- 'The vast majority of respondents believed there was a need to develop some kind of "light" Implementing Rules for air operation in order to further explain how compliance with the Essential Requirements was to be reached. Most of them mentioned the importance of considering the ICAO standards within these requirements.'

73. Together with the OPS.001 group, it was then:

- decided to introduce proportionate rules for these operations based on compliance with the objectives of Article 2 and Article 8 of the Basic Regulation, especially:
  - The obligations resulting from the Chicago Convention, by providing a basis for a common interpretation and uniform implementation of its provisions, and by ensuring that its provisions are duly taken into account in the Basic Regulation and its Implementing Rules.
  - Requirements and compliance demonstration to be proportionate to the complexity of the operations and the risk involved.
- felt inappropriate to introduce another category of aircraft (i.e. those below 2 000 kg) for which a lower than ICAO standards would be applied. The fact that only few Member States had filed differences to ICAO for these aircraft supports indeed the

[35] The USA has reached the same conclusion and Title 14 US Code Paragraph 1.1 (ii) states that SAR is to be considered a governmental function.

[36] See CRD 14-2006: http://www.easa.europa.eu/ws_prod/r/doc/CRD-14-2006%20Explanatory%20Note.pdf

[37] See A-NPA 2006-14: http://www.easa.europa.eu/ws_prod/r/doc/NPA/final%20A-NPA%2014-2006%20General%20Aviation%20(15.08.06).pdf

fact that there are no wide spread European 'best practices in the field of air operations' in the sense of Article 8 of the Basic Regulation.

Differences with ICAO

74. The Agency also proposes in some aspects, to have requirements that differ from those in ICAO Annex 6 Part I, II and III. The reasons for such differences are highlighted hereunder.

75. Concerning definitions, "Area Navigation (RNAV)", "Extended flight over water", "Navigation Specification", "Performance Based Navigation", "RNP type" and "Required Communication Performance (RCP)" have not been included in OPS.GEN.010. These terms are either explained in the rule itself or referred to in the relevant AMC/GM. An exception is the definition of RCP as, for the time being, no application of RCP exists. The Agency will nevertheless initiate a rulemaking task to implement any application as soon as it becomes known that it will be established in the future.

76. On the issue of performance aeroplanes, it is important to highlight that the proposed provisions do not allow operations in IMC conditions with single propeller-driven aeroplanes. As already explained in the explanatory memorandum for Section III of OPS.CAT (Aircraft Performance and Operating Limitations (OPS.CAT.300)), the Agency will address this issue through a separate rulemaking task to be started early 2011.

77. Regarding helicopter performance, differences are related to the transfer of JAR-OPS 3 performance requirements. ICAO provision contain in paragraph 3.1.2 "appropriate consideration for achieving a safe forced landing" and 3.1.4 "appropriate consideration for the risk associated with a power-unit failure" whereas JAR-OPS 3 allowed operation subject to a specific approval being granted by the National Authority to operate without an assured safe forced landing capability in the event of a power-unit failure, provided the conditions as specified in JAR-OPS 3.517 and related Appendix and ACJ material were met. The Agency has opted for the transfer of JAR-OPS 3 since incident and accident data did not indicate a need to change.

78. Regarding performance class 3 operations in Instrument Meteorological Conditions (IMC), the Agency also transferred the JAR-OPS 3 provisions that do not allow this operation for commercial air transport. The Agency included a task in its rulemaking programme to address this issue in the future. It is intended that this activity be progressed under the rulemaking procedure, which includes stakeholder consultation and impact assessment.

79. Instruments, data and equipment aeroplanes:

- The pressure altitude reporting transponder is required only if stipulated by the applicable airspace requirements. The OPS.001 group considered this piece of equipment to support an airspace requirement and therefore limited it to these circumstances.
- The ICAO standard to have equipment to operate in accordance with the prescribed RCP type(s) has not been included as no RCP application exists at the moment. RCP was not included in EU-OPS either.
- The date of applicability for Data Link recording has been postponed from 1 January 2005 to the date of entry into force of the implementing rule in accordance with Article 70 of the Basic Regulation. The proposed provisions do not require retrofit of data link recorders as this is subject of a separate rulemaking task. The reason for this is that the relevant JAA NPA introducing this ICAO SARPs in the JARs was not considered mature by the JAA Committee for the transfer in the initial implementing rules.

- The date of applicability of the ICAO type IA Flight Data Recorder is also postponed. The proposed provisions require recording the parameters listed in the EUROCAE ED 112 only when the aeroplane is first issued with an individual certificate of airworthiness on or after 2010. The reason is that up to date Member States are not compliant with the ICAO SARP which require aeroplanes to be equipped with type IA FDRs after 1st of January 2005. The proposed provision is a compromised solution resulting from the assessment of the comments made to JAA NPA-OPS 39C. Retrofit of the latest FDR standards will be subject of a separate rulemaking task.
- The cockpit voice recorder (CVR) recording duration is directly transferred from EU-OPS and includes a shorter duration than that required by ICAO. This issue will reviewed in a separate rulemaking task at a later stage.
- Weather-detecting equipment and emergency power supply for the stand-by artificial horizon are not required for complex motor-powered aircraft used in non-commercial operations. They are, however, required for commercial air transport operations (OPS.CAT.415 and OPS.CAT.416). The reason for not including the weather detecting equipment for the time being is that after discussions within OPS.001 group, it was considered not to be to be suitable to be widely applied. The reason for not requiring an emergency power supply for the time being is that it is already required by the applicable airworthiness code for large turbojet aeroplanes. However, the Agency is interested in knowing stakeholders' views with regard to the possibility of introducing such equipment for the operation of large turbojet aeroplanes operated non-commercially.
- In general, ICAO equipment recommendations as far as they differ from EU-OPS have not been addressed as the assessment whether or not they were implemented in Member States has not been performed. This assessment will be part of a separate rulemaking task.

80. Instruments, data and equipment helicopters:

- The Implementing Rules do not contain provisions for oxygen supply for pressurized helicopters. The reason is that JAR-OPS 3 did not include such provision. Moreover, there is no pressurised helicopter operated in the Community for the purpose of civil aviation.
- The date of applicability of the ICAO type IVA FDR is postponed. The proposed provisions require recording the parameters listed in the EUROCAE ED 112 only when the helicopter is first issued with an individual certificate of airworthiness on or after 2010. The reason is that up to date Member States were not compliant with the ICAO SARP which require helicopters to be equipped with type IVA FDRs after 1 January 2005. The proposed provision is a compromised solution resulting from draft JAA NPA-OPS 67.
- The CVR recording duration is directly transferred from JAR-OPS 3 and includes a shorter duration than that required by ICAO. This issue will reviewed in a separate rulemaking task at a later stage.
- The implementing rules do not require helicopters to be equipped with a counter drum pointer altimeter because it was not required in JAR-OPS 3. The justification given by the former JAA Helicopter Sub-Sectorial Team (HSST) was that it is questionable whether the ICAO Standard is sustainable for helicopters operating predominantly below Flight Level (FL) 100.

81. Stakeholders are requested to comment specifically on whether they agree with the differences that are proposed, taking into account that these differences, if adopted, will need to be notified by the Member States to ICAO. The Agency will, of course, provide all the support necessary to Member States when and if necessary.

Transition measures

82. Transitional measures for the entry into force of the new requirements shall be included in the Air Operations Cover Regulation, taking into account the time needed for preparing their implementation, as well as the possibility to grandfather existing certificates issued under sufficiently similar conditions. However, such provisions can only be elaborated when more is known about the exact content of the final rule and of its impact; as a consequence this NPA does not include detailed proposals on how the transition from national requirements to the Implementing Rules will take place. This will be further elaborated in the CRD and included in the Agency's final Opinion. To be in a position to well prepare such measures the Agency would like to know the views of stakeholders in this respect taking into account the following underlying principles for transition.

83. Similarly to what happened with the Implementing Rules for airworthiness[38], the Agency intends to propose that any certificates issued by Member States in accordance with EU-OPS/JAR-OPS requirements and associated procedures are considered as having been issued in accordance with the Basic Regulation and the Implementing Rules. This will guarantee a smooth transition for all the holders of certificates that were fully compliant with EU-OPS/JAR-OPS. Moreover, this will also reduce the amount of work for national authorities. The intention is to then establish a maximum period for certificate holders to correct any finding that may derive from the change from the national rules to the Community rules. This of course will not apply in Member States, which did not fully apply JAR-OPS 3 and for which a reasonable period for adaptation will be necessary.

84. In the case of cabin crew, it should be noted that the cabin crew attestation required by Article 8(5)(e) of the Basic Regulation is much wider in scope and nature than the attestation of safety training required by EU OPS.

85. While this latter attestation is an evidence of training issued to the cabin crew member after successful completion of the initial safety training, the Basic Regulation requires that the cabin crew attestation covers the compliance with all applicable requirements, including aircraft type-specific training and recurrent training, and not only those related to initial training.

86. This difference could be considered as justifying conversion measures to verify that all applicable requirements are complied with before a cabin crew attestation is issued. However, in the case of Commercial Air Transport, the proposed Implementing rules have been developed on the basis of the cabin crew training requirements of Annex III of Regulation (EEC) No 3922/91, thus in accordance with Article 8 (6) of the Basic Regulation. For this reason, it is considered that all cabin crew training completed in accordance with EU-OPS requirements should be credited in full.

87. As regards medical fitness, the Agency envisages proposing that medical certificates issued in accordance with national rules remain valid until the first medical check after the entry into force of the Implementing Rules, thus allowing the issuance of the cabin crew attestation. The following medical checks would then be carried out in accordance with the requirements applicable for cabin crew medical fitness. Credit may also be envisaged for occupational medical checks of cabin crew required by national health regulations if they comply with all applicable medical requirements set in the Implementing Rules. In the other cases, a sufficiently long period of time should be provided for, possibly the full transition time foreseen by the Basic Regulation in order to ensure that medical fitness of each cabin crew is assessed in accordance with the new rules before the cabin crew attestation is issued.

[38] See footnote 18 above.

V. Regulatory Impact Assessment

According to the formal Rulemaking Procedure of the Agency[39], a full regulatory impact assessment (RIA) has to be introduced as a part of any proposed new rule. However, the development of a RIA in this task has presented particular difficulties. Firstly, when developing the NPA, it was apparent that development of a general RIA for the task would present limited value: the choice on whether or not to regulate air operations had already been made by the legislator, as well as the choice to maintain the system established by EU-OPS/JAR-OPS in as much as possible. On the other hand, the proposals in this NPA are still subject to change, taking into account the comments received during the public consultation. Therefore, it was decided that the evaluation of the impact of the proposed new rules should only be made where the NPA either deviated from EU-OPS/JARs, or went beyond their scope.

The Agency developed therefore partial RIAs for specific issues. The RIA will be published as NPA 2009-02g together with the NPA on third-country operators.

VI. Appendences

Appendix I - Explanatory memorandum to Part-OPS

1. The purpose of this memorandum is to provide more detailed explanations on the proposed Implementing Rules for air operations than the ones offered in the general part of the Explanatory Note to this NPA. These explanations focus on the new elements and on the differences with EU-OPS/JAR-OPS 1 and 3. The Agency has also prepared cross-reference tables to help the comparison between the proposed requirements and EU-OPS/JAR-OPS 1 and 3, which can be found in Appendix V to this NPA.

Subpart OPS.GEN - General Operating and Flight Rules

2. Subpart OPS.GEN has been developed on the basis of ICAO Annex 6 Part II and Part III Section III International General Aviation. It has been complemented by common requirements for commercial operations derived from EU-OPS/JAR-OPS 1 and 3 as well as requirements for non-commercial operations with complex motor-powered aircraft (draft JAR-OPS 2) and aerial work (draft JAR-OPS 4). Account has also been taken of draft JAR-OPS 0. It therefore contains requirements applicable to all air operators, whether operating non-commercially or commercially and for all categories of aircraft.

Section I - General Requirements (OPS.GEN.001)

3. Section I of Subpart OPS.GEN defines the scope of the requirements (OPS.GEN.001) and specifies who the competent authority for Part-OPS (OPS.GEN.005) is. The definition of competent authority has been aligned with the one used in Part-M[40]. This section contains furthermore definitions (OPS.GEN.010), based on the ones in EU-OPS/JAR-OPS 1 and 3. Some definitions are new; they were inserted because of the larger scope of Part-OPS as compared to EU-OPS/JAR-OPS. Conversely, some terms that were defined in EU-OPS/JAR-OPS were not kept because they were not considered necessary, either because they did not appear anymore in the remaining text of Part-OPS, or because their meaning was explained sufficiently in the rule; in this case, further explanations were included in the related AMC and GM.

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39 See footnote 2 above.

40 Regulation (EC) No 20242/2003 on the continuing airworthiness of aircraft and aeronautical products, parts and appliances, and on the approval of organisations and personnel involved in these tasks, Annex I (Part M). Article M.1.

4. The section contains the responsibilities and authority of the pilot-in-command (OPS.GEN.015) complementing paragraph 1.c, 2.a.3, 7.c and 7.d. of the Essential Requirements (ERs). Particular provisions have been introduced for balloon operations. The following paragraph addresses crew member responsibilities (OPS.GEN.020), complementing paragraph 1.a, 3.a.1 and 3.a.2 of the ERs. The crew member responsibilities include the obligation to comply with the appropriate flight time limitations of the operator based on paragraph 7.f and 7.g of the ERs. The pilot-in-command is required not to start the flight, or to land the aircraft at the nearest suitable aerodrome, in the case of crew member's fatigue. At the same time, crew members who are subject to the FTL limitations of more than one operator are required to inform each operator about their activities. The GM explains what actions the pilot-in-command can take to control rest during flight and how crew members can assess personal fatigue and make optimal use of rest possibilities.

5. This section then continues with the requirements for crew members to communicate in a common language (OPS.GEN.025) and the transport of dangerous goods (OPS.GEN.030).

6. OPS.GEN.030 addresses the transport of dangerous goods, including the general exceptions contained in the ICAO Technical Instructions[41] (T.I.) as required by paragraph 1.d of the ERs. The implementing rule further requires measures to be taken to prevent inadvertent carriage of dangerous goods and the obligation to report any accident or incident involving dangerous goods or the finding of undeclared or misdeclared dangerous goods. The related AMC/GM is for the majority based on the JAA NPA-OPS 70 which dealt with the update of JAR-OPS 3 Subpart R to harmonise it with the latest version of the T.I.

Section II - Operational Procedures (OPS.GEN.100)

7. As already explained above, this section follows the ICAO Annex 6 SARPs and draft JAR-OPS 0; it supplements Chapter 2 and 3 of the ERs. As Subpart OPS.GEN covers commercial operations, EU-OPS/JAR-OPS 1 and 3 have also been taken into account, in particular elements of their Subpart B, D and E. AMC/GM have been provided for non-commercial and commercial operations, taking into account various categories of aircraft used therefore.

8. The provisions can be grouped into provisions addressing flight preparation (e.g. external surfaces being clear of any deposit that may affect the performance or controllability of the aircraft), passenger safety related provisions (e.g. briefing, seating, use of safety belts, smoking, use of Portable Electronic Devices) and safety of flight operation (e.g. the use of aerodromes adequate for the type of aircraft and operation, IFR operating minima, selection of alternate aerodromes, departure and approach procedures, noise abatement, minimum flight altitudes, approach ban and fuel requirements).

9. On 31 July 2007, the Agency published the Advance Notice of Proposed Amendment (A-NPA) 2007-11[42] to consult stakeholders on appropriate measures to be taken to address potential safety hazards associated with the residues of fluids used for the ground de-icing and anti-icing of aircraft. In the Comment Response Document (CRD)[43], the Agency described the outcome of the consultation and the possible course of action to address these potential safety hazards. One of the proposed actions was to consider the input from stakeholders on "OPS.GEN.100 Ice and other contaminants" and the associated AMC2 and GM1, 2, and 3. The Agency welcomes any comment on how to improve the

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41 International Civil Aviation Organization (ICAO) Technical Instructions for the Safe Transport of Dangerous Goods by Air (Doc 9284).

42 http://www.easa.europa.eu/ws_prod/r/doc/NPA/A-NPA-2007-11.pdf

43 http://www.easa.europa.eu/ws_prod/r/doc/CRD%202007-11.pdf

existing material. It should be noted that, for the time being, the regulation of ground de-icing / anti-icing service providers is out of the Agency's remit.

10. In the provision related to the use of aerodromes/operating site (OPS.GEN.145), the term operating site has been introduced to cater for those operations that do not depart from, or land on, an aerodrome. The Agency definition for 'aerodrome' includes the 'heliport' as defined by ICAO. The term heliport is therefore not used in the proposed rules. The Agency considers that there is no difference with ICAO, since the proposal takes all the elements of the ICAO definition into account. The definition of "helideck" and "elevated heliport" have been amended to reflect the used definition of "aerodrome".

11. The provisions related to the commencement and continuation of approaches (OPS.GEN.200) include a proposal of the JAA OPSG to replace the outer marker, previously used as a reference point, by a height criteria of 1 000 ft above the aerodrome. As new runways are generally not fitted with an outer marker, the reference point specified in the rule will no longer exist at many aerodromes. The height of 1 000 ft above the aerodrome is universally applicable and considered to facilitate implementation since it is applicable to all instrument approaches. The proposal is considered a safety enhancement because it simplifies the rule and thereby reduces flight crew workload during an instrument approach. All operators will have the same approach ban point for every approach to every runway instead of a different approach ban point for each runway, which is possible under the existing rule. In addition 1 000 feet is commonly used as a reference point for the stabilisation of the approach in Instrument Meteorological Conditions. Therefore using that reference, which is a trigger for other checks, reduces the risk of error or omission. In the same way, Air Traffic Control will know the approach ban point of all approaching aircraft. The only negative impact that could be seen was that operators may have to change their Operations Manuals and modify flight crew training.

12. The provisions on commencement and continuation of approach (OPS.GEN.200) transpose Subpart E Appendix 1 to EU-OPS 1.430 and JAR-OPS 3.430. However, the criteria allowing to continue the approach below Decision Altitude/Height (DA/H) or Minimum Descent Altitude/Height (MDA/H) when "Other visual references specified by the Authority" are available raised difficulties as it could not be identified what these other visual references could be. As this may lead to variations in the application of the rule, the Agency is willing to put more precise criteria in the Implementing Rules and is therefore inviting Member States to indicate what other visual references they may have specified so that these may be incorporated, if necessary.

13. The general section addresses only VFR operations and IFR operation including CAT I operations. Those parts of Subpart E of EU-OPS/JAR-OPS 1 and 3 addressing Low Visibility Take-off above with Runway Visual Range (RVR) of less than 150/200 m (depending on the category of aircraft) and approaches below CAT I minima have been transferred to OPS.SPA.LVO as a special approval is required. For the same reasons it includes provisions for non-precision approaches and CAT I operations, while operations below these minima, which are subject to a specific approval, are in OPS.SPA which is further explained below. The requirements are based on the CAT requirements as these should be the same minima for all type of operations and regardless of which aircraft is being used.

14. In addition to the requirements transferred from the second amendment of EU-OPS, JAA NPA-OPS 53 on noise abatement has been taken into account to provide for alignment with ICAO PANS OPS Volume 1[44], which requires operators to define two departure

[44] ICAO Doc 8168-OPS/611 PANS-OPS Volume I - Flight Procedures - Fifth Edition 2006 (Amendment 2, dated November 22, 2007 Incorporated)

procedures for each aeroplane type. The related text can be now found as an AMC for commercial air transport operations of complex motor-powered aeroplanes.

Section III - Aircraft Performance and Operating Limitations (OPS.GEN.300)

15. Section III of Subpart OPS.GEN contains aircraft performance and operating limitations, which are based on draft JAR-OPS 0, 2 and 4 as well as EU-OPS/JAR-OPS 1 and 3. They supplement essential requirement number 4 of Annex IV of the Basic Regulation. The first three paragraphs address mass and balance while the following paragraphs address aircraft performance.

16. The first paragraph states that the aircraft loading, mass and balance needs to be within the limitations specified in the appropriate aircraft documentation (OPS.GEN.300).

17. The following paragraph addresses the weighing of aircraft (OPS.GEN.305). All aircraft need to be weighed before initial entry into service. Other than complex aircraft used in non-commercial operations need to be reweighed after major modifications while specific reweighing intervals are specified for complex motor-powered aircraft used in non-commercial operations and all aircraft used in commercial operations. Weighing has to be accomplished by a Part-M Subpart F or Part-145 organisation, as applicable.

18. The third paragraph on mass and balance requires a mass and balance system (OPS.GEN.310) specifying the criteria that need to be determined for each flight of a complex motor-powered aircraft used in non-commercial operations or any aircraft used in commercial operations.

19. Almost all provisions from EU-OPS/JAR-OPS 1 and 3 Section 1 and 2 have been transferred to the OPS.GEN Implementing Rules as well as to the associated AMC/GM material in OPS.GEN. However, a considerable amount of prescriptive text has been downgraded to AMC/GM material as it was repetitive or provided for several means of compliance. However, a few EU-OPS/JAR-OPS 1 and 3 Section 1 and 2 provisions were not transferred as explained hereunder.

20. The aeroplane definition of maximum structural take off mass and maximum zero fuel mass were not transferred as these terms were not used throughout JAR-OPS 1 Section 1 and 2.

21. EU-OPS/JAR-OPS 1/3.625 (a) included a provision stating that the load sheet must be accepted by the pilot in command/commander by signature or equivalent. Interpretative/Explanatory Material (IEM) OPS 1/3.1055(a)(12) makes an attempt to define equivalent electronic signatures. Directive 1999/93/EC on a Community framework for electronic signatures[45] establishes a framework for the acceptance of electronic signatures. There is therefore no reason to transfer the "or equivalent" and related IEM as acceptance of electronic signature is already addressed and solved by Community law.

22. Appendix 1 to EU-OPS/JAR-OPS 1.605 (a)(2) describes the necessary processes to obtain fleet masses. Fleet masses can be used for a fleet or group of aeroplanes of the same model and configuration. The dry operating mass and Centre of Gravity (CG) position of an individual aeroplane has to stay within certain tolerances in order to be dispatched with the fleet values. Subparagraph (a)(2)(ii)(C) of EU-OPS states that "If an individual aeroplane has, when compared with other aeroplanes of the fleet, a physical, accurately accountable difference (e.g. galley or seat configuration), that causes exceedance of the fleet tolerances, this aeroplane may be maintained in the fleet provided that appropriate corrections are applied to the mass and/or CG position for that aeroplane." This provision

[45] http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2000:013:0012:0020:EN:PDF

is in conflict with subparagraph (a)(2)(i) which defines a fleet as aeroplanes of the same model or configuration. Subparagraph (a)(2)(ii)(C) is therefore not transferred. The aircraft has to be dispatched under its individual dry operating mass and CG position or may be part of a separate fleet.

23. Subparagraph (a)(2)(iii)(C) of Appendix 1 to EU-OPS/JAR-OPS 1.605 (a)(2) is a repetition of subparagraph (a)(2)(i) and has therefore been deleted.

24. Subparagraph (a)(4)(ii)/(a)(2)(ii) of Appendix 1 to EU-OPS/JAR-OPS 1.605 (a)(2) includes provisions for the weighing by the manufacturer or approved maintenance organisation and the related AMC gives means of compliance for the accuracy of weighing equipment. As this is not addressed to the operator, but is already included in the maintenance procedures and instructions, it has not been transferred.

25. Subparagraph (c)(2) of Appendix 1 to EU-OPS/JAR-OPS 1/3.605 (a)(2) details that the loading of freight needs to be consistent with the data used for calculating the aircraft mass and balance. As OPS.GEN.310 requires the establishment of a system and of its associated procedures, detailing inter alia aircraft loading under the supervision of qualified personnel, as well as load distribution, preparation and disposition of all documentation, the above point is already addressed and does not need therefore to be specifically mentioned again; the related procedure shall be specified in the operations manual.

26. Subparagraph (c)(4) of Appendix 1 to EU-OPS/JAR-OPS 1/3.620(g)/(h) specifies that operators may deviate from revised standard masses provided the procedure of the appendix is used. As this process is not different from the establishment of revised standard masses, the subparagraph is deleted.

27. Subparagraph (c) of Appendix 1 to EU-OPS/JAR-OPS 1/3.625 requires prior approval of the authority to use onboard mass and balance systems. If these systems provide for the appropriate reliability and accuracy compared to computerised systems on the ground, there is no reason why this should be subject to a specific approval of the authority. The operator has to demonstrate in any case that it complies with the requirements.

28. ACJ OPS 1.605 gives explanations for the terms "mass" and "weight" and their use within JAR-OPS and aircraft/operator manuals. The Implementing Rules continue to use the term "mass", as was done in the JARs, consistent with the convention used in ICAO Annex 5, which recognises that the term "weight" may be continued to be used as long as it does not cause any confusion for aircraft operations. As this does not need to be said in additional AMC material the ACJ has not been transferred.

29. In addition, JAA NPA-OPS 39C on fuel codes has been taken into account and the civilian fuel codes has been added in the text of GM OPS.GEN.310(a)(3).

30. It should be noted that the Agency decided to launch a study following a report submitted in October 2006 by the Standard Weights Working Group of the Joint Aviation Authorities. This report stated that a number of factors had changed since the standard mass values were determined and recommended a Pan-European survey be conducted. The aim of the Agency's study is therefore to identify and assess the various factors that have changed for passenger and baggage weights and their impact on the standard mass values used to determine the mass and balance of aircraft. The consultant in charge of the study has undertaken a first series of weighing survey during the summer 2008 covering several airports selected to realistically represent the different regions of Europe after analysis of air passenger traffic data. A second series of weighing survey is presently taking place. Results including conclusions and recommendations as relevant are expected to be delivered during the first semester of 2009. The results of the survey will allow, as necessary, appropriate regulatory actions to be taken and should contribute

to identify statistical principles for further reviewing standard mass values on a regular basis.

31. The provisions of OPS.GEN related to performance develop those contained in Chapter 4 of the Essential Requirements. The provisions for non-commercial operation with complex motor-powered aircraft are based on Amendment 27 to ICAO Annex 6 Part II 'International General Aviation-Aeroplanes' and Amendment 13 to ICAO Annex 6 Part III Section III 'International General Aviation-Helicopters'. In addition, some further considerations were given to draft JAR-OPS 0 and 2.

32. OPS.GEN.315 has been discussed at length. Finally, the Agency decided that the text from the draft JAR-OPS 0 would be the most appropriate for the purpose of the general part. It entails the fact that any operated aircraft shall be able to land safely or glide clear of a built up area in the event of an emergency. 'At an approved operating site' has been added to prevent a helicopter pilot from landing in the centre of a city without approval.

33. OPS.GEN.320.A(a) introduces mass limitations for complex motor-powered aircraft and for aircraft involved in commercial operations. The proposal stems from the JARs and has been extrapolated and generalised to cover also aeroplanes involved in commercial operations. OPS.GEN.320.A(b), OPS.GEN.325 and OPS.GEN.330 are general performance requirements based on ICAO Annex 6 Part II and Part III Section III.

Section IV - Instruments, Data and Equipment (OPS.GEN.400)

34. The provisions of this section are mainly based on draft JAR-OPS 0 and 2, as well as Amendment 27 to ICAO Annex 6 Part II 'International General Aviation-Aeroplanes' and Amendment 13 to ICAO Annex 6 Part III Section III 'International General Aviation-Helicopters'. They supplement chapter 5 of the essential requirements. However, as draft JAR-OPS 0 and 2 as well as ICAO Annex 6 Part II and Part III Section III were developed for the operations of aeroplanes and helicopters and not to other categories of aircraft (e.g. balloons, gliders), it has been necessary to elaborate the requirement applicable to these last categories of aircraft by making use of regulations adopted by different EASA Member States or foreign regulators.

35. As explained in the general presentation of this NPA, the general approach adopted by the Agency when developing the equipment requirements was to put the safety objectives in the Implementing Rules and to include the technical specifications of the different instrument, data or equipment in AMC and GM. Moreover, it was found more appropriate to facilitate their use to put at the same place both the requirement to use an equipment and the procedure to be followed for such use, contrary to the JARs, in which these provisions were sometimes addressed in different Subparts (Subparts D of draft JAR-OPS 0, 2 and 4, EU-OPS/JAR-OPS 1 and JAR-OPS 3 versus Subpart K and Subpart L of the same JARs). In the proposed Implementing Rules, the equipment requirements also incorporate the prescribed use of the equipment. Prescribed use of the equipment is also addressing voluntary installation of that equipment. This is particularly the case for the oxygen requirement (OPS.GEN.440). There were however instances where this could not be done because the use or action did not relate to a single item of equipment. For example, ground proximity detection is not only related to a TAWS system (OPS.GEN.465.A) alone, as ground proximity can also be detected by visual reference outside or by an altimeter.

36. Moreover, some changes were necessary because the Basic Regulation, which only addresses the mitigation of safety risks, does not provide the legal basis for their transposition or to avoid overlaps with other Community Legislation, in particular that

related to health and safety at work or the protection against radiations. It has therefore been necessary to delete the JAR requirement related to the cosmic radiation indicator[46].

37. The provision of OPS.GEN.400(a) is mainly based on ICAO Annex 6. The provision of OPS.GEN.400(b) and OPS.GEN.400(c) are based on JAR-OPS 0.630. However, instead of providing a list of equipment which do not need an equipment approval (e.g. according to European Technical Standards Order, ETSO), the requirement has been generalised and split between equipment which require an equipment approval from those which do not need to have an equipment approval. It includes those instruments and equipment which are required by Part-OPS and any applicable airworthiness code as well as any additional equipment which is not required by Part-OPS, but is carried on a flight. The reason for doing so is to ensure the safety of the aircraft and its occupants whatever the instrument or equipment carried on board and/or used to operate the aircraft. OPS.GEN.400(d) and (e) contain requirements about the accessibility and positioning of the instruments and equipments for the crew usage.

38. OPS.GEN.405 contains equipment requirements applicable to each aircraft type (e.g safety belts and harnesses, fire extinguishers and spare electrical fuses).

39. OPS.GEN.410 and OPS.GEN.415 contain the flight instruments and equipment that are required for conducting VFR and IFR. While in EU-OPS/JARs, the instrument requirements included the exact numbers and type of instrument, the proposed Implementing Rules require the necessary means of measuring and displaying the required information. The reason for doing so was to better reflect the concept of performance based regulation and to align with related amendment to ICAO Annex 6 Part II and future plans to align ICAO Annex 6 Part I and Part III with this approach. This change is not considered to have any impact.

40. OPS.GEN.410 introduces additional instruments and equipment requirements for aircraft operating under VFR, which cannot be maintained in a desired attitude without reference to one or more flight instruments as suggested in draft JAR-OPS 0. Although this is not required in ICAO Annex 6 Part II and Part III, it is considered a useful tool to improve safety.

41. Additionally, there are a few differences with regards to communication and navigation equipment as the proposal goes away from the prescription of the exact equipment contrary to what is done in EU-OPS/JAR-OPS. The reason is mainly to align European rules with ICAO Standards, but also to take into account that fast development of technology in the fields of communication, navigation and surveillance; the use of prescriptive equipment requirements may indeed affect the swift implementation of new technology needed to improve safety or airspace capacity. It is also questionable whether these equipment requirements that have been historically incorporated in ICAO Annex 6 and in JAR-OPS 1/3 and lately in EU-OPS are to be included in an airspace requirement. Moreover, the link with the applicable airspace requirements in European airspace (e.g. Single European Legislation) has also been included.

42. Following the implementation of NPA-OPS 49 it seemed there was no need to change JAR-OPS 3 as the noise environment surrounding a helicopter whenever it is operating, is very different to that of an aeroplane and the wearing of headsets for noise attenuation and communication is generally a normal practise at all times within a helicopter. However, a subsequent review of the equivalent JAR-OPS 3 text revealed that there was evidence of some ambiguity and that issuing a clearer directive, mirroring the intent of

[46] Council Directive 96/29/Euratom of 13 May 1996 laying down basic safety standards for the protection of the health of workers and the general public against the dangers arising from ionizing radiation (Official Journal L 159, 29/06/1996 P. 0001 – 0114).

NPA-OPS 49, would be an improvement. JAR-OPS 3 requires the fitment and availability of headsets and microphones for certain circumstances, does not direct their use. Although this could be seen as obvious, it would be clearer if a statement was made requiring crew members to wear the headsets and boom microphones, or equivalent, in all circumstances including those covered by JAR-OPS 3, resulting in draft NPA-OPS 68 'Use of Headset'. Although that NPA was never published by the JAA, it has been taken into account when drafting the Implementing Rules and its AMC. The Agency considers that there will be no impact on the majority of operators who already voluntarily comply with this requirement. Some operators may need to introduce amendments to their procedures to direct when to use the headsets. There will be no cost to operators as there is no requirement to fit any additional equipment. There are no environmental or social impacts associated with this proposal and the assurance of crew hearing protection will provide a social benefit.

43. The use of the wording "boom microphone or equivalent" permits the use of new headset technologies where the microphone is integrated into the headset without the use of any boom. Although there are no requirements for the carriage of throat microphones within EU-OPS/JAR-OPS, the proposed rule would not prevent their use if required.

44. Due to the nature of their operations, many helicopter operators provide their crew with aviation helmets incorporating both the function of headphones and that of microphone instead of the more common "open" headsets. In order not to inadvertently preclude the use of helmets, it has been decided to include some clarifying text into AMC and GM.

45. The Agency also included the following JAA NPA-OPS in the instrument, data and equipment requirement of OPS.GEN; the majority of them aligning the JARs with the latest amendments to ICAO Annex 6:

- NPA-OPS 39B2 Terrain Awareness & Warning System (TAWS)
- NPA-OPS 39B3 Pitot heater failure,
- NPA-OPS 39C Type 1A FDRs (Fuel Codes in the OPS.GEN Section III Aircraft performance and operating limitations),
- NPA-OPS 48A Data Link Recording forward fit (the applicability date has been delayed to align with the latest possible date of applicability of the implementing rules, Art. 70 of the Basic Regulation),
- NPA-OPS 51 First Aid Kit/Emergency Medical Kit (FAK/EMK); and
- draft NPA-OPS 67 JAR-OPS 3 Type IVA FDRs.

46. The transposition of JAR-26[47] is subject to NPA 2009-01[48]. As it is explained in this NPA, different options were considered for the transposition of this JAR, including the possibility to include these additional airworthiness requirements as part of the equipment requirement. However, this option has not been selected for the reason explained in that NPA. The idea is that these type of retroactive equipment applications which were triggered by an amendment to an airworthiness code (e.g. CS-25) reacting to a safety problem are handled by the Agency through a 'Safety Directive' as explained in the NPA 2009-01. In order to ensure that operators comply with these requirements, relevant obligations in the associated Parts (Part-OR, Part-OPS and Part-CC) have been included.

47. OPS.GEN.550 is based on EU-OPS/JAR-OPS 0/1/3.030 and develops further the essential requirement 8.a.3. The proposed provisions for the Minimum Equipment List (MEL) (OPS.GEN.550) do not contain any GM for the time being. The Agency is currently

[47] JAA JAR-26 Additional Airworthiness Requirement for Operators
[48] http://www.easa.europa.eu/ws_prod/r/doc/NPA/NPA%202009-01.pdf

working on the JAA TGL 26 'MEL Policy' in order to propose relevant guidance to operators for the MEL development; in particular, a policy on how to treat 'non safety related equipment' when it becomes inoperative. The Agency proposal for this GM will be subject of a separate NPA. The reason for this delay is the link between this GM and the outcome of the rulemaking task 21.039 as much as the Master Minimum Equipment List (MMEL) is concerned since the MEL is based on the MMEL.

Section V- Manuals, Logs and Records (OPS.GEN.600)

48. The section on Manual, Logs and Record was included in OPS.GEN to specifically cater for non-commercial operations with other than complex motor-powered aircraft. The applicable complimentary requirements for non-commercial operations with complex motor-powered aircraft and commercial operations can be found in OR.OPS.

49. Following the opinion of the OPS.001 group, one paragraph on the documents and information to be carried on board has been included (OPS.GEN.600). Certain alleviations have been introduced for flight returning to the aerodrome of departure, flights conducted within local area; and balloon operations. A second paragraph (OPS.GEN.605) contains additional information to be carried by non-commercial operators of complex motor-powered aircraft, as well as aircraft used in commercial operations. Here again, alleviations contained in Appendix 1 to EU-OPS 1.005(a) and Appendix 1 to JAR-OPS 3.005 (f) and (g) have been transferred.

50. The third paragraph of this section (OPS.GEN.610) contains the requirement of a journey log book in accordance with ICAO SARPs.

51. The last paragraph (OPS.GEN.615) requires the pilot-in-command to make available the required documents when requested to do so by a competent authority, e.g in case of a ramp check.

Section VI - Security (OPS.GEN.700)

52. The last section of OPS.GEN addresses disruptive passenger behaviour (OPS.GEN.700) as well as the reporting of acts of unlawful interference (OPS.GEN.705). These provisions are derived from ICAO SARPs.

Subpart OPS.CAT - Commercial Air Transport (OPS.CAT)

53. Commercial air transport is being defined as an aircraft operation involving the transport of passengers, cargo or mail for remuneration or hire in accordance with ICAO Annex 6 Part I.

Section I - General Requirements (OPS.CAT.001)

54. This section specifies the scope and contains the provision related to the transport of weapons. Moreover, a paragraph on the information on emergency and survival equipment has been included.

Section II - Operational Procedures (OPS.CAT.100)

55. This section is based on EU-OPS/JAR-OPS 1 and 3 and includes specific requirements for commercial air transport operations. Some of the requirements, e.g. selection of aerodromes, deviate from the requirements in OPS.GEN as the level of safety for commercial air transport operations is expected to be higher. This section also includes the ETOPS requirements as this is a specific commercial air transport operation whose approval is part of the AOC process (not a separate on unlike the types of operation covered by Subpart OPS.SPA).

56. In addition to the provisions transferred from the second amendment of EU-OPS, JAA draft NPA-OPS 61 *Selection of aerodromes and In-flight Fuel Management* allowing the use of one en-route alternate plus one destination alternate versus two destination alternates in certain conditions (OPS.CAT.155.A) has been taken into account.

57. It is the responsibility of the operator to establish procedures as relevant to its operations and aircraft in order to meet its obligations as regards the operations and the carriage of passengers. Recently, concerns were voiced regarding the conditions under which special categories of passengers, i.e. persons requiring special assistance and/or conditions, should be carried; also highlighting that EU-OPS fail to give clear requirements to operators in this area. The Agency therefore reviewed carefully the current EU-OPS requirements and proposes a revised text in this NPA that aims at providing improved clarity to the operators as well as to the passengers concerned. The proposed text has been developed giving also regard to persons with reduced mobility, thus to ensure that Regulation 216/2008 and the related Implementing Rules for air operations as well as Regulation 1107/2006 can be complied with. Comments on this matter would be particularly welcome.

Section III - Aircraft Performance and Operating Limitations (OPS.CAT.300)

58. This section III contains the performance provisions for commercial air transport. Its bases are Subparts F, G, H and I of Amendment 2 of EU-OPS, the appropriate section 2 of JAR-OPS 1 and Amendment 5 to JAR-OPS 3. These provisions are in line with ICAO Annex 6 Part I (Chapter 5) and Part III (Chapter 3). These provisions develop further chapter 4 of the Essential Requirements as well as the provisions included in Section III of Subpart OPS.GEN. They shall be read in conjunction.

59. The Implementing Rules contain the common safety objectives that substantiate the Essential Requirements; the related technical content is now contained in AMC material. Although it was argued that some of the technical content should be included in an Appendix to the rule, the Agency decided to transfer all technical requirements into AMC to provide for more flexibility and allow the introduction of alternative creative solutions without the need to change the law or go through a heavy exemption process, consistent with the principle of subsidiarity (see the explanations provided for in the general introduction of this NPA).

60. It is also important to mention that the performance classes applied by the operators shall be part of the Operations Manual and any change to this performance part of the Operations Manual shall be approved by the competent authority as it constitutes a change to the certificate (i.e. the AOC). The new approach to AMC material will ensure nevertheless a consistent and uniform implementation of the factors applicable to each performance class for each type of aircraft and phase of flight.

61. There is a main difference between the way the performance requirements have been drafted for aeroplanes and helicopters. While the proposed Implementing Rules do not define the performance classes applicable to aeroplanes, they do for helicopter. The reason for this different approach is that the use of the performance criteria is only applicable for ensuring the capability of the aeroplane to fly safely in all phases of flight, while for helicopters the performance class criteria are also used to ensure the safety of certain types of operation by requiring the installation of additional instruments and equipment to mitigate the risks associated to these performance classes (e.g. off-shore operations).

62. As regards aeroplane performance, the technical details which are applicable to each performance class (Performances Class A, B or C) reflect the factors applicable to each type of aircraft (regarding the maximum certificated take-off mass, maximum passenger seating configuration and type of engines) for each phase of flight and are contained in

the AMC and GM. Another reason for this approach is that the requirements and provisions in EU-OPS were based on the assumption that the existing aeroplanes were type certificated in accordance with the applicable airworthiness codes issued by the Agency (CS-23 and CS-25) or in accordance with JARs (JAR-23 and JAR-25). However, not all the aeroplanes used in commercial air transport operations are certificated in accordance with these airworthiness codes. This was already anticipated by the JAA and it was therefore permitted in EU-OPS/JAR-OPS 1.470(d) to apply for different performance classes if an equivalent level of safety is maintained. As a consequence, the proposed performance requirements do not contain the definition of aeroplanes performance classes (A-B-C) but the definitions have been inserted in the applicable AMC.

63. When elaborating the requirements, the Agency has taken into account all factors that could affect the performance of the aeroplane for the different phases of a flight, such as the mass of the aircraft, the operating procedures, the pressure-altitude at the aerodrome, the temperature, the wind component, runway gradient and condition of the runway, as it is already required in the Essential Requirements in Annex IV of the Basic Regulation.

64. OPS.CAT.316.A contains general requirements (extracted from Subparts F, G, H and I of EU-OPS/JAR-OPS 1) for the determination of the performance classes applicable to the aeroplane, as well as for the use and supplement of the necessary data provided in the Aeroplane Flight Manual (AFM).

65. OPS.CAT.326.A contains the general requirement for take-off for aeroplanes which shall take into account the distance available on the runway. In order for operators to properly comply with this requirement, they need to take into consideration the status of the runway surface (wet, contaminated or dry runway), the take-off mass and the power of the aeroplane, according to its performance class which are included in the relevant AMC. It complements OPS.GEN.320.A.

66. The same applies to take-off obstacle requirements. OPS.CAT.327.A requires an aeroplane to clear all obstacles by lateral distance, horizontal or vertical distances depending on the size and type of engines. In order to clear all the obstacles, an operator needs to consider, depending on the performance of the aeroplane, other factors such as the mass of the aeroplane, the pressure altitude and ambient temperature at the aerodrome, the wind component, the visibility, etc. These numerous factors are contained in the AMC as they depend on the performance class of the aeroplane.

67. Concerning the en-route requirements for aeroplanes (OPS.CAT.340.A), a set of four requirements is proposed: en-route requirements for single-engined aeroplanes, requirements for multi-engined aeroplanes with all engines operative, requirements for two-engined aeroplanes with one engine inoperative and requirements for aeroplanes with three or more engines with two engines inoperative. The technical details and factors applicable to each performance class are included in the AMC and GM for the reasons explained here above and in the general introduction of this NPA. It complements the general provisions of OPS.GEN.325.

68. The main safety objective for landing is that an aeroplane is able to land safely at any aerodrome. OPS.CAT.345.A clarifies the general provision for different types of landings. Specific safety requirements according to the performance class of the aeroplane are, again, addressed in AMC for the reasons recalled here above. It complements the provisions of OPS.GEN.330.A.

69. Although the transposition of the existing provisions in EU-OPS/JAR-OPS 1 leads to the prohibition to operate single propeller-engined aeroplanes in Instrumental Meteorological Conditions (IMC) (refer to OPS.CAT. 316.A, paragraph (b)), the intention of the Agency is

to start a future rulemaking activity to amend the regulation based on the recommendations of the study it conducted on the issue[49] and the former NPA-OPS 29 SE-IMC.

70. The definition of performance classes for aeroplanes contained in EU-OPS/JAR-OPS 1 do not apply to single turbojet powered aeroplanes and therefore, the proposed regulation do not contain provisions for these type of aeroplanes. As already explained above, single turbojet powered aeroplanes (e.g. very light jets (VLJ)) are out of the scope of this NPA and will be the subject of a separate rulemaking task. Meanwhile and until the Agency has completed this rulemaking activity, it is likely that aircraft certification will use special conditions to determine the aircraft performance classes.

71. As regards helicopters, all provisions from JAR-OPS 3 have been transferred. However, it has been considered more appropriate not to address all exemptions as separate appendices to a general applicability rule, but to contain all performance information in one general applicable section and all the specific alleviations/exemptions in a separate section for which specific approvals remain to be required. This also implied that the AMCs had to be reviewed and split, where necessary.

72. All alleviations related to operations without an assured safe forced landing capability contained in JAR-OPS 3 have been included in Subpart OPS.SPA.SFL. These alleviations pertain to those helicopters that would otherwise be required to be operated in performance class 1; performance class 2 and 3 alleviation for the take-off and landing phase and for performance class 3 also under certain circumstances for the en-route phase,

73. OPS.CAT therefore only contains provision on when to apply performance classes 1, 2 and 3 for commercial air transport operations, and refers to OPS.SPA.SFL for the alleviations. The related AMC/GM incorporates all the technical provisions that should be met by the operator in order to demonstrate compliance with the applicable performance class.

Section IV - Instruments, Data and Equipment (OPS.CAT.400)

74. The bases used for the development of this section are Amendment 2 of EU-OPS, amendment 13 of JAR-OPS 1 and Amendment 5 to JAR-OPS 3. In addition, existing regulations in different EASA Member States or foreign regulators have also been considered for the drafting of the requirements applicable to type of aircraft not covered by EU-OPS or JARs (e.g. balloons if used in commercial air transport). Additionally, draft JAA NPA-OPS 43 Circuit Protection Devices has been included.

75. The requirement for a safety harness (Upper Torso Restraint system as an acceptable means of compliance) for each passenger seat for persons over the age of 24 months installed in aeroplanes with a maximum certificated take-off mass of less than 5 700kg and with a maximum passenger seating configuration of less than 9, which was not included in EU-OPS/JARs, has also be added. This stems from the safety recommendations following fatal accidents contained in EASA Safety Information Bulletin (SIB) 2008-24[50]. A more detailed Regulatory Impact Assessment (RIA) developed by JAA

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[49] See: http://www.easa.europa.eu/ws_prod/r/doc/research/Single%20Engine%20Operations%20in%20IMC%20and%20at%20Night%20Risk%20Assessment%20Issue%202.pdf

[50] SIB 2008-24 'Passenger Restraint System on Normal, Utility and Aerobatic Category Aeroplanes with a Maximum Takeoff Weight of less than 5 670 kg and nine Passenger Seats or less' (http://www.easa.europa.eu/getpdf.php?file=ws_prod/c/doc/Safety_Info_Reports/SIB%202008-24%20Upper%20Torso%20Restraint%20Installation.pdf)

for the draft of JAA NPA-26 20 originator of this additional requirement is provided in Annex A to this explanatory memorandum.

76. The Agency transposed all of the exemptions included in the Appendices to OPS 1.005/JAR-OPS 3.005, except for one contained in Appendix 1 to JAR-OPS 3.005(f) paragraph (d)(12) related to the carriage of supplemental oxygen when flying above 10 000 ft up to 16 000 ft (excursions of short duration up to 16 000 ft, where short duration is not quantified and assumed to be based on pilots acclimatised to high altitudes) . The Agency, supported by several international documented research studies, considers that 10 000 ft should be considered the upper limit for human (flight crew) performance without supplemental oxygen. It is one of aviation physiology pillars and many related aviation regulations are based on it (e.g. ICAO) allowing for only a maximum of 30 minutes up to 13 000 ft under certain conditions. If it is considered necessary to allow excursion of a short duration up to 16 000 ft for certain operations, Member States may make use of the flexibility provided for by, Article 14 of the Basic Regulation.

77. The provision of EU-OPS/ the JAR allowing the use of extinguishing agent Halon 1211 (bromochlorodifluoro-methane, $CBrCIF_2$) or an equivalent extinguishing agent of hand fire extinguishers located in the cockpit (which is included in AMC OPS.CAT.405) may be modified as per result of an ICAO Directive[51] that may prohibits its use. Other types of agents will be proposed once the studies conducted by ICAO and by the European Commission are completed.

78. Although the Agency was advised by some experts to require a vibration health monitoring system (draft JAA NPA-OPS XX on JAR-OPS 3 VHM) for helicopters, the Agency proposes to wait for the outcome the rulemaking task 27&29.019, which is addressing the feasibility of such requirement for new built helicopters and will provide the basis to decide on the appropriate mechanism, regulation (e.g. Part-OPS, Part-M or Part-21) and timeframe to require the fitment of such a system.

Subpart OPS.COM - Commercial Operations other than Commercial Air Transport (OPS.COM)

79. Commercial operations other than commercial air transport are generally referred to as aerial work. Even though these terms are used interchangeably, the Agency does not provide a definition of aerial work as it came to the conclusion that in accordance with the Basic Regulation the scope of commercial operations other than commercial air transport is understood to be much wider than what is generally considered as aerial work; e.g. Subpart OPS.COM also applies to commercial parachute flights or training flights.

Section I - General Requirements (OPS.COM.001)

80. This section contains a paragraph on scope. It furthermore contains specific provisions for the use of dangerous goods in specialised aerial tasks, e.g. for crop spraying. Also certain measures are proposed for the use of weapons in specialised aerial tasks.

Section II - Operational Procedures (OPS.COM.100)

81. This section contains specific requirements for aerial work. It requires firstly the briefing of the operational personnel participating in aerial work tasks. Such personnel can be crew members on board as well as persons on the ground supporting the aerial work activity. Secondly, it requires the mitigating procedures to be applied when flying below the minimum flight altitudes.

[51] ICAO Assembly Resolution A36-12 regarding the replacement of Halon.

82. Following the work of the OPS.001 subgroup on aerial work, the Agency also proposes a concept of standard operating procedures for specialised operations to cater for the variety of activities that can be undertaken as aerial work. Operators are required to develop standard operating procedures or code of practices for their activity, based on a risk assessment, to ensure that proper mitigating measures are in place when conducting a specialised operation. The risk assessment should describe the activity in detail, identify the relevant hazards, analyse the causes and consequences of events that might cause injury to, or loss of, life or that might cause damage to, or loss of, property; consequently the operator shall establish procedures to mitigate the risk to an acceptable level. The Agency provided GM (GM OR.OPS.100.GEN(d)) on how such risk assessment should be carried out and appropriate standard operating procedures should be developed.

83. The AMC/GM to Subpart OPS.COM includes on AMC on helicopter external load operations (Appendix 1 to AMC OPS.COM.270 SOPs - specialised operations other than the transport of persons, cargo or mail) that was developed on the basis of such a risk assessment and that addresses the aspects of that particular operation.

Section III - Aircraft Performance and Operating Limitations (OPS.COM.300)

84. The performance requirements are those that were envisaged in draft JAR-OPS 4 for application to aeroplanes and helicopters. However, as regards helicopters, one provision was not transferred as it was considered to be incompatible with the risks associated to operations over a congested hostile environment. While it is required indeed that helicopters involved in such operations are certificated in Category A or equivalent standard (the equivalent standard being defined in appropriate AMC/GM), the said provision would allow such operations with helicopters certified in Category B, or equivalent, as far as "specific measures are taken, to prevent risk to persons and to alleviate risk to property, on the surface." JAR-OPS 4 does not give the criteria for "exceptionally", nor does it provide criteria for the "specific measures". Consultations with helicopter experts involved in the drafting of this provision showed that this was directed to certain helicopter types and that it would depend on the discretion of the State whether such helicopters would be allowed to operate over a congested hostile environment after having carried out the appropriate risk assessment. Since it only affects a few helicopter types, it is considered more appropriate that Member States make use of the flexibility provisions of Art. 14, whenever it is necessary to address such exceptional cases. Nevertheless, the Agency invites stakeholder's comments on this subject in order to assess the extent of the issue.

Section IV - Instruments, Data and Equipment (OPS.COM.400)

85. The basis used for the development of this section is draft JAR-OPS 4 developed by the JAA.

86. The Agency, advised by OPS.001 and its subgroup in charge of proposing draft provisions applicable to aircraft involved in commercial operations other than commercial air transport, reached the conclusion that most of the equipment already required in Part OPS.GEN is sufficient for the safe operation. However, some general equipment provisions associated with the specific risks of these commercial operations are included in this section (e.g. OPS.COM.486 Emergency egress from the cockpit). Other equipment provisions associated to the specific activity are included in the individual procedures for the particular activity.

87. It is important to highlight that the provision in OPS.COM.465.A Terrain Awareness Warning System (TAWS) – Aeroplanes is more an alleviation than a requirement. The reason for this is that the proximity to the ground of aircraft performing specific aerial work activities makes it impracticable to have the TAWS on during these operations.

However, the Agency considers that precautions and procedures should be included in the Operations Manual and part of the AOC approval.

Subpart D Operations Requiring Specific Approvals (OPS.SPA)

Section I - General requirements (OPS.SPA.GEN)

88. This section contains the scope, definitions and administrative procedures related to the issue of a specific approval for a special type of operation and for the requirements to ensure the continued validity of such an approval.

89. Generally, all these operations allow the operator either access to certain airspace or to conduct operations to lower limits, for which certain hazards have to be controlled to an acceptable level. This may be done through the implementation of mitigating procedures or specialised equipment by the operator that requires specific attention by the competent authority before granting the approval and hence the privilege for the operator to conduct these specific operations.

90. As mentioned in the general section of the explanatory note, the conduct of these special type of operations, if not specifically mentioned to be restricted to commercial air transport operators, is open to all operators and therefore contained in this specific Subpart.

91. As regards non-commercial operators, the approval has to be issued by the State of Registry in accordance with ICAO Annex 6 Part II.

Section II - Operations in Areas with Specified Navigation Performance (OPS.SPA.SPN)

92. The approval of operations in areas with Specified Navigation Performances such as Required Navigation Performance (RNP), Area Navigation (RNAV) and Minimum Navigation Performance Specifications (MNPS) is generally included in Amendment 2 of EU-OPS. The requirements are mainly addressing the required equipment (OPS 1.865 and OPS 1.870). These requirements are complemented by additional multidisciplinary AMC stemming from former JAA Temporary Guidance Leaflet (TGL) developed mainly by the former Communications Navigations Surveillance/Air Traffic Management (CNS/ATM) Steering Group (SG) of the JAA. Some of these AMC are currently addressing airworthiness and a few operational considerations for applicants seeking airworthiness and/or operational approval from the competent authority to conduct these specific operations. Some of them have been already transposed from the JAA TGL and AMC into EASA AMC-20[52]. As an AMC does not create any obligation on an operator, the provisions in this section have been included to address the obligation for an operational approval to conduct these type of operations.

93. The proposed provisions introduce the ICAO concept of Performance Based Navigation and refer to ICAO Doc 9613 Performance Based Navigation Manual. They also provide a link to the airworthiness approval of the aircraft equipment by the Agency. References to the applicable provisions in EASA AMC-20 are summarised in tables as GM for operators. Moreover, the link with the applicable airspace requirements in European airspace (e.g. Single European Sky Legislation) has also been included.

Section III - Operations with Reduced Vertical Separation Minima (OPS.SPA.RVSM)

94. The approval of operations in airspace with Reduced Vertical Separation Minima (RVSM) is addressed today in Amendment 2 of EU-OPS (OPS 1.241). The equipment requirement

[52] EASA AMC 20 General Acceptable Means of Compliance for Airworthiness of Products, Parts and Appliances

is included in a different provision (OPS 1.872) as well as the requirements to have procedures included in the operations manual, which are only referred to in Appendix 1 to OPS 1.1045). The GM for operators seeking an approval for conducting RVSM operations was included in the JAA Temporary Guidance Leaflet (TGL) No. 6 RVSM[53].

95. The proposed provisions integrate the three requirements explained in the paragraph above in a global provision for an operator seeking approval for conducting RVSM operations. It addresses aircraft equipment, procedures and crew training. The provisions provided in the AMC and GM are mainly based on the technical content of the TGL 6 RVSM. With rulemaking task 20.006[54], the Agency plans to update and transfer the technical content of various remaining multidisciplinary JAA TGL, including TGL 6 RVSM into EASA AMC-20 so as to complement the operational aspect of the provisions proposed in this NPA.

Section IV – Low Visibility Operations (OPS.SPA.LVO)

96. This section incorporates NPA-OPS 41, which had been introduced in Amendment 2 to EU-OPS, but in which the AWOSG of the JAA found a few mistakes; they are corrected in the Implementing Rules and AMC.

97. Another change compared to the EU-OPS/JAR-OPS is that an approval is now also required for all LVTO's with an RVR below 400 m. This is due to the fact that EU-OPS/JAR-OPS 1/3.450 required the training programme for LVO operations to be approved by the authority and Appendix 1 to 1/3.430 required a specific approval for take-off below specified minima, referring to table 1 contained in that appendix. The Agency therefore decided that all LVTO's with an RVR below 400 m needed to be included in the approval for LVO. It is considered a minor impact, since the approval is only an administrative action resulting from the already existing requirements mentioned above.

98. It is also applicable and open to all modalities of aviation, and anticipates the wide introduction of VLJs, which are also expected to perform IFR operations to these limitations.

99. Following the proposed amendment to EU-OPS, The Agency has received a few proposals from the former All Weather Operations SubGroup (AWOSG) of the JAA to amend the LVO section in EU-OPS/EASA's Implementing Rules. Following discussions in the Air Safety Committee about some of these proposals, it was decided to transpose the proposal changing the table containing the failed or downgraded equipment that did not take into account the changes related to EVS and HUDLS. All other proposals made by the AWOSG will be included in a future rulemaking task.

Section V - Transport of Dangerous Goods (OPS.SPA.DG)

100. This section contains the requirements applicable to the approval to transport dangerous goods. In general, dangerous goods have to be transported in accordance with the ICAO T.I. as explained in paragraph 6 above. In transposing the requirements contained in EU-OPS/JAR-OPS 1 and 3, due account was taken of draft JAA NPA-OPS 70 which had not yet been published by the JAA, and can be found as Appendix B.

101. This section only deals with the approval for the transport of dangerous goods and not with the alleviation/exceptions, which may be required for certain operations and which apply in general to all flights. Those requirements can be found in OPS.GEN.

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[53] JAA Administrative & Guidance Material Section One: General Part 3: Temporary Guidance Leaflets.

[54] 20.006 Miscellaneous improvement to AMC 20

Section VI - Helicopter Operations without an Assured Safe Forced Landing Capability (OPS.SPA.SFL)

102. As already explained in the section addressing the performance for commercial air transport, this section contains the requirements and AMC to be eligible for operations without an assured safe forced landing capability. The objectives have been separated from the technical content; objectives being incorporated into the implementing rule and technical content being transferred to AMC material. It incorporates the text contained in JAR-OPS 3 amendment 5.

103. However, one important issue remains to be resolved and that is the JAR-OPS 3 alleviation contained in Appendix 1 to JAR-OPS 3.005 (c), which states that:

- 'For helicopters certificated in Category A, a momentary flight through the height velocity (HV) envelope is allowed during the take-off and landing phases.'

104. This alleviation is now contained in OPS.SPA.SFL as it was intended by JAR-OPS 3 to apply only in those cases.

105. For CS-29 helicopters the Height Velocity (HV) envelope is contained in the limitations section of the approved Aircraft Flight Manual and the alleviation is therefore in conflict with Annex IV 4.a. of the Basic Regulation, which requires that any aircraft be operated in accordance with its approved flight manual.

106. Being aware of this conflict the Agency intends to initiate a rulemaking task on CS-29 to see whether or not a change of CS-29 is feasible, and in the meantime included the alleviation in its Implementing Rules for the following reasons:

- Article 8 of the Basic Regulation states that the Implementing Rules should reflect the state of the art and the best practices in the field of air operations.

- The ToR of OPS.001 state that the Implementing Rules should be based on JAR-OPS 3.

- There is no major harmonisation issue with the FAA on this matter as FAR Part 91.9 (d) contains a similar alleviation upon which the JAR-OPS 3 alleviation was based.

107. Although this issue is raised under this section, the Agency is well aware that this applies in general to CS-29 certificated helicopters involved in operations that require (momentary) flight through the HV envelope (typically 'aerial work' activities).

Section VII - Helicopter Operations with Night Vision Imaging Systems (OPS.SPA.NVIS)

108. This section and its AMC material is the transposition of the provisions of JAR-OPS 3.005 (j) introduced in amendment 5, which allows conducting VFR night operations with the aid of NVIS and of JAA TGL 34, which contains the requirements to be met, as well as minimum training standards to be followed.

Section VIII – Helicopter Hoist Operations (OPS.SPA.HHO)

109. The Helicopter Hoist Operations requirements contained in Appendix 1 to JAR-OPS 3.005(h) has been transferred to this section of the Implementing Rules. In addition, draft JAA NPA-OPS 69 has been incorporated. This draft NPA-OPS can be found as Attachment C.

110. Draft NPA-OPS 69 deals with the requirements relating to Helicopter Hoist Operations detailed in Appendix 1 to JAR-OPS 3.005(h), which were found to be difficult to interpret

and implement. The draft NPA introduces therefore in the AMC new material to clarify and explain the requirements, in particular the helicopter hoist equipment and its standard of airworthiness approval.

Section IX - Helicopter Emergency Medical Service Operations (OPS.SPA.HEMS)

111. The Helicopter Emergency Medical Services (HEMS) requirements contained in Appendix 1 to JAR-OPS 3.005(d) have been transferred to this section of the Implementing Rules. The Agency has also partly incorporated HSST-WP-07-03.4, which was agreed by the JAA HSST and OST. This related Working Paper can be found as Appendix D. However, that proposal envisages several options and recommends an option (Option 2), which leads to the three choices detailed in that Working Paper. The Agency is therefore requesting stakeholders to indicate the most appropriate route to be selected so that the Agency can establish the best way forward and include it in the final opinion to be transmitted to the Commission.

Attachment A to Appendix I

Attachment B to Appendix I

Attachment C to Appendix I

Attachment D to Appendix I

Appendix II - Explanatory memorandum on Part-OR Subpart OPS

1. The purpose of this memorandum is to provide more detailed explanations on the proposed Implementing Rules applicable to persons or organisations involved in the operation of complex motor-powered aircraft and those involved in commercial operations than the ones offered in the general part of the Explanatory Note to this NPA and the explanations given in NPA 2008-22c. These explanations focus on the new elements and on the differences with EU-OPS/JAR-OPS 1 and 3. The Agency has also prepared cross-reference tables to facilitate the comparison between the proposed Implementing Rules and EU-OPS/JAR-OPS 1 and 3, which can be found in NPA 2009-02f.

Section I Operator requirements (OR.OPS.001.GEN)

2. Section I clarifies that the provisions of this Subpart are applicable to non-commercial operators of complex motor-powered aircraft, as well as all to commercial operators. Furthermore, This section contains a paragraph on definitions.

3. The paragraph on operator responsibilities is derived from ICAO SARPS and transposes EU-OPS, as well as the applicable JARs.

4. The last paragraph of this section addresses the specific case of aircraft operated both commercially and non-commercially. In such a case, the operators are required to provide a separate section in their operations manual describing the procedures to be followed when operating an aircraft non-commercially; moreover, the commercial operations specifications of AOC holders need to contain an endorsement for non-commercial operations.

Section II Manuals, logs and records (OR.OPS.001.MLR)

5. This section is complementary to section VI of Part-OPS and contains the provisions applicable to the operations manual, the minimum equipment list, the operational flight plan for commercial air transport operations and record-keeping. These paragraphs take into account ICAO Annex 6 SARPs. For commercial air transport operations, the provisions of Subpart B and P of EU-OPS/JAR-OPS as well as the provisions of amendment 1 to JAR-MMEL/MEL (Subpart C) have been transferred.

6. There is one important change compared to EU-OPS/JAR-OPS 3 in so far as the operations manual, when first presented to the competent authority, needs to be fully approved. Previously, this was only the case for certain parts. This change has been introduced following the new AMC procedure explained in paragraph 56 of the explanatory note, as means of compliance are now part of the approval for commercial operators. These means of compliance are usually described as procedures in the manual.

7. Certain amendments of the operations manual of commercial operators may be subject to an amendment procedure to be agreed with the competent authority. This amendment procedure is explained in more detail in NPA 2008-22. An AMC to the operations manual lists those items that cannot be part of such an amendment procedure. These are basically those items that need to be approved under EU-OPS/JAR-OPS.

8. The detailed content of the operations manual has been transferred to AMC material as it would otherwise be binding and not provide for the appropriate flexibility for all types of operations. It takes into account that the scope of the operations Implementing Rules is much wider than the one of EU-OPS/JAR-OPS. Separate AMCs addressing the operations manual structure have been provided for non-commercial operators of complex motor-powered aircraft and commercial operations other than commercial air transport.

9. The JAR-OPS guidance material states that the language of the operations manual is English, as appropriate. This guidance could not be transferred as it is against the Community principle that gives all EU languages an equal status. Moreover, it is questionable whether an English operations manual used by a non-native English speaking crew may not pose a safety risk. This was one of the reasons why it had the status of an IEM in the past.

10. As indicated above, Subpart C of JAR-MMEL/MEL has been transferred into the provisions of OR.OPS.020.MLR. Each MEL will have to be based on the Master Minimum Equipment List (MMEL) for the aircraft type, approved in accordance with Part-21. Some definitions have not been transferred as they will be included in the relevant Certification Specification for the MMEL (e.g. definitions of rectification intervals A, B, C and D). OR.OPS.020.MLR provisions complement the general requirements in OPS.GEN.550.

11. The one time extension of the rectification intervals B, C and D (RIE) is included in OR.OPS.020.MLR(f). However, the allowance is only possible if it is within the limits of the relevant MMEL (the MMEL has been designed taking into account the one time extension of RI) and the duration of the extension is, as maximum, of the same duration as the rectification interval specified in the MEL. It is important to highlight that JAR-MMEL/MEL.090 'Operations outside the scope of the MEL' has not been transferred because it is being considered a flexibility provision already included in Article 14 of the Basic Regulation and therefore not needed in here.

Section III Air operator declaration (OR.OPS.001.DEC)

12. This section contains the administrative requirements to be fulfilled in order for an operator to declare its capability and means to discharge the responsibilities associated with the non-commercial operation of a complex motor-powered aircraft.

13. In the case where the operation is managed by a third party on behalf of the owner, it is this third party that shall submit the declaration as they assume responsibility for operational control. A declaration form is provided with the Implementing Rules.

14. As a result of the discussions within the OPS.001 subgroup and the results of the impact assessment conducted on this issue (see attached RIA), it was felt that a declaration should be sufficient for all operators of complex motor-powered aircraft used in non-commercial operations as no safety benefit could be seen on imposing a fully fledged certification process.

Section IV Air operator certification (OR.OPS.001.AOC)

15. This section contains the administrative requirements to be fulfilled by an operator to obtain an air operator's certificate (AOC), which are contained in EU-OPS/JAR-OPS 1 and 3 Subpart C. The proposal provides for only one operator certificate for all kinds of commercial operations as there was no reason to distinguish between an air operator certificate for commercial air transport and an aerial work certificate for commercial operations other than commercial air transport. The difference lays in the privileges granted to an operator and contained in the Operations Specifications. By proposing this one certificate, the Agency follows the principles of consistency of organisation approvals introduced in Part-OR and Part-AR. This also reflects the demands of aerial work operators, who argue that an AOC issued by a Member State is also recognised internationally while this may not be the case for a specific aerial work certificate.

16. One important change that has been made compared to EU-OPS 1.180 is that aircraft need to have a certificate of airworthiness in accordance with Part-21 but the notion "standard" has been removed. There may be aircraft with a restricted CofA issued in accordance with Part-21 that can nevertheless be operated safely in commercial

operations as long as the appropriate limitations included in the restricted type-certificate or the Specific Airworthiness Specifications are observed. Exemptions and derogation notified to the Commission on EU-OPS already show that the requirement of a standard certificate poses significant and unjustified difficulties. This is of course even more the case for Annex II aircraft involved in commercial air transport.

17. The requirements on personnel, facilities and flight data monitoring have been aligned with the appropriate requirements in OR.GEN as presented in NPA 2008-22c.

18. Furthermore, this section includes additional specific requirements for the leasing of third-country registered aircraft and code-share operations with third-country operators since the aircraft involved, which are used by Community operators, are covered by the Basic Regulation. The related provisions have been aligned with Regulation (EC) 1008/2008[55] on common rules for the operation of air services in the Community.

19. For wet-lease in of an aircraft from a third country operator, certain conditions need to be fulfilled. The third country operator is required to hold a third country operator authorisation[56]. In addition, the third country operator needs to comply with the technical requirements in Part-OPS, as well as the OR-OPS requirements related to training; to the manuals, logs and records keeping; to FTL schemes; and to security. However, it is not obliged to use the related AMC of Part-OPS and may use its standard operating procedures as contained in its operations manual provided it can demonstrate that they provide for compliance with the requirements. By doing so, the third country operator can continue using its standard operating procedures instead of changing procedures from one flight to another as this could pose a certain safety risk.

20. As regards code share arrangements, the Agency considered disproportionate to ask the foreign partners to comply with the full set of Implementing Rules. Instead, taking also into account the approach used by the US, the Community operator has to ensure compliance of the code share partner with the Essential Requirements and appropriate safety standard, which can be the operating standards of the third country, as long as they are ICAO compliant. The Community operator is required to implement an audit programme where third party providers may be used, as long as they are independent, or an officially recognised standard is used certified by an independent certification authority, e.g. CEN. The findings of these audits must be closed within certain periods in order to start or continue such a code share arrangement.

Section V Flight crew (OR.OPS.001.FC)

21. This section contains the provisions applicable to the composition, qualifications and training of flight crew. It is divided into 3 Chapters; the first contains general requirements, applicable to all types of operation with all categories of aircraft; the second contains additional requirements applicable to commercial air transport and the third contains additional requirements applicable to commercial operations other than commercial air transport.

22. This Section was developed on the basis of Subpart N of EU-OPS and JAR-OPS 3. The FCL.001 group performed therefore a revision of that Subpart with the view to identify requirements that restrict the privileges of the licence and which should then be better placed in Part-FCL instead of remaining in operational rules. On this basis, paragraphs EU-OPS 1.960 / JAR-OPS 3.960 and EU-OPS 1.970 / JAR-OPS 3.970 were transferred to Part-FCL, where they are now, respectively, paragraphs FCL.305.A and FCL.305.H (addressing the privileges of a CPL holder to fly in commercial air transport) and FCL.060

[55] http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2008:293:0003:0020:EN:PDF

[56] The requirements on third country operators will be published as separate NPA resulting from rulemaking task OPS.004.

(covering recent experience requirements for all pilots[57]). The FCL.001 group considered also whether the training required in Subpart N was type rating related or operator specific with the view to transfer to Part-FCL the provisions related to the training required to acquire or maintain valid a type rating, since it is logical that all licensing related requirements be put in the same implementing rule. Conversely, the operator specific training (related to the specific type of operation or the structure and organisation of the operator) was kept in the operational rules. As a consequence some provisions of in EU-OPS 1.945 related to Zero Flight Time Training (ZFTT) were transferred to Part-FCL, since they were requirements for obtaining a type rating[58].

23. These texts prepared by the FCL.001 group were then presented to the OPS.001 group, which introduces some changes to take into account activities other than commercial air transport and other categories of aircraft besides aeroplanes and helicopters. The end result, contained in this NPA, is therefore the result of the joint work of the OPS.001 and FCL.001 groups.

24. Paragraphs OR.OPS.015.FC and OR.OPS.030 FC to OR.OPS.040.FC in Chapter 1 of Section V are based on EU-OPS 1.940 to 1.950/ JAR-OPS 3.940 to 3.950, as well as their respective Appendices[59]. They are complemented by paragraphs OR.OPS.115.FC and OR.OPS.130.FC to OR.OPS.135.FC in Chapter 2 of Section V, which contain the provisions applicable to flight crew engaged in commercial air transport and by paragraph OP.OPS.245.FC, which contains those applicable to flight crew engaged in commercial operations other than commercial air transport. No major differences with EU-OPS/JAR-OPS need to be signalled. However, as was already explained above in the general part of this Explanatory Note, some of the material contained in EU-OPS and Section 1 of JAR-OPS 3 was transferred to AMC and GM in order to provide for an appropriate flexibility. Accordingly, only the provisions that were paramount to safety are left in the Implementing Rules, while more detailed provisions related to the content of the training programmes can be found now in the AMC material so that operators can build training programmes that are fully adapted to their activities. Moreover, requirements applicable to aeroplanes and helicopters are harmonised as much as possible, taking into account the differences between the operational characteristics of both categories of aircraft.

25. Paragraphs OR.OPS.020.FC and OR.OPS.120.FC contain the provisions for the nomination as pilot-in-command; they follow those of EU-OPS 1.955/JAR-OPS 3.955 and include also those of EU-OPS 1.975/JAR-OPS 3.975. However, some changes were made. Firstly, the expression 'Commander' has been replaced by 'pilot-in-command'. The reason for this change is that the Essential Requirements for Operations (Annex IV to the Basic Regulation) follow the terminology of ICAO Annex 6 and refer to 'pilot-in-command' instead of 'commander', which was a particular feature of EU/JAR-OPS. As a consequence, the Implementing Rules, which have to follow these Essential requirements, cannot give to the Commander safety functions attributed to the pilot-in-command. Accordingly, there is no longer a safety role for the Commander, which would make any reference to this role in the Implementing Rules either superfluous in safety terms or a violation of the Essential Requirements[60]. This change also makes it necessary to clarify that when a pilot acting as pilot-in-command is relieved in flight of his/her duties, this carries also a transfer of the related responsibilities for the safe conduct of the flight[61] to the pilot taking over as pilot-in-command.

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57 See NPA 2008-17b

58 See paragraph FCL.730.A in NPA 2008-17b.

59 For more details on how and where the requirements from EU/JAR-OPS were transferred please see the comparison tables in Appendix V to this Explanatory Note.

60 This, of course, does not prevent operators from keeping the title of Commander in their internal organisation, or for the purpose of career advancement schemes. However, this may not affect the attribution of safety related responsibilities that is made by the Essential Requirements and the implementing rules.

61 See OR.OPS.115.FC (b).

26. Secondly, two changes have been made to the provisions of EU-OPS 1.975/JAR-OPS 3.975. On the one hand, they have been included in the paragraph related to the nomination of the pilot-in-command; the reason for this is that it seemed logical to include in the paragraphs applicable to such nomination (OR OR.OPS.020.FC and OR.OPS.120.FC) the conditions for such a nomination[62]. On the other hand, the expression 'qualification' disappears; the reason for this is that EU/JAR-OPS do not explain or determine anywhere what such a qualification is; who issues it; or whether it is related to the licence or not. Consequently, to avoid confusion in terminology that could generate confusion in regime, it was considered that is was better to remove the mention of 'qualification' while maintaining the requirements related to training and experience as conditions for the nomination as pilot-in-command. The intention was, therefore, not to change the content and purpose of the requirement, but merely to change the wording in a way that would avoid misinterpretation. Finally some changes in the wording were made to try and harmonise the wording used for different categories of aircraft as much as possible while maintaining the content of the requirements unchanged.

27. Paragraph OR.OPS.025.FC was based on EU-OPS 1.940 and paragraphs OR.OPS.045.FC to OR.OPS.055.FC, which are complemented by OR.OPS.145.FC and OR.OPS.155.FC, containing the provisions applicable to commercial air transport; they are based on EU-OPS/JAR-OPS 1.965/3.965, 1.980/3.980 and 1.195/3.985[63]. No major difference with the content of EU/JAR-OPS need to be signalled, besides the already referred changes in the legal value of the texts (Section 1 material that was transferred to AMC) and drafting changes to try to harmonise as much as possible requirements applicable to different categories of aircraft.

28. The Agency is especially interested in stakeholders' views on harmonisation of the requirements for single pilot IFR and night operations (OR.OPS.115.FC (c) and (d)), as the provisions of EU-OPS/JAR-OPS 3 for aeroplane and helicopter operations were not harmonised in this respect. While for helicopters the recent experience requirement for night operations may be satisfied by using an FSTD, this is not the case for aeroplanes.

29. Finally, EU-OPS 1.978, which allows operators to establish alternative training and qualification programmes, was not transposed as such a flexibility is already built in the new set of rules since the training requirements are now AMC material and the right to deviate that was necessary in the EU-OPS framework is not needed any more. In this new context, if an operator wants to develop a training programme that does not follow the related AMC, it will have to use the mechanism foreseen in Part-AR and Part-OR to deal with alternative means of compliance.

Section VI Cabin crew (OR.OPS.001.CC)

30. Appendix IV Explanatory Memorandum on Cabin Crew includes the detailed description of Part Cabin Crew, requirements for medical fitness of cabin crew as well as an explanation on the operator training requirements of this section.

Section VII Technical crew (OR.OPS.001.TC)

31. This section contains the provisions that were formerly in JAR-OPS 3 Subpart O and deals with crew members other than flight crew. These provisions contain the common elements for the training of technical crew members involved in HEMS, Hoist and NVIS operations.

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[62] Or to be delegated the duties in flight.

[63] For more details on how and where the requirements from EU/JAR-OPS were transferred please see the comparison tables in Appendix V to this Explanatory Note.

32. To lift the existing ambiguity in the definitions of HEMS, Hoist and NVIS crew member, as they seem to cover both flight crew and non-flight crew, the definitions were changed to include the word technical. This word was chosen to distinguish between the flight crew member and the person, usually employed by the operator, assisting the flight crew member in order to perform the mission and who need to be trained under the control of the operator.

33. The Agency does not propose transposing the definition of (aerial) task specialist as these specialists are not defined as crew members. Draft JAR-OPS 4 does not contain either any specific provisions for those specialists other than requiring that their training be specified in the Operations Manual Part D. It is, therefore, the Agency's view that since they are not part of the crew, these specialists are to be considered as passengers and require a specialised passenger briefing about the relevant on-board specialist equipment; this is also the philosophy of JAR-OPS 3 as regards the medical passenger in HEMS operations, who is not considered part of the crew but shall be given a dedicated briefing on the specialised task on board the helicopter.

34. Furthermore, as it may be very difficult for an operator to control the training of any specialist it may carry on board, as implied by draft JAR-OPS 4 (train those specialists may be especially difficult if those persons are not employed by the operator), the word "briefing" is used instead of "training" to provide for proportionality. The specialised briefing ensures that the appropriate level of safety can be maintained as a reasonably achievable responsibility of the operator.

Section VIII Flight and Duty Time Limitations and Rest Requirements (OR.OPS.001.FTL)

35. The need to regulate flight time and rest periods to control and mitigate the effects of fatigue is recognised internationally. ICAO published these rules in Parts I, II and III of Annex 6. According to this document, crew member's fatigue issues are treated equally with other important issues like sickness or lack of oxygen during flight. The proposed Implementing Rules related to FTL requirements are concordant with the ICAO provisions.

36. The Basic Regulation requires all operators to ensure, that the performance of crew members will not deteriorate to the extent that flight safety is endangered because of the effects of fatigue. Operators are required to provide rest periods for crew members in order to overcome the effects of previous duties. For commercial operations and non-commercial operations with complex motor-powered aircraft limitations to flight time, flight duty periods and rest periods shall be specified in the operations manual. Crew member's fatigue management should be implemented through a rostering system. Such a system shall take into account the number of sectors flown, time zone crossing, sleep deprivation, disruption of circadian cycles, night hours, positioning, cumulative duty time for given periods of time, sharing of allocated tasks between crew members and possible crew augmentation. Article 22 of the Basic Regulation requires the Agency to issue FTL Certification Specifications providing for compliance with these essential requirements.

37. The Implementing Rules supplementing the above described provisions, taking into account EU-OPS – as specifically required by the Basic Regulation – and available scientific evidence, are included in OPS.GEN, AR.OPS and this section of the OR.OPS.

38. The general chapter specifies the scope of rule and defines the terms used in the document. Provisions of this chapter are applicable for all operators. Specific definitions of flight times for aeroplanes and touring motor gliders, helicopters, sailplanes and for balloons are introduced as compared to EU-OPS and JAR-OPS to take into account the extended scope of new legislation. Moreover, a change to EU-OPS Subpart Q is introduced in OR.OPS.015.FTL *Operator responsibilities for commercial operators or non-commercial operators of complex motor-powered aircraft* to specify reporting times

proportionate to the ground duties to be executed. OR.OPS.020.FTL requires from the operator to provide individual FTL records for crew members concerned and other operators in the case when crew members are employed by them. General requirements concerning the establishment of a Fatigue Risk Management System (FRMS) are laid down in the paragraph OR.OPS.025.FTL. The FRMS requirements shall correspond to the rostering system and therefore are different for non-commercial operators of complex motor-powered aircraft and commercial operators. FRMS requirements for commercial operators are more prescriptive compared to the respective requirements for non-commercial operators of complex motor-powered aircraft. Paragraph OR.OPS.035.FTL requires operators to establish procedures concerning pilot-in-command decisions in special circumstances and reporting when the flight duty period (FDP) was increased at their discretion. Flight times and duty periods, where applicable to the type of operation, are specified in OR.OPS.040.FTL. Total duty periods in any 28 and 7 days and total flight time in any 12 consecutive calendar months and any 28 consecutive days are without indication of time in hours. These figures were moved to FTL certification specifications. This was done for the purpose of envisaging the development of FTL certification specifications for different types of flight operations in the future. Leaving figures in Implementing Rules would make this process excessively difficult. For the limitation of total flight time the wording "in any 12 consecutive calendar months" is proposed. This is in line with the ICAO proposed text "in 365 consecutive days", but does not have a penalty of dissociation with normal alternation of years (every 4th year is a leap-year which has 366 days) and is less complex for the operators in respect of calculations of total flight time. Requirements for operators in regard to positioning duty are explained in paragraph OR.OPS.045.FTL and requirements for the assignment of crew members to standby duty are in paragraph OR.OPS.050.FTL. Both paragraphs reflect corresponding requirements of Subpart Q.

39. Chapter 2 - *Requirements for non-commercial operators of a complex motor-powered aircraft* are not sophisticated and very basic. Operators shall establish, implement and maintain limitations applicable to flight times, flight duty periods, duty periods and rest periods for crew members. In order to meet this requirement, non-commercial operators of complex motor-powered aircrafts shall either:
    - establish, implement and maintain a rostering system which corresponds to their type of operation; or
    - use FTL certification specifications published by the Agency which are appropriate for the type of operation; or
    - use approved FTL specification schemes which are appropriate for the type of operation.

    FTL requirements of these operators shall be contained in the operations manual and shall be supported by an adequate FRMS. This provides for a direct link between the complexity of the operations and that of the related FRMS such that, for example, simpler operations require a simple FRMS.

40. FTL requirements for commercial operators are in Chapter 3. Requirements related to the records of flight duty time limitations and rest requirements are laid down in paragraph OR.OPS.320.FTL. It is explained what kind of records and how long they shall be kept by the operator. Paragraph OR.OPS.325.FTL requires operators to establish an FRMS which is applicable to the type, size and complexity of the operations and which corresponds to their flight time specifications scheme. This paragraph specifies key elements of FRMS for commercial operators while more detailed explanation is moved to guidance material. The requirement to establish, implement and maintain flight time specification schemes is laid down in paragraph OR.OPS.330.FTL. To meet this requirement, commercial operators shall either use certification specifications published by the Agency or develop their own individual flight time specification schemes and submit to their National Aviation Authority as described in AR.OPS.310. Subparagraphs (c) and (d) explain substantive elements of the documentation to be submitted for the approval of the competent authority. Paragraph OR.OPS.335.FTL elaborates further requirements for flight time specification

schemes in respect of flight duty period for crew members requiring operators to take into account such elements as number of sectors flown, encroachment of the Window of Circadian Low (WOCL), extension of FDP due to pilot-in-command decision and minimum in-flight break including augmentation of basic flight crew. Elements of FTL standby duty to be included into operator's flight time specification scheme are explained in paragraph OR.OPS.350.FTL. In OR.OPS.355.FTL *Rest periods* the requirement for commercial operators to provide crew members with recurrent extended recovery rest periods to compensate for cumulative fatigue was introduced.

41. FTL certification specifications for commercial air transport operations are in the Section VIII. FTL *certification specifications;* they are based on Subpart Q requirements and contain all substantive provisions of Subpart Q as it is required by the Article 22(2)(a) of the Basic Regulation. It is the understanding of the Agency that "substantive provisions" are figures and therefore all figures of Subpart Q were moved to FTL certification specifications:

- In CS FTL.1.135 instead of the transposition of Subpart Q text concerning maximum basic daily flight duty period and its changes in respect of encroachment on the Window of Circadian Low (WOCL) and extensions of FDP, two tables for maximum daily FDP calculations are proposed. All figures given in both tables are based on maximum daily FDP of 13 hours which corresponds to the EU-OPS Subpart Q requirement. Table in paragraph (a) is a requirement to calculate maximum daily FDP when extensions are not used and table in paragraph (b) is applicable for the calculations of maximum daily FDP with extensions. Both tables enable to calculate maximum daily FDP with regard to the time of the day or night when FDP starts. The Agency believes that introduction of these tables will simplify the rostering process.

- In CS FTL.1.135 (c) a difference in FDP of flight and cabin crew due to different reporting time shall not exceed 60 minutes which corresponds to EU OPS 1.1105 1.4.

- In CS FTL.1.140 (Flight times and duty periods) there are figures given in):

  (a) The total duty periods to which a crew member is assigned do not exceed:

  - (1) 190 duty hours in any 28 consecutive days;
  - (2) 60 duty hours in any 7 consecutive days.

  (b) The total block time of the flights on which an individual crew member is assigned as an operating crew member does not exceed:

  - (1) 900 flight hours in any 12 consecutive calendar months;
  - (2) 100 flight hours in any 28 consecutive days.

  (c) Total duty periods referred to in (a) and (b) should be spread as evenly as practicable throughout their respective periods.

- Minimum rest periods in CS FTL.1.155 are more clearly divided in rest at home base and away from home base. In the case of a minimum rest period away from home base the requirement to provide at least 14 hours rest for crew members is added.

- It is required in CS FTL.1.155 (c), that the minimum recurrent extended recovery rest period allows to compensate for cumulative fatigue is 36-hour period including two local nights and shall be provided in such way, that there are never more than 168 hours between the end of one recurrent extended recovery rest period and the start of the next.

- In CS FTL.1.160 (Unforeseen circumstances in actual flight operations – discretion by the pilot-in-command) (a)(2) it is required that the maximum basic daily FDP which results after applying CS FTL.3.135 (b), (c) and (d) (extensions of basic FDP) may not be increased by more than one hour unless the flight crew has been augmented, in which case the maximum flight duty period may be increased by not more than 2 hours.

- AMC OR.OPS.015.FTL (b) demands operators not to change the home base more than 4 times in any given period of 12 calendar months. OR.OPS.015.FTL (l) and AMC OR.OPS.015.FTL (l) limits the change of a schedule or crewing arrangements including crew assignment.

42. This NPA also includes GM explaining the application of FRMS to commercial operators and non-commercial operators of complex motor-powered aircraft. Operators are advised to take into consideration only those elements which are proportionate to the type, size and complexity of their operation and corresponding flight time specification schemes. There is a list of terms used in the context of FRMS and their definitions. Purpose and scope are explained taking into account the fact that FRMS should be used in conjunction with certification specifications or individual flight time specification schemes to meet FTL requirements.

43. The FRMS is a scientifically based, data-driven ongoing adaptive process that can identify fatigue risks and develop and evaluate mitigation strategies to manage any emerging operational risks. A FRMS is an integral part of an operator's established management system and should be based on a partnership approach between the operator, competent authority and crew member representatives. The FRMS gives the possibility to apply more flexibility in comparison with prescriptive FTL requirements. FRMS is based on "just culture" and therefore the related GM clarifies the role and responsibilities of operators and crew members. In addition, it explains essential minimal FRMS components to be included as integral part of an operator's established management system and provides with the guidance to assure that fatigue risk management is implemented effectively and that regulatory oversight is performed in a reliable and verifiable documented manner.

44. GM OR.OPS.325.FTL provides a more exact list of FRMS elements for commercial operators including basic requirements, areas of operator's FRM policy and elements of operator's FRMS education and awareness training programme, as well as guidance for the establishment of Fatigue Management Steering Group. These provisions are applicable depending on the type, size and complexity of the organisation and activities of the operator.

45. AMC OR.OPS.330.FTL (c) explains which elements of individual flight time specification scheme should be submitted to the competent authority for the risk assessment. GM OR.OPS.040.FTL recalls that FTL requirements for commercial operations must take into account the limits and minimum standards already established by Council Directive 2000/79/EC of 27 November 2000 concerning the European Agreement on the Organisation of Working Time of Mobile Workers in Civil Aviation.

46. The Basic Regulation in Article 22 requires: "the Agency shall issue the applicable certification specifications to ensure compliance with Essential Requirements and, as appropriate, the related Implementing Rules. Initially, the Implementing Rules shall include all substantive provisions of Subpart Q of Annex III to Regulation (EEC) No 3922/91…" Currently, Subpart Q provisions are applicable as of 16 July 2008.

47. Paragraph OPS 1.1090 is transposed into OPS.GEN.020, OR.OPS.015.FTL and GM OR.OPS.050.FTL.

48. Definitions to be used for the purposes of Subpart Q are described in Paragraph OPS 1.1095. This paragraph is transposed into OR.OPS.010.FTL. There are some new definitions introduced and some differences with definitions laid down in ICAO Annex 6 Part I. A definition of "Duty" is a novelty and is described as "any task that a crew member is required to carry out associated with the business of an AOC holder." In this respect, questions related to standby shall be regulated by the competent authority. In addition, definitions of "Break", "Home base", "Local day", "Local night", "A single day free of duty", "Operating crew member", "Positioning" and "Window of circadian low (WOCL)" were introduced. Definitions "Flight duty period" and "Rest period" are similar to those used in ICAO Annex 6 Part I. Definition "Flight time" for aeroplanes and touring motor gliders corresponds to the same definition used in ICAO Annex 6 Part I, but in addition there are introduced definitions of flight time for helicopters, sailplanes and balloons. The majority of definitions proposed in Paragraph OPS 1.1095 are still subject to discussions of the ICAO Operations Panel Working Group as, for example, a definition of "Standby". This Working group is currently discussing proposals for the amendment of Annex 6 in order to introduce Fatigue Risk Management Systems (FRMS) as the next step following the update to the prescriptive flight time, flight duty time, duty time and rest periods amendment proposals. Therefore, some definitions already proposed in Subpart Q may be harmonised with ICAO definitions after their review by ICAO Air Navigation Commission.

49. OPS 1.1100 is transposed into CS FTL.1.140.

50. Limits and calculations of maximum daily flight duty period (FDP) are described in paragraph OPS 1.1105 and are transposed into two tables of paragraph CS FTL.1.135. These requirements do not apply to single-pilot and emergency medical service operations. Limits for the FDP extensions are also described in this paragraph and a corresponding table for calculations is added.

51. The FTL requirements in general are the same for flight and cabin crew with very few marginal differences. One of them relates to the maximum daily FDP and is transposed from Subpart Q OPS.1.1105 (3.1) into CS.FTL.1.135(c).

52. Provisions related to the positioning duty were transposed from OPS.1.1105 (5) into OR.OPS.045.FTL.

53. Paragraph OPS 1.1110 is transposed into OR.OPS.355.FTL and CS FTL.1.155. Operator's responsibility is to ensure that minimum recurrent extended recovery rest periods to compensate cumulative fatigue will be increased periodically to a weekly 36-hour period including two local nights and there shall not be more than 168 hours between the end of one weekly rest period and the start of the next.

54. Paragraph 1.1115 is transposed into OR.OPS.335.FTL (f).

55. Paragraph OPS 1.1120 is transposed into paragraphs OR.OPS.335.FTL (e), CS FTL.1.160, CS.FTL.1.155 (b) and OR.OPS.035.FTL.

56. Paragraph OPS 1.1125 is transposed into paragraph OR.OPS.050.FTL (for all operators) and OR.OPS 350.FTL (additionally for commercial operators).

57. Paragraph OPS 1.1130 is transposed into paragraph OR.OPS.015.FTL (i).

58. Paragraph OPS 1.1135 was transposed into OPS.GEN.020, OR.OPS.020.FTL and OR.OPS 320.FTL.

59. Despite the fact that fatigue and its influence on human performance were extensively investigated and a number of scientific studies were published, it has not been possible

so far to develop FTL requirements for all types of flight operations. Additional studies are needed for many types of operations. The Agency has therefore undertaken additional studies to do so and will issue, following proper rulemaking, additional certification specifications covering as many types of operations as possible so as to facilitate uniform implementation and assist operators and national aviation authorities in their daily activities. The Parliament when adopting EU-OPS (Regulation 1899/2006 amending regulation 3922/91) requested a scientific and medical evaluation of Subpart Q (Regulation (EC) 3922/91 article 8(a)): "By 16 January 2009 the European Aviation Safety Agency shall conclude a scientific and medical evaluation of the provisions of Subpart Q and, where relevant, Subpart O of Annex III." The tender concerning scientific substantiation of Subpart Q requirements has just been concluded. The evaluation addresses 18 elements of Subpart Q and establishes a scientific basis to further EASA FTL rulemaking considerations. The Agency intends to publish the final report of the evaluation, thus providing transparency to the entire FTL rulemaking process, as well as to enable stakeholders to submit informed comments in any consultation of FTL provisions. However, this NPA will not contain any elements as the result of the evaluation. In a further step, the conclusions of the study will be fully evaluated, bearing in mind that any alterations to the prescriptive elements of Subpart Q could have a significant impact on flight safety and economics. Therefore, any rulemaking task which may arise from the evaluation will include a Regulatory Impact Assessment considering the potential safety benefit, balanced against social, economical, environmental, etc. aspects. It must also be noted that the majority of these 18 elements refer to those items of Subpart Q which are currently left at the discretion of the national authorities in accordance with article 8(4) of EU OPS, i.e., could be regulated stricter or more lenient than recommended by the study.

Section VIII Security (OR.OPS.001.SEC)

60. Section IX of Subpart OR.OPS contains those aviation security requirements which relate to flight safety. These requirements are applicable to commercial operators and non-commercial operators of complex motor-powered aircraft. The requirements in this section address disruptive passenger behaviour, security and security training programmes, aircraft search procedure checklists and cockpit security.

61. This section is based on Subpart S of EU-OPS and JAR-OPS 3; it also provides for compliance with the applicable ICAO SARPs of Annex 6 Parts I, II and III, of Annex 17. The OPS.001 group participated in the development of the requirements. In addition, Regulation (EC) No 300/2008 of the European Parliament and of the Council of 11 March 2008 on common rules in the field of aviation security was taken into consideration to achieve a harmonised approach between regulating aviation safety and aviation security. Furthermore, requirements applicable to aeroplanes and helicopters have been harmonised as much as possible.

62. Paragraph OR.OPS.020.SEC is based on the general principles of safety management as it relates to disruptive passenger behaviour (subparagraph a), and on the implementation of applicable ICAO SARPS with regard to training and procedures (subparagraph b).

63. Paragraph OR.OPS.025.SEC reflects the security requirements formerly contained in EU-OPS 1.1235/JAR-OPS 3.1235 and makes reference to the general principles of safety management with regard to security risks. A consequential reference to disruptive passengers in the security programme is added to complement the requirements in OR.OPS.020.SEC. This paragraph addresses as well the security training programme. No major differences exist in comparison to EU-OPS 1.1240/JAR-OPS 3.1240 (training programmes).

64. The aircraft search procedure checklist of OR.OPS.030.SEC follows the requirements of EU-OPS 1.1250/JAR-OPS 3.1250.

65. OR.OPS.035.SEC on cockpit security (aeroplanes) reflects the requirements of EU-OPS 1.1255 on flight crew compartment security. The wording has been more closely aligned with the provisions in ICAO Annex 6 to ensure their proper implementation.

66. OR.OPS.040.SEC addresses cockpit security (helicopters) in the unlikely case that a cockpit door should be installed in a helicopter and reflects the requirement of JAR-OPS 3.1255.

67. Reporting acts of unlawful interference, formerly EU-OPS 1.1245/JAR-OPS 3.1245, is not contained in this section but can be found in Part OPS.GEN as it reflects a requirement which is applicable not only to an organisation but also to each individual operator/pilot-in-command.

Appendix III - Explanatory memorandum to Part-AR Subpart OPS

1. The purpose of this memorandum is to provide detailed explanations on the proposed Implementing Rules for Part-AR Subpart OPS and associated AMC in addition to those contained in the general part of the Explanatory Note to this NPA.

2. Subpart OPS of the Authority Requirements was not included in the NPA on Authority and Organisation Requirements since it was felt more appropriate to present it at the same time than the related provisions of Part-OPS, in order to present a consistent set of rules for that field.

3. As most applicable requirements are already in Subpart GEN of the Authority Requirements, this Subpart contains only the additional provisions, which are specific to air operations. Thus, the requirement for the Authorities to keep records relevant to its activities is supplemented by the requirement to maintain a register of operator certificates and declarations.

4. It is proposed that the air operator certificate and the operation specifications are kept in order to be consistent with ICAO. However, they will be appended to the organisation's certificate, as provided in Subpart GEN and demonstrated in Annex I of the Authority Requirements (NPA 2008-22). It should be noted that specific approvals will still be needed, in addition to the ones provided for in the operation specifications. They are related to the extension of the rectification intervals for the MEL, code sharing and leasing. In the latter cases, in addition to the necessary compliance with Part-OR, compliance with Part-TCO - requirements for third-country-operators - will also have to be verified by the competent authority.

5. The possibility to make minor changes to the operations manual without the approval of the competent authority is also proposed.

6. Authority requirements concerning approval procedures of individual FTL certification specifications are laid down in AR.OPS.310 It requires the authority to ensure that the safety objectives are met before approving the individual FTL specification schemes and to submit it to the Agency.

7. Most AMCs proposed in this NPA are not AMCs to Subpart OPS of the Authority Requirements, but to Subpart GEN. This is a consequence of the corresponding requirements being in that Subpart. Those AMCs set means of compliance to those requirements, but related to the OPS area. They deal with certification and oversight procedures. Their content is mainly derived from what existed in the JAA joint implementation procedures.

8. Ramp inspections are important means for the oversight of operators. A specific Section is added in Subpart General of the Authority Requirements, dealing with ramp inspections addressed to all aircraft, whatever type of operation is concerned.

9. Regulation 216/2008 establishes a comprehensive framework for the collective oversight of all aircraft using Community aerodromes, including of course third-country aircraft. It therefore envisages that Directive 2004/36/EC of the European Parliament and of the Council of 21 April 2004 on the safety of third-country aircraft using Community airports will be repealed as soon as its Implementing Rules come into force. As a consequence, the measures adopted in accordance with Article 8(2) of that Directive (Commission Regulation (EC) No 351/2008 of 16 April 2008, Commission Regulation (EC) No 768/2006 of 19 May 2006) and Directive 2008/49/EC of 16 April 2008), will lose their legal basis and become null and void; it is necessary therefore to transpose them in the context of

the Implementing Rules of Regulation 216/2008. Conversely to Directive 2004/36/EC, which will cease to exist once this part enters into force, its Implementing Rules will be repealed separately by the future Air Operations Cover Regulation. Accordingly the requirements for competent authorities are transferred to this section. As explained in NPA 2008-17 and NPA 2008-22 the proposed structure of this section deviates from existing EASA Implementing Rules and Directive 2004/36 and its Implementing Rules in a way that requirements applicable to competent authorities are contained in a separate Regulation.

10. The scope of the Basic Regulation is wider than the scope of Directive 2004/36, which is limited to third country aircraft engaged in commercial operations and third country aircraft of a maximum take-off weight of more than 5.700 kg engaged in non-commercial operations. Consequently this section will be applicable to all aircraft subject to the Basic Regulation used by community and third country operators (commercial and non-commercial). It was felt necessary to establish a comprehensive and uniform system for conducting ramp inspections. Therefore ramp inspections carried out by Member States inspecting authorities on aircraft of operators, which are under their regulatory oversight will be covered by this section as well.

11. The Basic Regulation gives the Agency the authority to conduct ramp inspections of aircraft, in coordination with Member States, for the purpose of ensuring compliance with the applicable requirements. This Section prescribes therefore on which conditions the Agency will conduct such inspections. Since a ramp inspection is not limited to the inspection of aircraft only it was considered appropriate to include flight crew qualifications and flight documentation as well.

12. This section contains definitions (AR.GEN.410) based on the ones in Directive 2004/36/EC and its Implementing Rules. Some terms that are defined in the aforementioned rules were not kept because they were considered not to be necessary, either because they did not appear in this section like "Community SAFA system" and "third country aircraft", or because their meaning was explained sufficiently in the rule. In this case a further explanation was included in the related AMC. In order to make a clear distinction between aircraft used by operators under the regulatory oversight of an inspecting authority and aircraft used by an operator, which are not under their regulatory oversight, it is considered necessary to introduce a definition on 'third country aircraft' and 'third country operator'.

13. Most of the elements of Article 4(1) of Directive 2004/36 have been transferred to AMC. The reason for this is that the simplified draft requirement of this section is considered to be sufficient to meet the safety objective at stake; further details could be developed in an AMC, to allow flexibility on how to determine whether an aircraft is suspected or not.

14. In view of the speed of the advancement of modern operating techniques, aircraft and equipment on one hand and the diversity of air operations and the level of risk involved on the other hand, there is a continuing need to review the scope of inspections and related techniques and procedures to better assess specific areas of interest and ensure effective use of inspecting authorities resources. Therefore, this section requires that spot-check procedures will be applied on the basis of risk assessments conducted on a continuing basis.

15. Another new element to this section is the minimum yearly number of ramp inspections the inspecting authority has to carry out. To this end the AMC contains a methodology for the calculation of the minimum annual quota for each Member State. The Agency has taken over the responsibilities of the Member States for third country operators operating into, within or out of the Community. The oversight of third country operators will depend to a large extent on ramp inspections carried out by inspecting authorities. Therefore, this section envisages the prioritisation of ramp inspections of third country operators

landing at Community aerodromes communicated by the Agency to the inspecting authorities.

16. With regard to the collection of information also a number of elements of Article 3 of Directive 2004/36/EC have been transferred to AMC. Again, the background of this is to keep flexibility on what kind of information should be collected. The requirements for inspectors conducting ramp inspections, the training material applicable to those inspectors and the requirements for training organisations are transferred from Annex II of Directive 2008/49 to this section. There is a common understanding that the current rules on ramp inspections lack an objective, like the duty placed on the inspector to avoid any personal interest in a company under the authority of the entity the inspector belongs to. This section contains therefore a requirement addressing this objective (AR.GEN.435). It is considered to be clearer when the different categories of findings are transferred to this section. However, the categories of findings have been reduced from three to two categories of findings (Level 1 and Level 2 finding). The reason for this is to harmonise the categorisation of findings with the other Parts. Nonetheless the content of Directive 2004/36 on the follow up actions has not been changed.

17. The requirement in Directive 2004/36/EC for the inspecting authorities to disseminate a list of aerodromes that are open to international air traffic with an indication of the number of ramp inspections each year and the movement of aircraft at each aerodrome on that list has been deleted, because it is considered not to be contributing to a more efficient or better way of conducting ramp inspections.

Appendix IV - Explanatory memorandum relating to cabin crew: Part-CC, Part-MED (Subpart E), Part-OR (Subpart OPS – Section VI) and Part-AR (Subpart AR.CC)

1. The purpose of this memorandum is to provide explanations on the proposed Implementing Rules for cabin crew in addition to those contained in the general part of the Explanatory Note to this NPA. These explanations focus on the new elements developed for the cabin crew attestation and on the differences with the EU OPS approach and the related provisions specified in Subpart O. The Agency has also prepared specific cross-reference tables to help the comparison between the proposed requirements and EU OPS Subpart O, which can be found in Appendix V to this NPA.

Background

2. The provisions applicable to cabin crew which have been the subject of intense discussions between the European Parliament and the Council were only finalised with the adoption of the Basic Regulation in February 2008. This is the reason why the Agency could only start from that date developing the related Implementing Rules, thus 18 months after the drafting process had already started for the other fields covered by the Basic Regulation.

3. The provisions of the Basic Regulation relating to cabin crew, namely Article 8 (4) and 8 (5)(e) and Annex IV paragraphs 7.a. and 7.b. (i) and (ii) were considered taking into account the provisions enshrined in Article 8(6) which states the following:
The measures (the Implementing Rules) *referred to in Article 8(5) shall:*
   - *take into account worldwide aircraft experience in service, and scientific and technical progress,*
   - *with regard to commercial transportation by aeroplane, and without prejudice to the previous indent, be developed initially on the basis of the common technical requirements and administrative procedures specified in Annex III to Regulation (EEC) No 3922/91,*
   - *be based on a risk assessment and shall be proportional to the scale and scope of the operation.*

4. Furthermore, to properly understand the provisions of Article 8(5)(e), the following definitions in Article 3 were also to be considered:
   (e) "certification" shall mean any form of recognition that a product, part or appliance, organisation or person complies with the applicable requirements including the provisions of this Regulation and its Implementing Rules, as well as the issuance of the relevant certificate attesting such compliance;
   (f) …
   (g) "certificate" shall mean any approval, licence or other document issued as the result of certification;

5. To prepare the Implementing Rules and the related acceptable means of compliance and guidance material, both Subpart O of EU OPS and the Section 2 material developed by the JAA were used as the basis and were scrutinised against the provisions of the Basic Regulation referred to above. EU OPS requirements for cabin crew originate from Subpart O of JAR-OPS 1, itself resulting from the work done in the early 90s at JAA level. Since the *'Scientific and medical evaluation of the EU OPS provisions for cabin crew'* required to be conducted by Regulation (EC) 1899/2006 is expected to be completed by the end of 2009, any inadequacy that would be identified in those EU OPS requirements that are now being transferred into the proposed Implementing rules will be addressed in due time following the applicable rulemaking procedures.

6. Furthermore, the EU OPS requirements only apply to cabin crew in commercial air transport. The scope of the Basic Regulation is wider and also applies to cabin crew involved in non-commercial operations.

7. Also, the Agency had to ensure that the objectives set in Article 2 of the Basic Regulation were met. Article 2,(2)(b) "*to facilitate the free movement of goods, persons and services*", and Article 2,(2)(f) "*to provide a level playing field for all actors in the internal aviation market*" were considered relevant to the case of cabin crew. As an example, Implementing Rules should provide on one hand clear common criteria that would support a level playing field, and on the other hand more clarity and certainty to the regulated persons as regards to their rights and obligations.

8. Finally, since experience shows that the interpretation and implementation of the requirements applicable to cabin crew vary between the Member States and, in some cases between operators of the same Member State, the Agency gave the necessary consideration to Article 2(3)(b) and (d) of the Basic Regulation, thus with the view that the Implementing Rules establish the conditions to the recognition of the cabin crew attestations and to coherent enforcement and oversight as foreseen by Article 10 of the Basic Regulation.

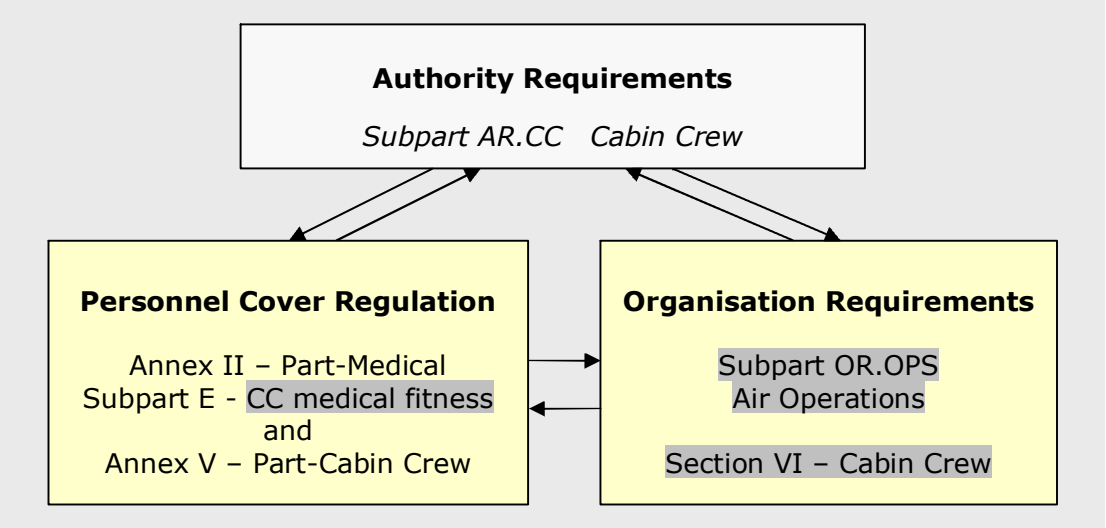
9. The above considerations lead the Agency to the conclusion that the EU OPS structure used for the requirements applicable to cabin crew would not allow establishing a set of Implementing Rules that would comply with the decisions made by the legislator when adopting the Basic Regulation. The related provisions are indeed clear: common training and medical requirements should be developed[64], and in addition, for cabin crew involved in commercial operations, compliance with these requirements should be assessed by means of a process that leads to the issuing of a certificate, called "cabin crew attestation"[65]. Such cabin crew attestation should only be issued (and maintained valid) when the training and medical requirements are (and continue to be) met.

Structure

10. The structure envisaged by the Agency for the set of requirements applicable to cabin crew involved in commercial operations and to commercial operators operating aircraft with cabin crew is shown in Figure 2 below. As regards cabin crew involved in non-commercial operations and to non-commercial operators operating aircraft with cabin crew, only some of the elements highlighted in grey shading would be applicable.

[64] See, paragraph 7(b)(i) and (ii) of the Essential Requirements for air operations
[65] See, paragraph 5(e) of Article 8 on Air operations

Figure 2



Content

11. Having developed a first draft of Implementing Rules based on the above envisaged structure, and despite the time constraints explained in paragraph 2 above, the Agency consulted experts, some of them from national authorities with experience of different regulatory systems for cabin crew and the others as members of the OPS.001 group with operational expertise relevant to cabin crew functions. Some of the experts could not agree with the Agency's understanding of the provisions of the Basic Regulation as described in paragraph 9 above and requested that the subject be disconnected from the NPA and be addressed as a separate stand-alone rulemaking task. The Agency conducted a legal analysis of the case in coordination with the European Commission. The analysis confirmed the understanding of the Agency. In the absence of justification to further consider the above mentioned request, the Agency completed its task as required by the Basic Regulation.

12. Later on, the Agency provided the OPS.001 group with a more mature set of proposals for comments. All comments received were duly considered and taken into account to improve the proposals now contained in this NPA and further explained in the following paragraphs.

13. *Part AR – Subpart Cabin crew*: As shown in Figure (2) above, the requirements for the competent authorities are all compiled in a specific Part covering all authority tasks and responsibilities. Subpart AR.CC specifies the tasks of the authority relating to cabin crew that are additional to those already established in Subpart GEN, in particular:
    - the approval of organisations providing cabin crew training,
    - the procedures for the issue of the cabin crew attestation,
    - the format and specifications for the cabin crew attestations,
    - the procedures for maintaining, amending, limiting, suspending or revoking the cabin crew attestations.

    In the absence of provisions in the Basic Regulation for common criteria for the approval of organisations to provide cabin crew training and/or to issue cabin crew attestations, such approvals shall be completed according to the applicable national requirements. The related provisions proposed as AMC are mainly inspired from Section 2 material developed by the JAA and updated as necessary to comply with the Basic Regulation. The procedures relating to the issuing of cabin crew attestations reflect the provisions of Article 8(4) of the Basic Regulation, thus leaving to the discretion of the Member State the option to approve an operator or training organisation to issue cabin crew attestations. As regards to the procedures for amending, limiting, suspending or revoking the cabin crew attestations, they are similar to those applicable for other certificates,

except for the specific case of medical fitness since the Basic Regulation does not require the issuing of a medical certificate. It is therefore proposed that cases of suspected unfitness and of unfit assessment be reported to the competent authority thus ensuring that action can be taken as appropriate as regards the cabin crew attestation.

14. The provisions applicable to cabin crew are distributed into two different sets of rules. The first one – *Part-Cabin Crew* – is addressed to the individual applicants for, or holders of, a cabin crew attestation; it only applies to cabin crew in commercial operations. The second one is addressed to the operators and compiled as Section VI – Cabin Crew - of *Subpart OR.OPS – Air Operations*. This section includes in its Chapter 1 common requirements applicable to all cabin crew in commercial and non-commercial operations; its Chapter 2 contains additional requirements only applicable to commercial air transport. Finally, this NPA proposes to include into *Part Medical* (published with the NPA on Flight Crew Licensing[66]) an additional Section 4 in the Subpart A 'General Requirements' and a new *Subpart E – 'Requirements for medical fitness of cabin crew'*.

15. *Medical fitness of cabin crew:* this issue seems to be very polemical. Views vary significantly depending on the national circumstances and on the stakeholders concerned. Some argue that cabin crew do not provoke accidents, further stating that the occurrence of unfitness or incapacitation impacting on flight safety is so seldom that medical fitness of cabin crew, contrary to that of the pilots, needs not be regulated by comprehensive medical provisions. Others voice that unfitness or incapacitation of cabin crew would pose unacceptable risk to the protection of passengers particularly in case of any abnormal or emergency situation and to the survivability rate in case of emergency evacuation.

16. Even though cabin crew as flight crew undertake their duties in flight, the Agency acknowledges that cabin crew functions are not comparable to those of pilots. Cabin crew functions would be more similar in nature to those of airport rescue and fire-fighting personnel who are not at the origin of accidents either. Cabin crew are tasked to protect the passengers and to ensure their safety in the cabin by taking corrective actions as necessary and by mitigating the consequences of emergencies. They also contribute in preventing incidents and accidents including by alerting the flight crew of any identified hazard such as surface contamination or security threat.

17. To acquire and maintain the required competence, cabin crew must complete physically demanding training such as actual fire-fighting or slide-descending. Similarly, some duties such as providing assistance to passengers after decompression require being capable to sustain physically aggressive conditions whilst performing efficiently. Finally, managing life-threatening situations or security events which put at risk flight and passenger safety require also mental fitness, thus ensuring that decision-making and stress management are not impaired in case of an abnormal or emergency situation.

18. As regards the currently applicable requirements, EU OPS, as JAR-OPS 1, does require cabin crew to be medically fit to perform their duties but does not specify under which conditions their medical fitness should be assessed. Neither medical criteria nor the frequency of medical checks are specified. This is left to the Member State. As a result, requirements for medical fitness of cabin crew vary from one Member State to the other and show a major lack of harmonisation within the European Union.

19. In the light of the above considerations, the Agency decided to conduct, on the basis of the relevance to cabin crew duties and responsibilities as well as the related required training, a medical analysis of each and every of the medical conditions already identified by aero-medical specialists. Table (a) below shows the cases that were identified as incompatible with the duties, responsibilities and/or the training required from cabin crew, thus leading to temporary unfitness or unfit assessment.

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Table (a) - Medical conditions leading to temporary unfitness or unfit assessment of cabin crew

The following severe health conditions have been evaluated as rendering a person unable to:
(a) undergo crucial parts of the training required from cabin crew to acquire and maintain competence (e.g. actual fire-fighting, slide descending, using a Protective Breathing Equipment (PBE) in a simulated smoke-filled environment); and/or:
(b) manipulate the aircraft systems and/or emergency equipment (e.g. exits, rafts, fire-extinguishers); and/or
(c) sustain the aircraft environment (e.g. altitude, pressure, circulated air, noise); and/or perform the required duties and responsibilities efficiently, particularly those relating to emergency situations and psychologically demanding circumstances (e.g. assistance to passengers in case of decompression; crew coordination, stress management and decision-making in case of safety hazard or emergency, management of disruptive passengers and security threats).

System	Health conditions	*Temporary unfitness*	Unfit assessment
Cardiovascular	**aneurysm of the thoracic or supra-renal abdominal aorta, before or after surgery**		X
	significant abnormality of any of the heart valves	***until satisfactory surgical repair***	
	Requirement for systemic anticoagulant therapy		X
	heart or heart/lung transplantation		X
	symptomatic coronary artery disease or		X
	symptoms of coronary artery disease controlled by medication		X
	symptomatic sinoatrial disease;		X
	complete atrioventricular block		X
	symptomatic QT prolongation		X
	automatic implantable defibrillating system		X
	anti-tachycardia pacemaker		X
Respiratory	***significant impairment of pulmonary function***	***until satisfactory recovery***	
	Partial pneumonectomy		X
Digestive	**sequelae of disease or surgical intervention in any part of the digestive tract or its adnexa likely to cause incapacitation in flight, in particular any obstruction due to stricture or compression**	***until satisfactory recovery (could be treated by surgery)***	
Metabolic and Endocrine	**diabetes requiring insulin**		X
Genitourinary	**sequela of disease or surgical procedures on the kidneys or the urinary tract likely to cause incapacitation, in particular any obstruction due to stricture or compression**	***until satisfactory recovery (could be treated by surgery)***	
	major surgical operation in the urinary apparatus involving a total or partial excision or a diversion of its organs	***until full recovery***	
Obstetrics and Gynaecology	***major gynaecological operation***	***until full recovery***	
	from 17th week of gestation	***until full recovery after end of pregnancy***	
Psychiatry	**schizophrenia, schizotypal or delusional disorder**		X
	single or repeated acts of deliberate self-harm	***until satisfactory psychiatric evaluation***	

Neurology	**epilepsy**	X
	recurring episodes of disturbance of consciousness of uncertain cause	X
Visual	**Diplopia; refractive error greater than 9/6; colour blindness**	X
Oncology	**intracerebral malignant tumour**	X

20. On this basis, and with a view to meet the objective of the requirement set by Annex IV, 7(b)(ii) of the Basic Regulation, the Agency has developed medical requirements which ensure uniform implementation within the EU, equivalent protection for the passengers and certainty for the cabin crew, while providing a level playing field for the operators. Proportionality to the risks related to commercial and non-commercial operations is proposed to be achieved by less frequent medical checks and different qualifications for the medical practitioners conducting the medical examinations and assessments: aero-medical examiners for cabin crew involved in commercial operations and general medical practitioners for cabin crew in non-commercial operations.

21. Since the Basic Regulation does not specifically require the issuing of medical certificates, even though medical fitness is a condition to maintain valid the cabin crew attestation required by Article 8(5)(e), there is no such requirement in the proposed Implementing Rules. To ensure that the authority is informed and can take action when necessary, it is proposed that the aero-medical examiner conducting the medical examination and assessment only reports cases of suspected unfitness and unfit assessment to the competent authority in writing in a form and manner established by that authority.

22. *Minimum age* is the same as in EU OPS. Also, requirements *for the minimum number and composition of cabin crew* are in principle the same, except that a reference to Part-21 on certification of aircraft[67] has been included in consistency with the Implementing Rules proposed in NPA-2009-01[68] related to the operational suitability certificate.

23. *Acquisition and maintenance of competence*: the proposed training requirements are those of EU OPS supplemented by Section 2 material of JAR-OPS 1. Periods of validity of the training and associated checking, as well as the requirement for the six month recent operating experience are also the same as in EU OPS. The main difference compared to EU OPS is that the training programmes are distributed between Part-CC for those that relate to the attestation of cabin crew involved in commercial air transport and Part-OR (Subpart OPS) for the operators. The training programs have been respectively re-allocated by differentiating those training subjects that are aircraft type-specific and common to all aircraft of the same type, whatever operator operates that particular aircraft, from those that are operator-specific. For cabin crew involved in non commercial operations, all training requirements are addressed to the operator that is responsible to ensure compliance with the applicable training programmes specified in Part-CC and in Part-OR (Subpart OPS - Section VI).

24. *Proof of compliance with the requirements*: this is the main difference with EU OPS. In that regulation, the competence of cabin crew involved in commercial air transport depends entirely on the operator and the required initial safety training attestation is only an evidence of training. In the Basic Regulation, the required cabin crew attestation is a document to be issued as a result of a certification process under the responsibility of the competent authority. The proposed Implementing Rules specify that initial training course

[67] See Annex to Commission Regulation (EC) No 1702/2003 of 24 September 2003 laying down implementing rules for the airworthiness and environmental certification of aircraft and related products, parts and appliances, as well as for the certification of design and production (OJ L 243, 27.9.2003, p. 6). Regulation as last amended by Commission Regulation (EC) 1057/2008 of 27 October 2008 (OJ L 283, 28.9.2008, p. 30).

[68] http://hub.easa.europa.eu/crt/docs/viewnpa/id_62

and aircraft type-specific training are covered as part of the requirements applicable to the applicants for, or holders of, a cabin crew attestation. Compliance with such requirements gives the holder of a cabin of 24 September 2003 laying down implementing rules for the airworthiness and environmental certification of aircraft and related products, parts and appliances, as well as for the certification of design and production (OJ L 243, 27.9.2003, p. 6). Regulation as last amended by Commission Regulation (EC) 1057/2008 of 27 October 2008 (OJ L 283, 28.9.2008, p. 30).crew attestation the privileges to act as cabin crew in commercial air transport, provided they are, and remain, medically fit and competent for the aircraft to be operated. On one hand, this should facilitate the free movement of holders of a cabin crew attestation should they wish to move to another employer or another Member State of the European Union. On the other hand, it should also provide new operators or operators in need of new recruits with more opportunities to find experienced and qualified cabin crew who would be ready to operate as soon as having completed the operator-specific required training.

Attachment A to Appendix I - Explanatory memorandum on Part-OPS

DRAFT REGULATORY IMPACT ASSESSMENT – RETROSPECTIVE APPLICATION OF SELECTED REQUIREMENTS TO PROVIDE FOR IMPROVED SEAT/RESTRAINT SYSTEM INSTALLATIONS ON TRANSPORT CATEGORY (PASSENGER) AIRCRAFT WITH A MAXIMUM TAKEOFF WEIGHT OF LESS THAN 5700 KG

1 Purpose and Intended Effect of the Measure

1.1 Issue

In 1988, significant upgrading of the design requirements for aircraft seats took place (US Code of Federal Requirements CFR Title 14, Part 23 (FAR-23) Amendment 23-36, and similarly in the requirements of JAR-23, original issue dated 11 March 1994 which was based on FAR-23 at Amendment 23-42). There was not then or since any requirement in Europe to make all these upgraded requirements fully retrospective either on current operational aircraft or aircraft still in production certified to an earlier standard.

The FAA did devise a limited retroactive requirement, (ref., FAR 23.2 at Amendment 23-32 effective 12/12/85) - aeroplanes in the normal, utility and aerobatic category with 9 passenger seats or less manufactured after 12/12/86 are required to have a safety belt and harness.

Similarly the CAA-UK amended the Air Navigation Order (Schedule 4, Section 5, Scale B (i)(f) applicable to aeroplanes flying for any purpose, (Public Transport or other) so that aeroplanes with a Certificate of Airworthiness first issued on or after 1 February 1989 with a maximum weight not greater than 5,700 kg and 9 passenger seats or less must be fitted with a safety belt with one diagonal shoulder strap or safety harness for each passenger seat.

Following a fatal accident to a Cessna Titan, the UK Air Accident Investigation Branch (AAIB) made the recommendation that the Civil Aviation Authority of the UK (CAA-UK) “undertake a study to identify those elements of the current JAR-23 seat standards which may be used for retro fit into existing aeroplanes whose maximum certified take off mass is less than 5,700 kg. And, separately, for those designs in continuing production which are not covered by the current JAR standards. These elements should then be applied at least to those that are operated in the Transport Category (Passenger).”

The AAIB noted that any proposed retrofit on FAR/JAR Part 23 aeroplanes, of all the elements of the upgraded requirements, would be complex and on some designs it would be particularly difficult to satisfy FAR/JAR 23.562 the so called “dynamic seats” requirement. However AAIB proposed and CAA-UK agreed that it was necessary to investigate whether incorporating some elements of the upgraded requirements for aircraft seats would be effective in saving lives.

This RIA considers a further retrospective application of some or all elements of the improved seat requirements that would increase occupant safety.

1.2 Objective

To increase the survivability of occupants subjected to an emergency alighting event by upgrading the design standards of aircraft seats and restraint systems. The design standard improvements are broken down into elements. The elements are then assessed for their benefits and practicality in order that a rational selection of effective measure(s) for potential retrospective application can be developed.

2 Risk Assessment

The continued operation of aeroplanes with seats designed to pre 1988 requirements exposes the occupants to increased risk of death and injury in the event of an emergency alighting event when compared with those occupants of aeroplanes designed to post 1988 seat design standards. A quantitative assessment of risk in the form of lives that could be saved has been performed for the particular option selected worthy for a detailed cost-benefit study and is contained in the Notice of Proposed Amendment (NPA) 26-XXX.

3 Options

Identified options are based on the AAIB recommendation "to identify those elements of the current JAR-23 seat standards which may be used for retro fit into existing aeroplanes whose maximum certified take off mass is less than 5,700 kg".

3.1 Option 1

Do nothing. This is inconsistent with the rationale behind the improved seat design standards that have been developed in the FAR / JAR codes and the risk of additional fatalities posed by continued operation of aircraft that have not been certified to the latest seat standards – historical UK accident data is explored below in para 4 and the potential for future fatalities under a "do nothing" approach is unacceptable.

3.2 Option 2

Fit the latest standard of dynamically qualified seats to aircraft (with shoulder harnesses when fitted to normal, utility and aerobatic categories, and with conventional lap straps when fitted to commuter category aircraft). Both full dynamic and static compliance to be demonstrated with the occupant retention and injury criteria contained in current FAR/JAR 23.561, 562, 785 requirements.

FAA research has led to the conclusion that, except for products with new Type Certificates, dynamic certification testing is not warranted, static testing of shoulder harnesses being appropriate. It is noted that static testing would be intended to account for the increase in occupancy weight, (98 kg, previously was 77 kg). ref JAR23.785(a)). Dynamic qualification of aeroplane seats is much more expensive and burdensome than static qualification, requiring dedicated facilities with much more complex test apparatus and instrumentation. There is also some doubt whether the full benefits of dynamically qualified seats/restraint systems can be reaped when such seats are retrospectively mounted on some older designs of aeroplane structures which have not been designed with such dynamic cases in mind.

3.3 Option 3

Fit reinforced seats and lap strap restraint system only accounting for the increased *static* mass of occupants - current JAR 23.785(a) requires a 98 kg occupant, previously was 77 kg, (FAR 23 Amendment 23-36 effective 14 September 1988 introduced dynamic seat criteria and an increased occupant mass).

It is noted that the occupant mass has increased by approximately 26% over that required for aeroplane certificated to previous FAR 23 Amendments and the British Civil Airworthiness Requirements of BCAR Section K that were applicable to the older aircraft of this class. However, it is noted that in the UK that the application of BCAR Section K to older types also resulted in the application of a 9g resultant loading case and higher down and side load cases, these down and side cases providing higher design loads in the past even allowing for the latest occupant mass increase. JAR-23 could demand a 26 % higher strength case for the pure forward case which would improve occupant retention in this sense alone. These options are not fully dismissed, but

accounting for increased occupant mass without requiring an upper torso restraint will only provide a relatively small overall safety benefit to occupants whilst still having the potential for requiring significant seat and airframe reinforcement. Combining Options 3 and 4 (retention of increased mass occupant) with the upper torso restraint to make Option 5 makes more logical sense, reaping further injury reduction benefits for relatively little additional cost over Options 3 and 4.

3.4 Option 4

Reinforce aircraft floor and restraint system attachment structure to account for the increased *static* mass of occupant of 98 kg, (seat with conventional lap strap). See Option 3 for evaluation.

3.5 Option 5

Fit shoulder harnesses in addition to lap strap restraint as would be required by JAR 23.785(b), but only accounting for increased *static* mass of occupant (98 kg) with harness attaching to seat/airframe structure, (reinforcement of both seat and harness attachments to the airframe may be necessary), i.e. dynamic compliance with JAR 23.562 not required.

Evaluation work has been undertaken by the FAA, as detailed in FAR final rule Docket Number 23815 which introduced the FAR 23 Amendment 23-32 effective 12/12/85. FAA concluded that the most appropriate option, based on likely cost benefit outcome, would be for the more extensive retrospective fitment of shoulder harnesses. As noted above, use of the increased occupant mass of 98 kg is also recommended when statically qualifying the seat, restraint system and attachments to the airframe structure. Hence Option 5 is identified as the best Option.

4 Benefits

Based on an analysis of accident data for aeroplanes of UK registration under 5700 kg over an 11 year period (1992 through 2002), it has been calculated that out of a total of nearly 100 fatalities that there were 34 fatalities in potentially “survivable” crashes, (“survivable” = non high speed fly-in / Controlled Flight Into Terrain (CFIT)), and that approximately 14 passenger lives could have been saved in the impact event itself by fitting an improved passenger upper torso restraint system alone. In addition a much higher proportion of less severe injuries would also be expected when using the improved restraints which in turn would lead to a higher probability of occupant evacuation and survival in the event of a post crash fire - this would lead to a further reduction in fatalities and an increase in potential lives saved in the UK to a value greater than 14 over that 11 year period.

Future benefits that could be anticipated from the increased retrospective fitment of upper torso restraint sought under Option 5 are likely to be similar, but will be proportional to the number of older aeroplanes on the UK register, (i.e. the number of aeroplanes certified with pre-1988 dynamic seats and pre- the retrospective cut-offs of FAR 23.2 and the ANO amendment as referenced in the Introduction above).

Data that would estimate the benefits from retrofitting UTR on older aeroplanes on the EU Member State register was not available for this RIA, but it is logical to believe that a similar ratio of benefits and costs would result from such an analysis.

5 Compliance Costs

It is noted that such retrospective action would place a modification cost burden on a number of operators/owners of light aircraft that have been designed and certified to airworthiness codes that pre-date the current standards,

Based on an analysis of data from the UK aircraft register (as at 1 March 2003), for TC(P) aircraft which have less than or equal to 9 passenger seats (but excluding the passenger seat adjacent to pilot in the total that follows) and which pre-date the applicability of the ANO and FAR 23.3 amendments referenced above: gives a total of 2978 seat places on 1165 individual aircraft which could be modified so as to have additional UTR fitted. Data is not immediately available to estimate the respective numbers for such seats/aircraft that would be affected on EC Member State aviation registers.

Restraint System upgrade costs: Precise figures have been difficult to obtain and tend to be very aeroplane type and seat layout/installation dependant, thus significant scatter in costs can occur. In view of this, guidance on likely costs has not been supplied under this RIA. (The NPA 26-XXX does contain some estimates of costs).

6 Consultation/ Results of consultation

Consultation on the proposals will be carried out as part of the NPA process.

7 Summary and Recommendations

Following a number of fatal accidents, a review of applicable requirements to occupant safety has been carried out. This review has identified that the retrospective fitment of shoulder harnesses in conjunction with reinforced seats and restraint systems, (statically qualified for the increased static mass of occupants), offers the most effective solution to address the objective.

Attachment B to Appendix I - Explanatory memorandum on Part-OPS

JAA NPA-OPS 70

NPA-OPS 70

JAR-OPS 3

Dangerous Goods

NPA-OPS 70 (JAR-OPS 3) Dangerous Goods

NPA-OPS XX
NPA to JAR-OPS Part 3 (Commercial Air Transportation Helicopters)

This NPA is comprised of:-

1. Explanatory Note

1.1. Regulatory Background

1.2. Regulatory Impact Assessment

1.3 Justification Table

2. Text Proposals

For ease of reference, the proposals are shown in much the same format as they would appear in the JAR. Thus, Section 1 material is shown in columnar format and Section 2 reads across the page. The proposed changes to the text are shown by a combination of ~~strikeout~~ and ***bold italics.*** The latter indicates proposed new text (or numbering).

Paragraph/s affected:-

JAR-OPS 3.070	Carriage of sporting weapons and ammunition
JAR-OPS 3.080	Offering dangerous goods for transport by air
JAR-OPS 3.135	Additional information and forms to be carried
JAR-OPS 3.420	Occurrence reporting
Appendix 1 to JAR-OPS 3.1045	Operations Manual Contents (dangerous goods and weapons)
JAR-OPS 3.1145	General
JAR-OPS 3.1150	Terminology
JAR-OPS 3.1155	Approval to Transport Dangerous goods
JAR-OPS 3.1160	Scope
JAR-OPS 3.1165	Limitations on the Transport of Dangerous goods
JAR-OPS 3.1170	Classification
JAR-OPS 3.1175	Packing
JAR-OPS 3.1180	Labelling and Marking
JAR-OPS 3.1185	Dangerous Goods Transport Document
JAR-OPS 3.1195	Acceptance of Dangerous goods
JAR-OPS 3.1205	Removal of Contamination
JAR-OPS 3.1215	Provision of Information
JAR-OPS 3.1220	Training programmes
JAR-OPS 3.1225	Dangerous goods Incident and Accident Reports
AMC–OPS 3.420 (e)	Dangerous goods Occurrence reporting
IEM OPS 3.1150 (a)	Terminology - Dangerous goods Accident and Dangerous goods

	Incident
IEM OPS 3.1155	Approval to transport dangerous goods
IEM OPS 3.1160(a)	Scope
IEM OPS 3.1160(b)(1)	Dangerous goods on a helicopter in accordance with the relevant regulations or for operating reasons
IEM OPS 3.1160(b) (3)	Veterinary aid or a humane killer for an animal
IEM OPS 3.1160(b) (4)	Medical Aid for a Patient
IEM OPS 3.1160(b) (5)	Scope – Dangerous goods carried by passengers or crew
IEM OPS 3.1165 (b) 1	States concerned with exemptions
AMC OPS 3.1215 (b)	Provision of information
AMC OPS 3.1215(c)(1)	Information to the Commander
AMC OPS 3.1215 (e)	Information in the Event of a Helicopter Incident or Accident In-flight Emergency
AMC OPS 3.1220	Training
IEM OPS 3.1220	Training
AMC OPS 3.1225	Dangerous goods Incident and Accident Reports

NPA-OPS 70 (JAR-OPS 3) Dangerous Goods

1. Explanatory Note

1.1. Regulatory Background

1.1.1 The origin of the proposals contained in this NPA is detailed under the following four main headings:

1.1.1.1 *Alignment with the International Civil Aviation Organization's Technical Instructions for the Safe Transport of Dangerous Goods by Air*

1.1.1.1.1 The carriage of dangerous goods by air is subject to the Standards and Recommended Practices (SARPS) of Annex 18 to the Chicago Convention and the associated Technical Instructions for the Safe Transport of Dangerous Goods by Air produced by ICAO. One of the Standards of Annex 18 is that States must take the measures necessary to achieve compliance with the Technical Instructions for international air transport. Consequently, it is imperative that any other requirements peculiar to a particular region of the world, such as JAR-OPS, are closely aligned with the Technical Instructions so as to ensure States meet their international obligations under ICAO.

1.1.1.1.2 The Technical Instructions are produced on a biennial basis such that they have a validity period of 2 years from 1 January of the first year eg the 2005-2006 edition is valid from 1 January 2005. Since September 2001, attempts have been made to align JAR-OPS with the Technical Instructions. However, at that time, alignment with the 2001-2002 edition was sought; since that time three further editions have been produced (2003-2004, 2005-2006 and 2007-2008). This has resulted in proposals which have sought to amend text amended previously but not yet adopted in JAR-OPS. Consequently, JAR-OPS is aligned to the 1999-2000 edition of the Technical Instructions and this NPA seeks to ensure that all requirements up to and including the current edition (2007-2008) are reflected in JAR-OPS 3. Alignment of JAR-OPS 1 with Technical Instructions 2005-2006 has already been achieved through NPA-OPS 46 from which this NPA has been drawn and then updated.

1.1.1.2 *Increased reference to the Technical Instructions to reduce potential for non-alignment*

1.1.1.2.1 The current process of proposing changes to JAR-OPS when a new edition of the Technical Instructions is produced means that JAR-OPS can never align with the validity period of the Technical Instructions. The time needed to amend JAR-OPS means that by the time any amendment is published, the latest version of the Technical Instructions will already have been valid for some time or may, as in the current situation, have already been superseded by a later version. Consequently, at the request of the OST, a number of proposals in this NPA seek to adopt the requirements of the Technical Instructions by reference to them as opposed to reproducing a requirement, thus removing the potential for non-alignment.

1.1.1.3 *Review of Part 2 material*

1.1.1.3.1 A review of all Part 2 material relating to dangerous goods has resulted in some existing Part material being made rule material.

1.1.1.4 *Amendment proposed by the Dangerous Goods Steering Group*

1.1.1.4.1 A small number of proposals were made by the Dangerous Goods Steering Group, based on experience.

1.1.2 The proposals do not result in any significant, contentious and/or interface issues, or issues of harmonization with other authorities or organizations.

1.1.3 The Dangerous Goods Steering Group developed NPA-OPS 46 (from which this NPA is derived). The Group consisted of the Authorities of Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Italy, The Netherlands, Spain, Switzerland, United Kingdom; and AEA (Association of European Airlines), FAA (Federal Aviation Administration), IACA (International Air Carriers Association), IATA (International Air Transport Association), IECC (International Express Carriers Conference), and IFALPA (International Federation of Airline Pilot's Associations).

1.1.4 Full public consultation for NPA-OPS 46 was effected via the JAR 11 process and amendment to JAR-OPS 1 progressed in the normal manner.

1.1.5 The proposals contained in NPA-OPS 46 were adopted by the JAAC in September 2006 and incorporated into JAR-OPS 1 at Amendment 12 of December 2006.

1.1.6 Drawing on the experience of producing NPA-OPS 46, this version for JAR-OPS 3 has been produced by the HSST in association with the DGSG and will be progressed to public consultation in the accordance with the JAR 11 process. Minor differences between the JAR-OPS 3 and JAR-OPS 1 versions are retained due to the specific requirements of helicopter operations when compared to aeroplane operations.

1.2. Regulatory Impact Assessment

6. 1.2.1 Purpose and intended effect

1.2.1.1 The purpose of this NPA is to ensure that JAR-OPS 3 aligns with the provisions of the International Civil Aviation Organization's Technical Instructions for the Safe Transport of Dangerous Goods by Air. Acceptance of the proposals will ensure that any State implementing JAR-OPS will not be in conflict with their obligations under Annex 18 to the Chicago Convention; it will also ensure that any operator adhering to JAR-OPS will also comply with the requirements of all ICAO Contracting States to which they operate.

1.2.1.2 States and operators are affected by this NPA, but any effect should be minimal since all JAA States are Contracting States to ICAO and are already bound to implement the Standards and Recommended Practices of Annex 18.

7. 1.2.2 Options

1.2.2.1 The options relating to this NPA are:

a) Do nothing.

b) Align JAR-OPS 3 with the Technical Instructions.

1.2.2.2 To do nothing would have following implications:

i) Some of the changes implement additional requirements; by maintaining the current lesser standard, a JAA operator operating to a non-JAA ICAO contracting state may

find themselves in violation of local laws upon arrival. Furthermore, every JAA state would have to file a number of differences against Annex 18.

ii) Some of the changes introduce relaxations to the current requirements. By maintaining the current standard JAA operators will be penalised in not being able to take advantage of these relaxations.

1.2.2.3 To adopt the proposed changes will ensure that the consequences identified above will be addressed.

8. 1.2.3 Impact

1.2.3.1 The impact of alignment / non-alignment with the Technical Instructions is as outlined in 1.2.2.2 above.

1.2.3.2 There are no significant environmental or social impacts associated with this proposal.

9. 1.2.4 Consultation

1.2.4.1 The basis of this NPA is NPA-OPS 46 for JAR-OPS 1 which has gone through full public consultation. Consultation with this NPA has been conducted within the HSST and DGSG.

1.2.4.2 The proposal was thereafter presented and endorsed during the OST 07-1 March 2007 meeting for first RST review before Public Consultation.

1.2.4.3 The primary consultation prior to the adoption of the JAR will be through the NPA process of public scrutiny (JAR 11.065).

10. 1.2.5 Summary and Final Assessment

The proposed changes to JAR-OPS 3 will ensure alignment with the ICAO Technical Instructions, thus preventing significant issues for states and operators alike. The changes will also align JAR-OPS 3 with JAR-OPS 1 although where there are differences due to the special requirements of helicopter operations these are detailed below.

1.3 Justification Table

JAR-OPS reference	Action	Reasons for change
SUBPART B		
JAR-OPS 3.070 (c)	Amended	Editorial as 3.1150(a)(14) amended to 3.1150(a)(15)
JAR-OPS 3.080	Deleted	This paragraph was originally drafted when JAR-OPS was first being produced with the intention that it apply primarily to shippers (it originally stated "A person shall not offer or accept ..."). It was subsequently amended to include an operator's responsibility. In the opinion of the DGSG, this paragraph now requires an operator, among other things, to take all reasonable measures to ensure that no person offers dangerous goods for transport by air unless that person has been trained; it also requires that an operator take all reasonable measures to ensure that the goods are properly classified, documented, certificated, described, packaged, marked, labelled and in a fit condition for transport. In relation to the latter, the DGSG feel that, whilst this is a reasonable requirement in so far as an operator is required to check conformance of packages and documents by carrying out an acceptance check, it is unnecessary since Subpart R already deals adequately and in detail with this matter. In relation to the former, they feel this is unreasonable and impossible to achieve, since there is no existing requirement in the Technical Instructions which places any such onus on operators and there is no existing system by which the information can be ascertained. As a minimum, operators would need to have an additional certification from shippers and freight agents, with all the problems that entails since there would be no legislation in any state requiring shippers or others to provide the information. Moreover, ensuring persons who are consigning or forwarding dangerous goods for carriage are trained is the responsibility of their employer and it would seem to be unwise to weaken this responsibility or suggest it may be undertaken by the operator. In the opinion of the DGSG, the wording of the paragraph is now seeking to place operators in the position of checking on the training of persons over which they have no direct responsibility.
JAR-OPS 3.135(a) 8	Consequential change	Editorial as 3.1215 (d) renumbered as 3.1215 (c).

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JAR-OPS reference	Action	Reasons for change
SUBPART D		
JAR-OPS 3.420 (d) (4)	Amended	The Technical Instructions have been amended in respect of the information to be provided by the commander to the air traffic services in the event of an in-flight emergency (eg: an engine fire) about dangerous goods which are on board the aircraft in the cargo. The amendment stems from a change to the equivalent text in Annex 18 to ensure the commander realises that he/she must pass on information about the dangerous goods on board his/her aircraft if it is involved in an in-flight emergency, and for what purpose. The aim is to ensure that aerodrome authorities (and through them the fire services) are made aware of any potential hazards to persons dealing with the emergency from what is contained in the cargo on the aircraft. It is not intended that the commander makes a decision as to what has caused the in-flight emergency; that is not part of what he/she is required to report either initially or later. It is to ensure that essential information is given to those on the ground who may be involved in dealing with the aircraft when it lands in order that they can be prepared for whatever happens, such as obtaining protective or specialist equipment, and do not exacerbate the situation by taking inappropriate action or cause injury to persons by committing them to taking unnecessary action. The provision of this information should not be confused with the responsibility placed on the operator to report dangerous goods accidents and incidents under JAR-OPS 3.1225; they are unrelated. The DGSG have noted that JAR-OPS 3.420(d)(4) was amended so that it now appears as if it relates to an occurrence that affects flight safety. The requirement on the commander to inform the air traffic services of dangerous goods on an aircraft involved in an in-flight emergency has nothing to do with the safety of the flight or the aircraft but, as is identified above, is to do with alerting persons on the ground of hazards that may arise when the aircraft lands because of what is contained in the cargo. The DGSG strongly recommend that JAR-OPS 3.420(d)(4) be amended such that reference to a commander notifying ATC of any dangerous goods carried on his aircraft be deleted, since it does not refer to flight safety matters. Since the requirement for the commander to notify the air traffic services applies only when dangerous goods are being carried, the DGSG recommend that the requirement be added to Subpart R, together with the associated AMC OPS. However, 3.420 (d) is a list of all types of incidents and 3.420(d)(4) also includes a reference to dangerous goods incidents and it is suggested it is appropriate to retain text in this sub paragraph which reflects this. Consequently, it is proposed that new text be added, notifying of the requirement to report dangerous goods incidents and accidents and cross referring to similar text (3.1225) in subpart R. (This follows the precedent set by 3.420(d)(5) “Unlawful Interference”). None of the requirements of JAR-OPS as they reflect the Technical Instructions have been deleted, there are consequential proposals in this paper which suggest the information be shown in a more appropriate location and provide the necessary guidance.

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JAR-OPS reference	Action	Reasons for change
SUBPART P		
Appendix 1 to JAR-OPS 3.1045	9.1 (c) new paragraph	See the proposal for JAR-OPS 3.420(d)(4) – Occurrence Reporting. The proposed new paragraph in 9.1 (c) is a consequential change arising from the proposal for JAR-OPS 3.420(d)(4) and from the need to ensure compliance with the Technical Instructions. The DGSG advise that the revised text of sub-paragraph (d) in A11 of Appendix 1 to JAR-OPS 3.1045 does not cover the requirements of the Technical Instructions, in that JAR-OPS no longer requires the Operations Manual to contain the procedures for the commander to notify the air traffic services of dangerous goods on an aircraft involved in an in-flight emergency. Sub-paragraph (d) refers to procedures for verbal notification of incidents involving dangerous goods, which is not a requirement of the Technical Instructions, and does not cover the notification requirements about the dangerous goods on board an aircraft in the event of an occurrence when dangerous goods are being carried. DGSG recommend that the notification requirement be added to A9 of Appendix 1 to JAR-OPS 3.1045, since sub-paragraph (c) already requires procedures for responding to emergency situations concerning dangerous goods. In the proposals for amendment to JAR-OPS 3.1215(e) (which appears later in this paper), it is pointed out that an operator will need to have procedures in appropriate manuals for notifying dangerous goods on an aircraft which is involved in an aircraft accident, serious incident or incident; therefore, some reference to these notification requirements needs to be added to Appendix 1 to JAR-OPS 3.1045.
Appendix 1 to JAR-OPS 3.1045 9.1 (c),(d) and (e)	Renumbered as (d), (e) and (f)	
Appendix 1 to JAR-OPS 3.1045 11 (d)	Amended	

JAR-OPS reference	Action	Reasons for change
SUBPART R		
JAR-OPS 3.1145	Re-positioned text from 3.1160 (a), under a new heading	Having a “General” introductory paragraph is used elsewhere in JAR-OPS, such as in sub-part J.
JAR-OPS 3.1145 (a)	Re-positioned text from 1.1160 (a)	This text, which was positioned under “Scope” was deemed more appropriate under “General”.
JAR-OPS 3.1145 (b)	New paragraph	Whilst JAR-OPS clearly applies to all operators, there have been a number of instances where operators in various States have erroneously believed that Subpart R did not apply to them if they did not carry dangerous goods as cargo. Therefore it was believed important to highlight at the beginning of the Subpart that the provisions of JAR-OPS Subpart R, particularly those relating to training, apply to all operators ie not only those with approval to carry dangerous goods as cargo.
JAR-OPS 3.1150	New sub paragraph (a) (2)	Currently in Subpart R there is no explanation for "approval", as used in JAR-OPS 3.1165(b)(2). In the context in which it is used

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JAR-OPS 3.1150 (a) (2)	Renumbered into (a) (3)	in this sub-paragraph it has a specific meaning which is explained in the Technical Instructions and such an approval can only be granted if the conditions specified in the Instructions will be met. DGSG believe that the rule in JAR-OPS 3.1165(b) should be revised to be more specific and that in order to do this there needs to be an explanation for "approval".
JAR-OPS 3.1150	New paragraph (a) (4)	Currently in Subpart R there is no explanation as to what are "dangerous goods". When the Subpart was being developed the Dangerous Goods Team, who were responsible at that time for the development work, understood the explanation would appear in JAR 1 but this appears not to have happened. Therefore, an explanation for "dangerous goods" does not appear to exist in JAR-OPS and it is suggested that this is a serious omission which needs to be rectified. The explanation proposed conforms to that in Annex 18.
JAR-OPS 3.1150 (a) (3)	Renumbered as (a) (5),	
JAR-OPS 3.1150 (a) (4)	Renumbered as (a) (6)	
JAR-OPS 3.1150 (a) (5)	Renumbered as (a) (7)	
JAR-OPS 3.1150 (a) (6)	Renumbered as (a) (9)	Note regarding Unit Load Devices in JAR-OPS 1.1150 (a)(9) and 1.1150 (a)(11) not applicable to helicopters.
JAR-OPS 3.1150 (a) (7) [Re-numbered from old (a) (5)]	Amended	*DG Transport Document.* Since the document specified by the Technical Instructions requires a signed declaration etc, the second sentence is redundant.
JAR-OPS 3.1150 (a) (8)	Deleted	The term “ID number” is no longer used in revised subpart R.
JAR-OPS 3.1150 (a) (8)	New paragraph	There is no explanation for "exemption". In JAR-OPS 3.1165(b)(1) the term "exempted" is used but the exemption which would be granted is different to that to which JAR-OPS in general makes reference. The Technical Instructions has a definition for exemption and lays down the conditions under which it can be granted; currently these are reflected in IEM OPS 3.1165(b). Although there are no specific requirements in the Technical Instructions concerning the length of time an exemption or approval can be valid, often they will be for only a short period (eg: a single flight carrying dangerous goods which are normally forbidden). Moreover, in many cases the Technical Instructions give detailed guidance on what conditions can be considered in granting an exemption and, in practice, all the States concerned have to grant exemptions which contain the same, or similar, conditions in order for the goods to be carried (ie: conflicting conditions on different exemptions may make compliance with them all impossible for an operator). DGSG believes that the rule in JAR-OPS 3.1165(b) should be revised to be more specific and that in order to do this there needs to be an explanation for "exemption".
JAR-OPS 3.1150 (a) (7)	Renumbered into (a) (10)	
JAR-OPS 3.1150 (a) (9)	Renumbered into (a) (11)	
JAR-OPS 3.1150 (a) (10)	Renumbered into (a) (12)	
JAR-OPS 3.1150 (a)(11)	Renumbered into a (13) and amended.	This explanation for “packaging” has been amended in Annex 18 and the Technical Instructions and JAR-OPS needs amending to remain in conformity.
JAR-OPS 3.1150 (a) (12)	Deleted	The term “Proper Shipping Name” is no longer used in revised subpart R.
JAR-OPS 3.1150 (a) (13)	Renumbered into (a) (14)	
JAR-OPS 3.1150 (a) (14)	Deleted	The term “State of Origin” is no longer used in revised subpart R.
JAR-OPS 3.1150 (a)	Amended	Reference moved since this also applies to the Supplement of

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(15)		the ICAO TI.
JAR-OPS 3.1150 (a)(16)	Deleted	The term “UN number” is no longer used in subpart R. The equivalent new paragraph JAR-OPS 1.1150 (a)(16) Unit Load Devices is not applicable to helicopters.
JAR-OPS 3.1155	Reference to IEM in title deleted	DGSG recommend that the existing requirements of IEM OPS 3.1155 be added to the rule, since they believe that it is the minimum information that an operator must give to an authority for consideration of an approval. In making this proposal, the text in the IEM concerning where the dangerous goods approval may be located has not been included, since DGELG think it inappropriate; it is felt this is a decision for the Authority.
JAR-OPS 3.1155 (a)	Editorial change	
JAR-OPS 3.1155	New paragraph (b) and “note”	
JAR-OPS 3.1160	Replaced with new text	3.1160 has been completely re-written so as to refer more to the Technical Instructions. The new text reflects the 2007 TI changes and now differs from JAR-OPS 1 at Amendment 12 status.

JAR-OPS reference	**Action**	**Reasons for change**
JAR-OPS 3.1165(a)	Amended	The Technical Instructions have been radically revised both in layout and text, due to alignment with the UN Recommendations for the Transport of Dangerous Goods. In many places, existing text in the Instructions has been replaced with the actual text in the Recommendations. This has occurred in that part of the Technical Instructions which sets out what types of dangerous goods are totally forbidden for transport; the revised text is in alignment with the equivalent text in the UN Recommendations which is more general and does not refer to specific types of dangerous goods. This means that JAR-OPS 3.1165(a) can no longer refer to the "generic description" used for these types of dangerous goods but only that they are generally described. Secondly, as currently written, JAR-OPS appears to require an operator to take unspecified “reasonable” measures to prevent totally forbidden dangerous goods from being carried. It is suggested these obligations can only apply to dangerous goods which have been declared to the operator. Otherwise this places an impractical burden on the operator and does not align with the Technical Instructions.
JAR-OPS 3.1165(b)	Amended	Annex 18 and the Technical Instructions provide for States to grant exemptions to allow the carriage of dangerous goods which are forbidden in normal circumstances; and paragraph 2.1 of the Annex states "In cases of extreme urgency or when other forms of transport are inappropriate or full compliance with the prescribed requirements is contrary to the public interest, the States concerned may grant exemption from these provisions provided that in such cases every effort shall be made to achieve an overall level of safety in transport which is equivalent to the level of safety provided by these provisions." When subpart R of JAR-OPS was drafted, JAR-OPS 3.1165 (b) was intended to recognise this ability to grant exemptions, as well as other approvals as provided for in the Technical Instructions. However, DGSG now believe the wording of JAR-OPS 3.1165(b) is not sufficiently explicit to make it clear there are exemption procedures for the carriage of dangerous goods which need to meet laid down ICAO principles. See also the proposed definitions for “approval” and “exemption” in JAR-OPS 3.1150.

		Secondly, as currently written, JAR-OPS appears to require an operator to take unspecified "reasonable" measures to prevent totally forbidden (3.1165(a)) and forbidden unless exempted (3.1165(b)) dangerous goods from being carried. It is suggested these obligations can only apply to dangerous goods which have been declared to the operator. Otherwise this places an impractical burden on the operator and does not align with the Technical Instructions.

JAR-OPS reference	**Action**	**Reasons for change**
JAR-OPS 3.1170	Deleted (and replaced with "Intentionally blank")	3.1170 and 3.1180(a) and (c) can be removed, since the only reasonable measures which can be taken is an acceptance check, which is addressed under 3.1195.
JAR-OPS 3.1175	Retained	3.1175 (Packing) is retained for JAR-OPS 3 to allow the alleviation for specific helicopter operations such as the offshore area.
JAR-OPS 3.1180	Heading amended	Heading amended to 'Marking' as labelling now covered by 3.1195. Reference to ACJ (AMC) OPS 3.1180 added.
JAR-OPS 3.1180 (a)	Deleted	Topic now covered in 3.1195.
JAR-OPS 3.1180(b)	Retained as sole paragraph	Text is retained for JAR-OPS 3 to allow the alleviation for specific helicopter operations. Reference to ACJ OPS 3.1180 added.
JAR-OPS 3.1180 (c)	Deleted	Topic now covered in 3.1195.
JAR-OPS 3.1185(b)	Deleted (and replaced with "Intentionally blank")	The wording of 3.1185(b) suggests it is aimed at the shipper and is consequently inappropriate for JAR-OPS. Therefore 3.1185(b) has been deleted and 3.1195 amended to address this issue.
JAR-OPS 3.1195 (a)	Amended	JAR-OPS can only apply to an operator, consequently reference to handling agent has been removed and the paragraph rearranged to include text currently referred to in 3.1185 which it is proposed to delete.
JAR-OPS 3.1195 (a) (1)	Editorial re-number	
JAR-OPS 3.1195 (a)	New paragraph (2)	
JAR-OPS 3.1195 (a)	New paragraph (3)	
JAR-OPS 3.1195 (b)	Amended	
JAR-OPS 3.1200	No change	Text is retained for JAR-OPS 3 as Unit Load Devices as covered in JAR-OPS 1.1200 (b) are not applicable to helicopters.
JAR-OPS 3.1205 (a) (1)	Amended	The Technical Instructions have been revised in relation to the operator's responsibilities for checking that any baggage and cargo contaminated by dangerous goods is decontaminated before it is carried further by air. The Technical Instructions already contain other information on various contamination matters and it is suggested that JAR-OPS should not contain any of this detail but set down the general principle. Also, the existing text is not editorially correct in that it is not leakage or damage to the dangerous goods *per se* but their packages (if they are packed).
JAR-OPS 3.1205	Addition of new (b)	A new requirement has been added to the Technical Instructions for the operator to notify the shipper of any non-compliances he discovers in respect of radioactive material. DGSG recommends that JAR-OPS 3.1205 is amended accordingly.

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JAR-OPS 3.1210	Retained	The text of JAR-OPS 3.1210 complete with reference to ACJ (AMC) OPS 3.1210 (a), is retained and differs from JAR-OPS 1.1210 due to helicopter operations.

JAR-OPS reference	**Action**	**Reasons for change**
JAR-OPS 3.1215(a)-(c)	Amended	Information to ground staff (3.1150) (a)) and crew members (3.1150 (c)) combined and amended to align with the Technical Instructions, which also removes the need for 3.1215(a)(2). That part of the Technical Instructions dealing with operator's responsibilities contains a requirement concerning the provision of information to staff and in what documents it should appear. JAR-OPS 3.1215(a) does not contain the same text as in the Technical Instructions and so the same change is not needed but it does not currently say where information should appear and DGSG feel this is an important omission. In JAR-OPS 3.1215(a)(1) the current text states that the information must include actions to be taken in the event of incidents and accidents involving dangerous goods; the equivalent text in the Technical Instructions states that it is in the event of emergencies involving dangerous goods. The text in the Technical Instructions is considered by DGSG to be more correct since an emergency may not constitute either an accident or incident but emergency actions would still be required. In JAR-OPS 3.1215(a)(2) the word "also" is suggested for deletion, since many operators may only be providing information to handling agents and do not employ their own staff. DGSG further recommend that the reference to handling agent in 3.1215 (b)(2) be deleted, since it seems inappropriate for JAR-OPS to place a direct responsibility on them. It is sufficient for an operator to have the responsibility to ensure notices are in place wherever cargo is accepted.
JAR-OPS 1.1215 (d)	Renumbered as (c) and amended	Several years ago the Technical Instructions were amended to require that the commander of an aircraft be provided with specific information for use in emergencies (eg: the ICAO document on emergency response guidance for dangerous goods incidents that occur in flight). At the time it was considered that no change to JAR-OPS was required since the text was sufficiently general to encompass any and all information which the Technical Instructions required. However, DGSG now feel that since the Technical Instructions have been significantly revised concerning the provision of emergency information, JAR-OPS should make specific mention of the information that must be provided to the commander for use in emergency response.

JAR-OPS reference	**Action**	**Reasons for change**
JAR-OPS 3.1215 (e)	Deleted reference to AMC in title Renumbered as (d) and amended	The Technical Instructions have been amended concerning the information an operator is required to provide about the dangerous goods on board an aircraft which is involved in an aircraft accident or incident; these provisions require that procedures are included in manuals and contingency plans.
JAR-OPS 3.1215 (d) 2	Amended	Text amended to reflect the requirements of the Technical Instructions in respect of notification of dangerous goods on a helicopter involved in a serious incident.

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JAR-OPS 3.1215 (e)	New paragraph	Information to be passed by a commander of a helicopter involved with an in flight emergency and carrying DG as specified in the TI's.
JAR-OPS 3.1220	Deletion of reference to IEM OPS in title	The training provisions of 3.1220 are currently divided into two parts, those for operators with an approval to carry dangerous goods as cargo and those for operators without. This does not reflect the Technical Instructions and results in JAR-OPS being out of step with those Instructions whenever they are amended, which as experience has shown can be for a considerable length of time. Consequently, greater use of references to the Technical Instructions will solve this issue. New 3.1220 (c) introduced by TI's 2007 regarding the qualifications of instructors of DG training. Consequential paragraph number changes.
JAR-OPS 3.1220 (b)	Replaced with new text	
JAR-OPS 3.1220 (c)	New paragraph	
JAR-OPS 3.1220 (c) *old*	Renumbered (d) and replaced with new text	
JAR-OPS 3.1220 (d) - (f)	Renumbered (e)-(g)	
JAR-OPS 3.1220 (g)	Renumbered (h) and amended	
JAR-OPS 3.1225 (a)	Amended	In JAR-OPS 3.1225 the operator is required to report dangerous goods accidents and incidents or the finding of undeclared/misdeclared dangerous goods to the Authority; in ICAO terminology this is interpreted as meaning the State of the operator. However, DGSG believe that it is necessary for dangerous goods accidents and incidents and the finding of undeclared/misdeclared dangerous goods to be reported not only to the State of the operator but also to the State where they occurred. Annex 18 to the Chicago Convention places a responsibility on a State to investigate and keep records of dangerous goods accidents and incidents which occur on its territory. Although there is no similar requirement for the finding of undeclared/misdeclared dangerous goods, their reporting is with the intention that States take enforcement and penalty action if there is evidence of a violation of dangerous goods regulations, and this is a requirement of the Annex. If occurrences are only reported to the Authority there is the possibility that when they happen in another State that State may not be told within a reasonable period of time (if at all) so that it may be unable to carry out its responsibilities for investigation or, more particularly, so that it may take action to secure the situation if the occurrence appears to be serious. DGSG strongly recommends that JAR-OPS 3.1225 be amended to require that dangerous goods accidents and incidents and the finding of undeclared/misdeclared dangerous goods be reported to both the Authority and the State where the event occurred. When developing this text, the latest EU Directives on occurrence reporting were taken into account.
JAR-OPS 3.1225 (b)	Amended	

JAR-OPS reference	**Action**	**Reasons for change**
JAR-OPS 3.1225	New Appendix 1	DGSG also recommends that the present AMC OPS 3.1225 be made an Appendix to the rule since, whilst the Technical Instructions do not specify in detail what information needs to be reported, what is contained in the AMC OPS is considered by DGSG to be the minimum necessary for the appropriate authority to establish the seriousness of the occurrence and know what information exists about it.

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Section 2		
AMC OPS 3.420 (e)	Deleted	Consequential following deletion of 3.420(d)(4).
IEM OPS 3.1150 (a)	3 renumbered as 5, 4 renumbered into 6 and amended	Consequential following addition of terms "Approval" and "Exemption".
IEM OPS 3.1155	Deleted	Consequential due to adoption of appropriate text into rule.
IEM OPS 3.1160 (a)	Renumbered as ACJ OPS 3.1160	Consequential due to re-write of 3.1160 and text retained differing from JAR-OPS 1 due to helicopter operations. Minor editorial changes to text.
IEM OPS 3.1160 (b) (1)	Renumbered as (b)	Consequential due to re-write of 3.1160.
IEM OPS 3.1160 (b) (3)	Deleted	Consequential due to re-write of 3.1160.
IEM OPS 3.1160 (b) (4)	Deleted	Consequential due to re-write of 3.1160 and TI 2007.
IEM OPS 3.1160 (b) (5)	Renumbered as 3.1160 (c) (1)	Consequential due to re-write of 3.1160.
IEM OPS 3.1160 (b) (5) (3) (b)	Amended	To align with the Technical Instructions .
IEM OPS 3.1160 (b) (5) (3) (c)	Amended	To align with the Technical Instructions.
IEM OPS 3.1160 (b) (5) (3) (e)	Amended	To align with the Technical Instructions.
IEM OPS 3.1160 (b) (5) (3) (h)	Amended	To align with the Technical Instructions.
IEM OPS 3.1160 (b) (5) (3) (j)	Amended	To align with the Technical Instructions.
IEM OPS 3.1160 (b) (5) (3) (m)	Amended	To align with the Technical Instructions.
IEM OPS 3.1160 (b) (5) (3) (p)	New Paragraph	To align with the Technical Instructions.
IEM OPS 3.1160 (b) (5) (3) (q)	New Paragraph	To align with the Technical Instructions.
IEM OPS 3.1160 (b) (5) (3) (r)	New Paragraph	To align with the Technical Instructions (2007).

JAR-OPS reference	Action	Reasons for change
IEM OPS 3.1160 (b) (5) (4)	New Paragraph	Due to the time required to amend JAR-OPS, DGSG thought it useful to add this paragraph explaining that the Technical Instructions should be consulted for the definitive up to date list of passenger and crew exceptions.
IEM OPS 3.1165 (b) (1)	Heading renumbered as ACJ OPS 3.1165 (b) and amended	Consequential changes resulting from proposal for 3.1165(b).

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IEM OPS 3.1165 (b) 1	Amended	
IEM OPS 3.1165 (b) 2	Amended	
IEM OPS 3.1165 (b) 3	Replaced with new text	
IEM OPS 3.1165 (b) 4	Amended	
AMC OPS 3.1175	Renumbered ACJ OPS 3.1175	Different from JAR-OPS 1 and retained due to requirements of helicopter operations.
AMC OPS 3.1180 (b)	Renumbered ACJ OPS 3.1180	Consequential change due to amendment to 3.1180. Different from JAR-OPS 1 and retained due to requirements of helicopter operations.
AMC OPS 3.1210 (a)	Renumbered ACJ OPS 3.1210(a)	Different from JAR-OPS 1 and retained due to requirements of helicopter operations.
AMC OPS 3.1215 (b)	Deleted	This AMC OPS is unnecessary since all the information is in the Technical Instructions and JAR-OPS 3.1215(b) already makes reference to the need to comply with those Instructions.
ACJ OPS 3.1215 (c)(1)	New text	OST requested addition of text reflecting the recommendation of the Technical Instructions to provide a summary of the NOTOC if it is of such a size that transmission to ATC of all information would be impracticable.
AMC OPS 3.1215 (e)	Replaced with new text	The current text replaced an earlier version which stated "If an in-flight emergency occurs and the situation permits, a commander shall inform the appropriate air traffic services unit…..". This text can be interpreted as requiring a commander, in all circumstances, to inform ATS of dangerous goods on board his aircraft, whereas the original text was clear that this may not always be the case. It is suggested the intent has not changed – the situation may never permit the commander to pass information - but to avoid any confusion it is proposed to add a clarification to the associated AMC OPS.
AMC OPS 3.1220 3	Amended	Consequential changes resulting from amalgamation of AMC OPS 3.1220 and IEM OPS 3.1220. AMC amended to ACJ.
AMC OPS 3.1220 4	Amended	
AMC OPS 3.1220 4.2	Deleted	
ACJ OPS 3.1220 5	New text transferred from IEM OPS 3.1220 2	
AMC OPS 3.1220 5	Amended and renumbered 6	
AMC OPS 3.1220 6	Renumbered and amended 7	
AMC OPS 3.1220 7	Renumbered and amended 8	
IEM OPS 3.1220	Deleted	
AMC OPS 3.1225 1	Replaced with new text, including a	In this paper there is a proposal to add the requirements of AMC OPS 3.1225 to Appendix 1 to JAR-OPS 3.1225, since it contains
AMC OPS 3.1225 2		

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AMC OPS 3.1225 3 AMC OPS 3.1225 4	report form	the minimum information that should be sent to States for them to establish the details of the occurrence. Therefore, the present text in AMC OPS 3.1225 is no longer needed. DGSG have developed a report form which contains all the required elements and would wish to encourage its use, since it would introduce a standard means of reporting. It has been introduced informally and used successfully in a number of European countries for several years; IATA have now included it in the current edition of the Dangerous Goods Regulations (the industry field document) as an example of a form for reporting dangerous goods occurrences. If it is completed fully it will ensure that all the required information is provided. The numbering of the boxes is intended to facilitate transmission of the details by e-mail (so that the actual form does not need to be used). The DGSG recommend that the form be included in AMC OPS 3.1225, with the information for the reporting of dangerous goods accidents and incidents so that procedures for reporting can be based on a common scheme.

6. Text Proposals

SUBPART B

JAR-OPS 3.070 Carriage of sporting weapons and ammunition (See IEM OPS 3.070)

(c) Ammunition for sporting weapons may be carried in passengers' checked baggage, subject to certain limitations, in accordance with the Technical Instructions (see JAR-OPS 3.1160(b)(5)) as defined in JAR-OPS 3.1150(a)~~(14)~~ ***(15)***.

JAR-OPS 3.080 ~~Offering dangerous goods for transport by air~~ *Intentionally blank*

~~An operator shall take all reasonable measures to ensure that no person offers or accepts dangerous goods for transport by air unless the person has been trained and the goods are properly classified, documented, certificated, described, packaged, marked, labelled and in a fit condition for transport as required by the Technical Instructions.~~

JAR-OPS 3.135 Additional information and forms to be carried

(a) An operator shall ensure that, in addition to the documents and manuals prescribed in JAR-OPS 3.125 and JAR-OPS 3.130, the following information and forms, relevant to the type and area of operation, are carried on each flight:

(8) Notification of special loads including dangerous goods including written information to the commander as prescribed in JAR-OPS 3.1215~~(d)~~ ***(c)***;

SUBPART D

JAR-OPS 3.420 Occurrence reporting

(d) *Specific Reports*. Occurrences for which specific notification and reporting methods must be used are described below;

~~(4) *In-flight Emergencies with Dangerous goods on Board.* If an in-flight emergency occurs and the situation permits, a commander shall inform the appropriate air traffic service unit of any dangerous goods on board. After the aircraft has landed, the commander shall, if the occurrence has been associated with and was related to the transport of dangerous goods, comply also with the reporting requirements specified in JAR-OPS 3.1225. (See AMC OPS 3.420(d)(4))~~

(4) Dangerous Goods Incidents and Accidents. An operator shall report dangerous goods incidents and accidents to the Authority and the appropriate Authority in the State where the accident or incident occurred, as provided for in Appendix 1 to JAR-OPS 3.1225. The first report shall be despatched within 72 hours of the event, unless exceptional circumstances prevent this, and include the details that are known at that time. If necessary, a subsequent report must be made as soon as possible giving whatever additional information has been established. (See also JAR-OPS 3.1225)

SUBPART P

Appendix 1 to JAR-OPS 3.1045
Operations Manual Contents
(See IEM to Appendix 1 to JAR-OPS 3.1045)

9 DANGEROUS GOODS AND WEAPONS

9.1 Information, instructions and general guidance on the transport of dangerous goods including:

(c) Special notification requirements in the event of an accident or occurrence when dangerous goods are being carried;

(~~c~~***d***) Procedures for responding to emergency situations involving dangerous goods;

(~~d~~***e***) Duties of all personnel involved as per JAR-OPS 3.1215; and

(~~e~~***f***) Instructions on the carriage of the operator's employees.

11 HANDLING, NOTIFYING AND REPORTING OCCURRENCES

Procedures for the handling, notifying and reporting occurrences. This section must include:

(d) Procedures for verbal notification to air traffic service units of incidents involving ACAS RAs, bird hazards~~, dangerous goods~~ and hazardous conditions;

SUBPART R

JAR-OPS 3.1145 General

An operator must comply with the applicable provisions contained in the Technical Instructions, irrespective of whether :

(a) the flight is wholly or partly within or wholly outside the territory of a state; or

(b) an approval to carry dangerous goods in accordance with JAR-OPS 3.1155 is held.

NPA-OPS 70 (JAR-OPS 3) Dangerous Goods

JAR–OPS 3.1150 Terminology

(a) Terms used in this Subpart have the following meanings:

(1) *Acceptance Check List.* A document used to assist in carrying out a check on the external appearance of packages of dangerous goods and their associated documents to determine that all appropriate requirements have been met.

(2) Approval. For the purposes only of compliance with JAR-OPS 3.1165(b)(2), an authorisation referred to in the Technical Instructions and issued by an authority, for the transport of dangerous goods which are normally forbidden for transport or for other reasons, as specified in the Technical Instructions;

(~~2~~***3***) *Cargo Aircraft.* Any aircraft which is carrying goods or property but not passengers. In this context the following are not considered to be passengers:

(i) A crew member;

(ii) An operator's employee permitted by, and carried in accordance with, the instructions contained in the Operations Manual;

(iii) An authorised representative of an Authority; or

(iv) A person with duties in respect of a particular shipment on board.

(4) Dangerous Goods. Articles or substances which are capable of posing a risk to health, safety, property or the environment and which are shown in the list of dangerous goods in the Technical Instructions or which are classified according to those Instructions.

(~~3~~***5***) *Dangerous Goods Accident.* An occurrence associated with and related to the transport of dangerous goods which results in fatal or serious injury to a person or major property damage. (See ~~IEM~~ ***ACJ*** OPS 3.1150(a)~~(3)~~ ***(5)*** & (a)~~(4)~~ ***(6)***.)

(~~4~~***6***) *Dangerous Goods Incident.* An occurrence, other than a dangerous goods accident, associated with and related to the transport of dangerous goods, not necessarily occurring on board an aircraft, which results in injury to a person, property damage, fire, breakage, spillage, leakage of fluid or radiation or other evidence that the integrity of the packaging has not been maintained. Any occurrence relating to the transport of dangerous goods which seriously jeopardises the aircraft or its occupants is also deemed to constitute a dangerous goods incident. (See ~~IEM~~ ***ACJ*** OPS 3.1150(a)~~(3)~~ **(5)** & (a)~~(4)~~ ***(6)***.)

(~~5~~***7***) *Dangerous Goods Transport Document.* A document which is specified by the Technical Instructions. It is completed by the person who offers dangerous goods for air transport and contains information about those dangerous goods. ~~The document bears a signed declaration indicating that the dangerous goods are fully and accurately described by their proper shipping names and [UN/ID numbers] and that they are correctly classified, packed, marked, labelled and in a proper condition for transport.~~

(8) Exemption. For the purposes only of compliance with this Subpart, an authorisation referred to in the Technical Instructions and issued by all the authorities concerned, providing relief from the requirements of the Technical Instructions.

(~~6~~***9***) *Freight Container.* A freight container is an article of transport equipment for radioactive materials, designed to facilitate the transport of such materials, either packaged or unpackaged, by one or more modes of transport.

(~~7~~***10***) *Handling Agent.* An agency which performs on behalf of the operator some or all of the latter's functions including receiving, loading, unloading, transferring or other processing of passengers or cargo.

~~[(8) *ID number.* A temporary identification number for an item of dangerous goods which has not been assigned a UN number.]~~

(~~9~~***11***) *Overpack.* An enclosure used by a single shipper to contain one or more packages and to form one handling unit for convenience of handling and stowage.

(~~10~~***12***) *Package.* The complete product of the packing operation consisting of the packaging and its contents prepared for transport.

(~~11~~***13***) *Packaging.* Receptacles and any other components or materials necessary for the receptacle to perform its containment function ~~and to ensure compliance with the packing requirements.~~

~~(12) *Proper Shipping Name.* The name to be used to describe a particular article or substance in all shipping documents and notifications and, where appropriate, on packagings.~~

(~~13~~***14***)*Serious Injury.* An injury which is sustained by a person in an accident and which:

(i) Requires hospitalisation for more than 48 hours, commencing within seven days from the date the injury was received; or

(ii) Results in a fracture of any bone (except simple fractures of fingers, toes or nose); or

(iii) Involves lacerations which cause severe haemorrhage, nerve, muscle or tendon damage; or

(iv) Involves injury to any internal organ; or

(v) Involves second or third degree burns, or any burns affecting more than 5% of the body surface; or

(vi) Involves verified exposure to infectious substances or injurious radiation.

~~(14) *State of Origin*. The Authority in whose territory the dangerous goods were first loaded on an aircraft.~~

(15) *Technical Instructions*. The latest effective edition of the Technical Instructions for the Safe Transport of Dangerous goods by Air ~~(Doc 9284-AN/905)~~, including the Supplement and any Addendum, approved and published by decision of the Council of the International Civil Aviation Organization. ***(ICAO Doc 9284–AN/905)***

~~(16) *UN Number*. The four-digit number assigned by the United Nations Committee of Experts on the Transport of Dangerous goods to identify a substance or a particular group of substances.~~

JAR–OPS 3.1155 Approval to Transport Dangerous goods
~~(See IEM OPS 3.1155)~~

(a) An operator shall not transport dangerous goods unless approved to do so by the Authority.

(b) Before the issue of an approval for the transport of dangerous goods, the operator shall satisfy the Authority that adequate training has been given, that all relevant documents (e.g. for ground handling, helicopter handling, training) contain information and instructions on dangerous goods, and that there are procedures in place to ensure the safe handling of dangerous goods at all stages of air transport.

Note: The exemption or approval indicated in JAR-OPS 3.1165(b)(1) or (2) is in addition to the above and the conditions in (b) may not necessarily apply.

JAR–OPS 3.1160 Scope

~~(a) An operator shall comply with the provisions contained in the Technical Instructions on all occasions when dangerous goods are carried, irrespective of whether the flight is wholly or partly within or wholly outside the territory of a State. (See IEM OPS 3.1160(a).)~~

~~(b) Articles and substances which would otherwise be classed as dangerous goods are excluded from the provisions of this Subpart, to the extent specified in the Technical Instructions, provided:~~

~~(1) They are required to be aboard the helicopter in accordance with the relevant JARs or for operating reasons (See IEM OPS 3.1160(b)(1));~~

~~(2) They are carried as catering or cabin service supplies;~~

~~(3) They are carried for use in flight as veterinary aid or as a humane killer for an animal See IEM OPS 3.1160(b)(3));~~

~~(4) They are carried for use in flight for medical aid for a patient, provided that (See IEM OPS 3.1160(b)(4)):~~

~~(i) Gas cylinders have been manufactured specifically for the purpose of containing and transporting that particular gas;~~

~~(ii) Drugs, medicines and other medical matter are under the control of trained personnel during the time when they are in use in the helicopter;~~

~~(iii) Equipment containing wet cell batteries is kept and, when necessary secured, in an upright position to prevent spillage of the electrolyte; and~~

~~(iv) Proper provision is made to stow and secure all the equipment during take off and landing and at all other times when deemed necessary by the commander in the interests of safety; or~~

~~(5) They are carried by passengers or crew members. (See IEM OPS 3.1160(b)(5).)~~

~~(c) Articles and substances intended as replacements for those in (b)(1) [and (b)(2)] above shall be transported on an helicopter as specified in the Technical Instructions.~~

Articles and substances which would otherwise be classed as dangerous goods are excluded from the provisions of this subpart providing that:

(a) they are not subject to the Technical Instructions in accordance with Part 1 of those Instructions.

(b) they are required to be aboard the helicopter and are in accordance with the relevant JARs or for operating reasons (See ACJ OPS 3.1160(b)), although articles and substances intended as replacements or which have been removed for replacement must be transported on an aeroplane as specified in the Technical Instructions.

(c) they are in baggage:

(1) carried by passengers or crew members in accordance with the Technical Instructions. (See ACJ OPS 3.1160 (c)(1); or

(2) which has been separated from its owner during transit (e.g.: lost baggage or improperly routed baggage) but which is carried by the operator. See ACJ OPS 3.1160(c)(1).”

NPA-OPS 70 (JAR-OPS 3) Dangerous Goods

JAR–OPS 3.1165 Limitations on the Transport of Dangerous goods

(a) An operator shall ~~take all reasonable measures to~~ ensure that articles and substances ***or other goods declared as dangerous goods*** that are specifically identified by name or ~~generic description~~ ***generally described*** in the Technical Instructions as being forbidden for transport under any circumstances are not carried on any helicopter.

(b) ***(see ~~IEM~~ ACJ OPS 3.1165(b))*** An operator shall ~~take all reasonable measures to ensure that~~ ***not carry*** articles and substances or other goods ***declared as dangerous goods*** that are identified in the Technical Instructions as being forbidden for transport in normal circumstances ~~are only transported when~~ unless ~~all applicable~~ ***the following*** requirements of those Instructions have been met:

(1) ~~They are exempted~~ T***he necessary exemptions have been granted*** by ***all*** the States concerned under the ~~provisions~~ ***requirements*** of the Technical Instructions (~~see IEM OPS 3.1165(b)(1)~~); or

(2) ~~The Technical Instructions indicate they may be transported under an approval issued by the State of Origin.~~ ***an approval has been granted by all the State(s) concerned on those occasions when the Technical Instructions indicate that only such approval is required.***

JAR–OPS 3.1170 ~~Classification~~ *Intentionally Blank*

~~An operator shall take all reasonable measures to ensure that articles and substances are classified as dangerous goods as specified in the Technical Instructions~~.

JAR–OPS 3.1175 Packing

(See ~~AMC~~ ***ACJ*** OPS 3.1175)

An operator shall take all reasonable measures to ensure that dangerous goods are packed as specified in the Technical Instructions or in a way which will provide an equivalent level of safety subject to the approval of the Authority.

JAR–OPS 3.1180 ~~Labelling and~~ Marking

(See ACJ OPS 3.1180)

~~(a) An operator shall take all reasonable measures to ensure that packages, overpacks and freight containers are labelled and marked as specified in the Technical Instructions.~~

~~(b)~~ An operator shall take all reasonable measures to ensure packages, overpacks and freight containers are marked as specified in the Technical Instructions or as specified by the Authority. ~~(See AMC OPS 3.1180(b).)~~

~~(c) Where dangerous goods are carried on a flight which takes place wholly or partly outside the territory of a State, labelling and marking must be in the English language in addition to any other language requirements~~

JAR–OPS 3.1185 ~~Dangerous goods Transport Document~~ *Intentionally Blank*

~~(a) An operator shall ensure that, except when otherwise specified in the Technical Instructions, dangerous goods are accompanied by a dangerous goods transport document.~~

~~(b) Where dangerous goods are carried on a flight which takes place wholly or partly outside the territory of a State, the English language must be used for the dangerous goods transport document in addition to any other language requirements.~~

JAR–OPS 3.1195 Acceptance of Dangerous goods

(a) An operator shall not accept dangerous goods ***unless:*** ~~for transport until~~

(1) the package, overpack or freight container has been inspected in accordance with the acceptance procedures in the Technical Instructions***;***

(2) except when otherwise specified in the Technical Instructions, they are accompanied by two copies of a dangerous goods transport document.

(3) the English language is used for:

(i) package marking and labelling; and

(ii) the dangerous goods transport document

in addition to any other language requirements.

(b) An operator ~~or his handling agent~~ shall use an acceptance check list ***which*** ~~The acceptance check list~~ shall allow for all relevant details to be checked and shall be in such form as will allow for the recording of the results of the acceptance check by manual, mechanical or computerised means.

JAR–OPS 3.1205 Removal of Contamination

(a) An operator shall ensure that:

(1) Any contamination ~~found as a result of~~ ***resulting from*** the leakage ***from*** or damage ***to articles***

or packages containing ~~of~~ dangerous goods is removed without delay ***and steps are taken to nullify any hazard as specified in the Technical Instructions***; and

(2) A helicopter which has been contaminated by radioactive materials is immediately taken out of service and not returned until the radiation level at any accessible surface and the non-fixed contamination are not more than the values specified in the Technical Instructions.

(b) In the event of a non-compliance with any limit in the Technical Instructions applicable to radiation level or contamination,

(1) the operator must:

(i) ensure the shipper is informed if the non-compliance is identified during transport;

(ii) take immediate steps to mitigate the consequences of the non-compliance;

(iii) communicate the non-compliance to the shipper and relevant competent authority(ies), respectively, as soon as practicable and immediately whenever an emergency situation has developed or is developing;

(2) the operator must also, within the scope of his responsibilities:

(i) investigate, the non-compliance and its causes, circumstances and consequences;

(ii) take appropriate action, to remedy the causes and circumstances that led to the non-compliance and to prevent a recurrence of similar circumstances that led to the non-compliance;

(iii) communicate to the relevant competent authority(ies) on the causes of the non-compliance and on corrective or preventative actions taken or to be taken.

JAR–OPS 3.1210 Loading Restrictions

(See ~~AMC~~ ***ACJ*** OPS 3.1210(a))

JAR–OPS 3.1215 Provision of Information

(a) Information to personnel. An operator must provide such information in the operations manual and/or other appropriate manuals as will enable personnel to carry out their responsibilities with regard to the transport of dangerous goods as specified in the Technical Instructions, including the actions to be taken in the event of emergencies involving dangerous goods. Where applicable, such information must also be provided to his handling agent.

~~(a) *Information to Ground Staff.* An operator shall ensure that:~~

~~(1) Information is provided to enable ground staff to carry out their duties with regard to the transport of dangerous goods, including the actions to be taken in the event of incidents and accidents involving dangerous goods; and~~

~~(2) Where applicable, the information referred to in sub-paragraph (a)(1) above is also provided to his handling agent.~~

(b) *Information to Passengers and Other Persons* ~~(See AMC OPS 3.1215(b).)~~

(1) An operator shall ensure that information is promulgated as required by the Technical Instructions so that passengers are warned as to the types of goods which they are forbidden from transporting aboard a helicopter; and

(2) An operator ~~and, where applicable, his handling agent~~ shall ensure that notices are provided at acceptance points for cargo giving information about the transport of dangerous goods.

~~(c) *Information to Crew Members.* An operator shall ensure that information is provided in the Operations Manual to enable crew members to carry out their responsibilities in regard to the transport of dangerous goods, including the actions to be taken in the event of emergencies arising involving dangerous goods.~~

(~~d~~***c***) *Information to the Commander.* An operator shall ensure that***:*** ~~the commander is provided with written information, as specified in the Technical Instructions~~

(1) written information is provided to the commander about the dangerous goods to be carried on a helicopter, as specified in the Technical Instructions (see ACJ OPS 1.1215(c)(1));

(2) information for use in responding to in-flight emergencies is provided, as specified in the Technical Instructions;

(3) a legible copy of the written information to the commander is retained on the ground at a readily accessible location until after the flight to which the written information refers. This copy, or the information contained in it, must be readily accessible to the aerodromes of last departure and next scheduled arrival point, until after the flight to which the information refers;

(4) where dangerous goods are carried on a flight which takes place wholly or partially outside the territory of a State, the English language is used for the written information to the commander in addition to any other language requirements.

(See Table 1 of Appendix 1 to JAR-OPS 3.1065 for the document storage period).

(~~e~~***d***) *Information in the Event of a helicopter Incident*

or Accident ~~(See AMC OPS 3.1215(e).)~~

(1) The operator of a helicopter which is involved in a helicopter incident shall, on request, provide any information ***as*** required ~~to minimise the hazards created by any dangerous goods carried.~~ ***by the Technical Instructions***

(2) The operator of a helicopter which is involved in a helicopter accident or ***serious incident where dangerous goods carried as cargo may be involved*** shall, ***without delay, provide any information as required by the Technical Instructions.*** ~~as soon as possible, inform the appropriate authority of the State in which the helicopter accident occurred of any dangerous goods carried.~~

(3) The operator of a helicopter shall include procedures in appropriate manuals and accident contingency plans to enable this information to be provided.

(e) Information in the Event of an In-flight Emergency (See ~~JAR~~ ACJ OPS 3.1215(e))

(1) If an in-flight emergency occurs the commander shall, as soon as the situation permits, inform the appropriate Air Traffic Services unit of any dangerous goods carried as cargo on board the helicopter as specified in the Technical Instructions.

JAR–OPS 1.1220 Training programmes

(See ~~AMC~~ ***ACJ*** OPS 3.1220)
~~(See IEM OPS 3.1220)~~

(a) An operator shall establish and maintain staff training programmes, as required by the Technical Instructions, which shall be approved by the Authority~~.~~

(b) An operator must ensure that staff receive training in the requirements commensurate with their responsibilities.

~~(b) *Operators not holding a permanent approval to carry dangerous goods.* An operator shall ensure that:~~

~~(1) Staff who are engaged in general cargo [and baggage] handling have received training to carry out their duties in respect of dangerous goods. As a minimum this training must cover the areas identified in Column 1 of Table 1 and be to a depth sufficient to ensure that an awareness is gained of the hazards associated with dangerous goods, [how to identify them and what requirements apply to the carriage of such goods by passengers;] and~~

~~(2) The following personnel:~~

~~(i) Crew members;~~

~~(ii) Passenger handling staff; and~~

~~(iii) Security staff employed by the operator who deal with the screening of passengers and their baggage, have received training which, as a minimum, must cover the areas identified in Column 2 of Table 1 and be to a depth sufficient to ensure that an awareness is gained of the hazards associated with dangerous goods, how to identify them and what requirements apply to the carriage of such goods by passengers.~~

NPA-OPS 70 (JAR-OPS 3) Dangerous Goods

~~**Table 1**~~

~~**AREAS OF TRAINING**~~	~~**1**~~	~~**2**~~
~~General philosophy~~	~~X~~	~~X~~
~~Limitations on Dangerous Goods in air transport~~		~~X~~
~~Package marking and labelling~~	~~X~~	~~X~~
~~Dangerous goods in passengers baggage~~	~~X~~	~~X~~
~~Emergency procedures~~	~~X~~	~~X~~

~~Note: 'X' indicates an area to be covered.~~

(c) Instructors of initial and recurrent dangerous goods training programmes shall meet the qualifications specified in the Technical Instructions.

(d) An operator must ensure that training is provided or verified upon the employment of a person in a position involving the transport of dangerous goods by air.

~~(c) *Operators holding a permanent approval to carry dangerous goods.* An operator shall ensure that:~~

~~(1) Staff who are engaged in the acceptance of dangerous goods have received training and are qualified to carry out their duties. As a minimum this training must cover the areas identified in Column 1 of Table 2 and be to a depth sufficient to ensure the staff can take decisions on the acceptance or refusal of dangerous goods offered for carriage by air;~~

~~(2) Staff who are engaged in ground handling, storage and loading of dangerous goods have received training to enable them to carry out their duties in respect of dangerous goods. As a minimum this training must cover the areas identified in Column 2 of Table 2 and be to a depth sufficient to ensure that an awareness is gained of the hazards associated with dangerous goods, how to identify such goods and how to handle and load them;~~

~~(3) Staff who are engaged in general cargo [and baggage] handling have received training to enable them to carry out their duties in respect of dangerous goods. As a minimum this training must cover the areas identified in Column 3 of Table 2 and be to a depth sufficient to ensure that an awareness is gained of the hazards associated with dangerous goods, how to identify such goods, how to handle and load them [and what requirements apply to the carriage of such goods by passengers;]~~

~~(4) Flight crew members have received training which, as a minimum, must cover the areas identified in Column 4 of Table 2. Training must be to a depth sufficient to ensure that an awareness is gained of the hazards associated with dangerous goods and how they should be carried on a helicopter; and~~

~~(5) The following personnel:~~

~~(i) Passenger handling staff;~~

~~(ii) Security staff employed by the operator who deal with the screening of passengers and their baggage; and~~

~~(iii) Crew members other than flight crew members, have~~

~~received training which, as a minimum, must cover the areas identified in Column 5 of Table 2. Training must be to a depth sufficient to ensure that an awareness is gained of the hazards associated with dangerous goods and what requirements apply to the carriage of such goods by passengers or, more generally, their carriage on a helicopter.~~

~~**[Table 2**~~

~~AREAS OF TRAINING~~	~~1~~	~~2~~	~~3~~	~~4~~	~~5~~
~~Limitations on Dangerous goods in air transport~~	~~X~~	~~X~~		~~X~~	~~X~~
~~Classification of Dangerous goods~~	~~X~~				
~~List of Dangerous goods~~	~~X~~	~~X~~		~~X~~	
~~Packaging specifications and markings~~	~~X~~				
~~Storage and loading procedures~~	~~X~~	~~X~~	~~X~~	~~X~~	
~~Dangerous goods in passengers' baggage~~	~~X~~	~~X~~	~~X~~	~~X~~	~~X~~
~~Emergency procedures~~	~~X~~	~~X~~	~~X~~	~~X~~	~~X~~

~~Note: 'x' indicates an area to be covered.~~

~~]~~

(~~d~~***e***) An operator shall ensure that all staff who receive training undertake a test to verify understanding of their responsibilities.

(~~e~~***f***) An operator shall ensure that all staff who require dangerous goods training receive recurrent training at intervals of not longer than 2 years.

(~~f~~***g***) An operator shall ensure that records of dangerous goods training are maintained for all staff as required by the Technical Instructions.

(~~g~~***h***) An operator shall ensure that his handling agent's staff are trained ~~in accordance with the applicable column of Table 1 or Table 2~~ ***as required by the Technical Instructions***.

JAR–OPS 3.1225 Dangerous Goods Incident and Accident Reports

(See ~~AMC~~ ***ACJ*** OPS 3.1225)

(a) An operator shall report dangerous goods incidents and accidents to the Authority ***and the appropriate Authority in the State where the accident or incident occurred, as provided for in Appendix 1 to JAR-OPS 3.1225.*** ~~An initial~~ ***The first*** report shall be despatched within 72 hours of the event unless exceptional circumstances prevent this ***and include the details that are known at that time. If necessary, a subsequent report must be made as soon as possible giving whatever additional information has been established.***

(b) An operator shall also report to the Authority ***and the appropriate Authority in the State where the event occurred, the finding of*** undeclared or misdeclared dangerous goods discovered in cargo or passengers' baggage ***as provided for in Appendix 1 to JAR-OPS 3.1225.*** ~~An initial~~ ***The first*** report must be despatched within 72 hours of the discovery unless exceptional circumstances prevent this ***and include the details that are known at that time. If necessary, a subsequent report must be made as soon as possible giving whatever additional information has been established.***

NPA-OPS 70 (JAR-OPS 3) Dangerous Goods

Appendix 1 to JAR-OPS 3.1225
Dangerous goods incident and accident reports

1. An operator shall ensure that any type of dangerous goods incident or accident is reported, irrespective of whether the dangerous goods are contained in cargo, mail, passengers' baggage or crew baggage. The finding of undeclared or misdeclared dangerous goods in cargo, mail or baggage shall also be reported.

2. The first report shall be despatched within 72 hours of the event unless exceptional circumstances prevent this. It may be sent by any means, including e-mail, telephone or fax. This report shall include the details that are known at that time, under the headings identified in paragraph 3 . If necessary, a subsequent report shall be made as soon as possible giving all the details that were not known at the time the first report was sent. If a report has been made verbally, written confirmation shall be sent as soon as possible.

3. The first and any subsequent report shall be as precise as possible and contain such of the following data that are relevant:

a. Date of the incident or accident or the finding of undeclared or misdeclared dangerous goods;
b. Location, the flight number and flight date;
c. Description of the goods and the reference number of the air waybill, pouch, baggage tag, ticket, etc;
d. Proper shipping name (including the technical name, if appropriate) and UN/ID number, when known;
e. Class or division and any subsidiary risk;
f. Type of packaging, and the packaging specification marking on it;
g. Quantity;
h. Name and address of the shipper, passenger, etc;
i. Any other relevant details;
j. Suspected cause of the incident or accident;
k. Action taken;
l. Any other reporting action taken; and
m. Name, title, address and telephone number of the person making the report.

4 Copies of relevant documents and any photographs taken should be attached to a report.

SECTION 2

SUBPART D

~~**AMC OPS 3.420(c)**~~
~~**Dangerous goods Occurrence reporting**~~
~~**See JAR-OPS 3.420(c)**~~

~~1 To assist the ground services in preparing for the landing of a helicopter in an emergency situation, it is essential that adequate and accurate information about any dangerous goods on board be given to the appropriate air traffic services unit. Wherever possible this information should include the proper shipping name and/or the UN/ID number, the class/division and for Class 1 the compatibility group, any identified subsidiary risk(s), the quantity and the location on board the helicopter.~~

~~2 When it is not considered possible to include all the information, those parts thought most relevant in the circumstances, such as the UN/ID numbers or classes/divisions and quantity, should be given.~~

SUBPART R

***ACJ*/AMC/IEM R — TRANSPORT OF DANGEROUS GOODS BY AIR**

~~**IEM** *ACJ*~~ **OPS 3.1150(a)~~*(3)*~~*(5)* & (a)~~*(4)*~~*(6)***

Terminology - Dangerous Goods Accident and Dangerous Goods Incident

See JAR-OPS 3.1150(a)~~*(3)*~~*(5)* & (a)~~*(4)*~~*(6)*

As a dangerous goods accident (See JAR-OPS 3.1150(a)~~(3)~~***(5)***) and dangerous goods incident (See JAR-OPS 3.1150(a)~~(4)~~***(6)***) may also constitute an aircraft accident***, serious incident*** or incident the criteria for the reporting both types of occurrence should be satisfied.

~~**IEM OPS 3.1155**~~

~~**Approval to transport dangerous goods**~~

~~**See JAR-OPS 3.1155**~~

~~1 Permanent approval for the transport of dangerous goods will be reflected on the Air Operator Certificate. In other circumstances an approval may be issued separately.~~

~~2 Before the issue of an approval for the transport of dangerous goods, the operator should satisfy the Authority that adequate training has been given, that all relevant documents (e.g. for ground handling, helicopter handling, training) contain information and instructions on dangerous goods, and that there are procedures in place to ensure the safe handling of dangerous goods at all stages of air transport.~~

~~3 The exemption or approval indicated in JAR-OPS 3.1165(b)(1) or (2) is in addition to that indicated by JAR-OPS 3.1155.~~

~~**IEM** *ACJ*~~ **OPS 3.1160~~(a)~~**
Scope
See JAR-OPS 3.1160~~(a)~~

1 Although the Technical Instructions use the term 'aircraft' throughout the document, the wording may suggest that the provisions are relevant only to fixed wing scheduled operations. The Technical Instructions contain all the information which is relevant to the transport of dangerous goods by air, irrespective of what type of aircraft is used and in what circumstances.

2 Unless the wording in the Technical Instructions makes it otherwise apparent, all the provisions of the Technical Instructions apply on every occasion when dangerous goods are carried by helicopter. Dangerous goods may be carried other than in accordance with the Technical Instructions only when:

a. They have been exempted under JAR-OPS 3.1165(b)(1); or

b. An approval has been issued under JAR-OPS 3.1175 or 3.1210 ***(a)***; or

c. The Authority has specified different markings under JAR-OPS 3.1180(b).

~~**IEM *ACJ* OPS 3.1160(b)(1)**~~

Dangerous goods on a helicopter in accordance with the relevant regulations or for operating reasons

See JAR-OPS 3.1160(b)~~(1)~~

1 Dangerous goods required to be on board a helicopter in accordance with the relevant JARs or for operating reasons are those which are for:

a. The airworthiness of the helicopter;

b. The safe operation of the helicopter; or

c. The health of passengers or crew.

2 Such dangerous goods include but are not limited to:

a. Batteries;

b. Fire extinguishers;

c. First-aid kits;

d. Insecticides/Air fresheners;

e. Life saving appliances; and

f. Portable oxygen supplies.

~~**IEM OPS 3.1160(b)(3)**~~
~~**Veterinary aid or a humane killer for an animal**~~

~~**See JAR-OPS 3.1160(b)(3)**~~

~~The dangerous goods referred to in JAR-OPS 3.1160(b)(3) may also be carried on a flight made by the same helicopter or preceding the flight on which the animal is carried and/or on a flight made by the same helicopter after that animal has been carried when it is impracticable to load or unload the goods at the time of the flight on which the animal is carried.~~

~~**IEM OPS 3.1160(b)(4)**~~

~~**Medical Aid for a Patient**~~

~~**See JAR-OPS 3.1160(b)(4)**~~

~~1 Gas cylinders, drugs, medicines, other medical material (such as sterilising wipes) and wet cell or lithium batteries are the dangerous goods which are normally provided for use in flight as medical aid for a patient. However, what is carried may depend on the needs of the patient. These dangerous goods are not those which are a part of the normal equipment of the helicopter.~~

~~2 The dangerous goods referred to in paragraph 1 above may also be carried on a flight made by the same helicopter to collect a patient or after that patient has been delivered when it is impracticable to load or unload the goods at the time of the flight on which the patient is carried.~~

NPA-OPS 70 (JAR-OPS 3) Dangerous Goods

~~IEM~~ *ACJ* OPS 3.1160~~(b)(5)~~ *(c)(1)*

Scope – Dangerous goods carried by passengers or crew

See JAR-OPS 3.1160~~(b)(5)~~ *(c)(1)*

1 The Technical Instructions exclude some dangerous goods from the requirements normally applicable to them when they are carried by passengers or crew members, subject to certain conditions.

2 For the convenience of operators who may not be familiar with the Technical Instructions, these requirements are repeated below.

3 The dangerous goods which each passenger or crew member can carry are:

a. Alcoholic beverages containing more than 24% but not exceeding 70% alcohol by volume, when in retail packagings not exceeding 5 litres and with a total not exceeding 5 litres per person;

b. Non-radioactive medicinal or toilet articles (including aerosols, hair sprays, perfumes, medicines containing alcohol); and, in checked baggage only, aerosols which are non-flammable, non-toxic and without subsidiary risk, when for sporting or home use. ***Release valves on aerosols must be protected by a cap or other suitable means to prevent inadvertent release.*** The net quantity of each single article should not exceed 0·5 litre or 0·5 kg and the total net quantity of all articles should not exceed 2 litres or 2 kg;

c. ***One small packet of*** ~~Safety~~ safety matches or a ***cigarette*** lighter ***that does not contain*** ~~for the person's own use and when carried on him. 'Strike anywhere' matches, lighters containing~~ unabsorbed liquid fuel (other than liquefied gas), ***intended for use by an individual when carried on the person. Matches and lighters are not permitted in checked or carry-on baggage.*** ~~lighter~~ ***Lighter*** fuel and lighter refills are not ***permitted on one's person, in carry-on or checked baggage;***

d. A hydrocarbon gas-powered hair curler, providing the safety cover is securely fitted over the heating element. Gas refills are not permitted;

e. Small ~~carbon dioxide gas~~ cylinders ***of a gas of division 2.2*** worn for the operation of mechanical limbs and spare cylinders of ***a*** similar size if required to ensure an adequate supply for the duration of the journey;

f. Radioisotopic cardiac pacemakers or other devices (including those powered by lithium batteries) implanted in a person, or radio-pharmaceuticals contained within the body of a person as a result of medical treatment;

g. A small medical or clinical thermometer containing mercury, for the person's own use, when in its protective case;

h. Dry ice, when used to preserve perishable items, providing the quantity of dry ice does not exceed ~~2~~ ***2.5*** kg and the package permits the release of the gas. ***When such packages are contained within bags or suitcases etc, these must also permit the release of gas.*** Carriage may be in carry-on (cabin) or checked baggage, but when in checked baggage the operator's agreement is required. ***Each piece of checked baggage containing dry ice must be marked:***

- ***"DRY ICE" or "CARBON DIOXIDE, SOLID; and***
- ***with the net weight of dry ice or an indication that the net weight is 2.5kg or less;***

i. When carriage is allowed by the operator, small gaseous oxygen or air cylinders for medical use;

j. When carriage is allowed by the operator, not more than two small ~~carbon dioxide~~ cylinder***s*** of carbon dioxide ***or another suitable gas of Division 2.2*** fitted into a self-inflating life-jacket and not more than two spare cylinder***s***;

k. When carriage is allowed by the operator, wheelchairs or other battery-powered mobility aids with non-spillable batteries, providing the equipment is carried as checked baggage. The battery should be securely attached to the equipment, be disconnected and the terminals insulated to prevent accidental short circuits;

l. When carriage is allowed by the operator, wheelchairs or other battery-powered mobility aids with spillable batteries, providing the equipment is carried as checked baggage. When the equipment can be loaded, stowed, secured and unloaded always in an upright position, the battery should be securely attached to the equipment, be disconnected and the terminals insulated to prevent accidental short circuits. When the equipment cannot be kept upright, the battery should be removed and carried in a strong, rigid packaging, which should be leak-tight and impervious to battery fluid. The battery in the packaging should be protected against accidental short circuits, be held upright and be surrounded by absorbent material in sufficient quantity to absorb the total liquid contents. The package containing the battery should have on it 'Battery wet, with wheelchair' or 'Battery wet, with mobility aid', bear a

'Corrosives' label and be marked to indicate its correct orientation. The package should be protected from upset by securement in the cargo compartment of the helicopter. The commander should be informed of the location of a wheelchair or mobility aid with an installed battery or of a packed battery;

m. When carriage is allowed by the operator, cartridges for ~~sporting~~ weapons, ***(UN0012 and UN0014 only) in Division 1.4 S,*** providing ~~they are in Division 1.4S (See Note),~~ they are for that person's own use, they are securely boxed and in quantities not exceeding 5 kg gross mass and they are in checked baggage. Cartridges with explosive or incendiary projectiles are not permitted. ***Allowances for more than one person must not be combined into one or more packages***;

NOTE: Division 1.4S is a classification assigned to an explosive. It refers to cartridges which are packed or designed so that any dangerous effects from the accidental functioning of one or more cartridges in a package are confined within the package unless it has been degraded by fire, when the dangerous effects are limited to the extent that they do not hinder fire fighting or other emergency response efforts in the immediate vicinity of the package. Cartridges for sporting use are likely to be within Division 1.4S.

n. When carriage is allowed by the operator, a mercurial barometer or mercurial thermometer in carry-on (cabin) baggage when in the possession of a representative of a government weather bureau or similar official agency. The barometer or thermometer should be packed in a strong packaging having inside a sealed inner liner or bag of strong leak-proof and puncture resistant material impervious to mercury closed in such a way as to prevent the escape of mercury from the package irrespective of its position. The commander should be informed when such a barometer or thermometer is to be carried;

o. When carriage is allowed by the operator, heat producing articles (i.e. battery operated equipment, such as under-water torches and soldering equipment, which if accidentally activated will generate extreme heat which can cause a fire), providing the articles are in carry-on (cabin) baggage. The heat producing component or energy source should be removed to prevent accidental functioning;

p. When carriage is allowed by the operator(s), one avalanche rescue backpack per person equipped with a pyrotechnic trigger mechanism containing not more than 200 mg net of Division 1.4S and not more than 250 mg and a cylinder of compressed gas of Division 2.2 not exceeding 250 mL. The backpack must be packed in such a manner that it cannot be accidentally activated. The airbags within the backpack must be fitted with pressure relief valves;

q. Consumer electronic devices (watches, calculating machines, cameras, cellphones, lap top computers, camcorders, etc.) containing lithium or lithium ion cells or batteries when carried by passengers or crew for personal use. Spare batteries must be individually protected so as to prevent short circuits and carried in carry on baggage only. In addition, each spare battery must not exceed the following quantities:

- ***for lithium metal or lithium alloy batteries, lithium content of not more than 2 grams; or for lithium ion batteries, an aggregate equivalent lithium content of not more than 8 grams.***
- ***Lithium ion batteries which an aggregate equivalent lithium content of more than 8 grams but not more than 25 grams may be carried in carry on baggage if they are individually protected so as to prevent short circuits and are limited to two spare batteries per person.***

r. Portable electronic devices (for example cameras, cellular phones, laptop computers, and camcorders) powered by fuel cell systems, and spare fuel cartridges, under the following conditions:

(1) fuel cell cartridges may only contain flammable liquids (including methanol), formic acid and butane;

(2) fuel cell cartridges must comply with IEC PAS 62282-6-1 Ed. 1;

(3) fuel cell cartridges must not be refillable by the user. Refueling of fuel cell systems is not permitted except that the installation of a spare cartridge is allowed. Fuel cell cartridges which are used to refill fuel cell systems but which are not designed or intended to remain installed (fuel cell refills) are not permitted to be carried;

(4) the maximum quantity of fuel in any fuel cell cartridge must not exceed:

i) for liquids 200 ml;

ii) for liquefied gases, 120 ml for non-metallic fuel cell cartridges or 200 ml for metal fuel cell cartridges;

(5) each fuel cell cartridge must be marked with a manufacturer's certification that it conforms to IEC PAS 62282-6-1 Ed. 1, and with the maximum quantity and type of fuel in the cartridge;

(6) each fuel cell system must conform to IEC PAS 62282-6-1 Ed. 1, and must be marked with a manufacturer's certification that it conforms to the specification;

(7) no more than two spare fuel cell cartridges may be carried by a passenger;

(8) fuel cell systems containing fuel and fuel cell cartridges including spare cartridges are permitted in carry-on baggage only;

(9) interaction between fuel cells and integrated batteries in a device must conform to IEC PAS 62282- 6-1 Ed. 1. Fuel cell systems whose sole function is to charge a battery in the device are not permitted;

(10) fuel cell systems must be of a type that will not charge batteries when the portable electronic device is not in use and must be durably marked by the manufacturer: "APPROVED FOR CARRIAGE IN AIRCRAFT CABIN ONLY" to so indicate; and

(11) in addition to the languages which may be required by the State of Origin for the markings specified above, English should be used.

4. The list in the Technical Instructions of items permitted for carriage by passengers or crew may be revised periodically and JAR-OPS may not always reflect the current list. Consequently the latest version of the Technical Instructions should also be consulted.

~~IEM~~ *ACJ* OPS 3.1165(b)~~(1)~~

~~States concerned with exemptions~~ *Exemption and approval procedures of the Technical Instructions*

See JAR-OPS 3.1165(b)~~(1)~~

1 The Technical Instructions provide that in certain circumstances dangerous goods, which are normally forbidden on a helicopter, may be carried. These circumstances include cases of extreme urgency or when other forms of transport are inappropriate or when full compliance with the prescribed requirements is contrary to the public interest. In these circumstances all the States concerned may grant exemptions from the provisions of the Technical Instructions provided that every effort is made to achieve an overall level of safety which is equivalent to that provided by the Technical Instructions. ***Although exemptions are most likely to be granted for the carriage of dangerous goods which are not permitted in normal circumstances, they may also be granted in other circumstances, such as when the packaging to be used is not provided for by the appropriate packing method or the quantity in the packaging is greater than that permitted. The Instructions also make provision for some dangerous goods to be carried when an approval has been granted only by the State of Origin, providing specific conditions which are laid down in the Technical Instructions are met.***

2 The States concerned are those of origin, transit, overflight and destination of the consignment and that of the operator. ***However, the Technical Instructions allow for the State of overflight to consider an application for exemption based solely on whether an equivalent level of safety has been achieved, if none of the other criteria for granting an exemption are relevant.***

3 ~~Where the Technical Instructions indicate that dangerous goods which are normally forbidden may be carried with an approval, the exemption procedure does not apply.~~ ***The Technical Instructions provide that exemptions and approvals are granted by the "appropriate national authority", which is intended to be the authority responsible for the particular aspect against which the exemption or approval is being sought. The Instructions do not specify who should seek exemptions and, depending on the legislation of the particular State, this may mean the operator, the shipper or an agent. If an exemption or approval has been granted to other than an operator, the operator should ensure a copy has been obtained before the relevant flight. The operator should ensure all relevant conditions on an exemption or approval are met.***

4 The exemption ***or approval referred to*** ~~required by~~ ***in*** JAR-OPS 3.1165(b)~~(1)~~ is in addition to the approval required by JAR-OPS 3.1155.

~~**AMC** *ACJ* **OPS 3.1175**~~
Packing
See JAR-OPS 3.1175

~~**AMC** *ACJ* **OPS 3.1180(b)**~~
Marking
See JAR-OPS 3.1180~~(b)~~

~~**AMC** *ACJ* **OPS 3.1210(a)**~~
Loading Restrictions
See JAR-OPS 3.1210(a)

~~**AMC OPS 3.1215(b)**~~

~~**Provision of information**~~

~~**See JAR-OPS 1.1215(b)**~~

~~1 Information to Passengers~~

~~1.1 Information to passengers should be promulgated in such a manner that passengers are warned as to the types of dangerous goods that must not be carried on board a helicopter.~~

~~1.2 As a minimum, this information should consist of:~~

~~a. Warning notices or placards sufficient in number and prominently displayed, at each of the places at an airport where tickets are issued and passengers checked in, in helicopter boarding areas and at any other place where passengers are checked in; and~~

~~b. A warning with the passenger ticket. This may be printed on the ticket or on a ticket wallet or on a leaflet.~~

~~1.3 The information to passengers may include reference to those dangerous goods which may be carried.~~

~~2 Information to Other Persons~~

~~2.1 Information to persons offering cargo for transport by air should be promulgated in such a manner that those persons are warned as to the need to properly identify and declare dangerous goods.~~

~~2.2 As a minimum this information should consist of warning notices or placards sufficient in number and prominently displayed at any location where cargo is accepted.~~

~~3 General~~

~~3.1 Information should be easily understood and identify that there are various classes of dangerous goods.~~

~~3.2 Pictographs may be used as an alternative to providing written information or to supplement such information.~~

ACJ OPS 3.1215(c)(1)

Information to the Commander

See JAR-OPS 3.1215(c)(1)

If the volume of information provided to the commander is such that it would be impracticable to transmit it in the event of an in-flight emergency, a summary of the information should be provided to the commander by the operator, containing at least the quantities and class or division of the dangerous goods in each cargo compartment.

~~**AMC** *ACJ* **OPS 3.1215(e)**~~

Information in the Event of an ~~helicopter Incident or Accident~~ *In-flight Emergency*

See JAR-OPS 3.1215(e)

~~The information to be provided should include the proper shipping name, UN/ID number, class, subsidiary risk(s) for which labels are required, the compatibility group for Class 1 and the quantity and location on board the helicopter.~~

1. To assist the ground services in preparing for the landing of a helicopter in an emergency situation, it is essential that adequate and accurate information about any dangerous goods carried on board as cargo be given to the appropriate air traffic services unit. Wherever possible this information should include the proper shipping name and/or the UN/ID number, the class/division and for Class 1 the compatibility group, any identified subsidiary risks(s), the quantity and the location on board the helicopter.

2. When it is not possible to include all the information, those parts thought most relevant in the circumstances should be given, such as the UN/ID numbers or classes/divisions and quantity or a summary of the quantities and class/division in each cargo compartment. As an alternative, a telephone number can be given from where a copy of the written information to the commander can be obtained during the flight.

3. It is accepted that due to the nature of the in-flight emergency, the situation may never permit the commander to inform the appropriate air traffic services unit of the dangerous goods carried as cargo on board the helicopter.

~~AMC~~ *ACJ* OPS 3.1220

Training

See JAR-OPS 3.1220

1 Application for Approval of Training Programmes. Applications for approval of training programmes should indicate how the training will be carried out. Training intended to give general information and guidance may be by any means including handouts, leaflets, circulars, slide presentations, videos, etc, and may take place on-the-job or off-the-job. Training intended to give an in-depth and detailed appreciation of the whole subject or particular aspects of it should be by formal training courses, which should include a written examination, the successful passing of which will result in the issue of the proof of qualification. Applications for formal training courses should include the course objectives, the training programme syllabus/curricula and examples of the written examination to be undertaken.

2 Instructors. Instructors should have knowledge not only of training techniques but also of the transport of dangerous goods by air, in order that the subject be covered fully and questions adequately answered.

3 ~~Areas~~ ***Aspects*** of training. The ~~areas~~ ***aspects*** of training ~~given in Tables 1 and 2 of JAR-OPS 3.1220~~ ***specified in the Technical Instructions*** are applicable whether the training is for general information and guidance or to give an in-depth and detailed appreciation. The extent to which any area of training should be covered is dependent upon whether it is for general information or to give in-depth appreciation. Additional ~~areas~~ ***aspects*** not identified in ~~Tables 1 and 2~~ ***the Technical Instructions*** may ~~be needed~~ ***need to be covered***, or some ~~areas~~ ***aspects*** omitted, depending on the responsibilities of the individual.

4 Levels of Training

~~4.1 There are two levels of training:~~

a. Where it is intended to give an in-depth and a detailed appreciation of the whole subject or of the area(s) being covered, such that the person being trained gains in knowledge so as to be able to apply the detailed requirements of the Technical Instructions. This training should include establishing, by means of a written examination covering all the areas of the training programme, that a required minimum level of knowledge has been acquired; or

b. Where it is intended to give general information and guidance about the area(s) being covered, such that the person being trained receives an overall awareness of the subject. This training should include establishing by means of a written or oral examination covering all areas of the training programme, that a required minimum level of knowledge has been acquired.

~~4.2 In the absence of other guidance, the staff referred to in JAR-OPS 1.1220(c)(1) should receive training to the [extent] identified in sub paragraph 4.1.a above; all other staff referred to in JAR-OPS 1.1220(b) and (c) should receive training to the [extent] identified in sub paragraph 4.1.b above. However, where flight crew or other crew members, such as loadmasters, are responsible for checking the dangerous goods to be loaded, their training should also be to the [extent] identified in paragraph 4.1.a above.~~

5 How to Achieve Training

NPA-OPS 70 (JAR-OPS 3) Dangerous Goods

5.1 Training providing general information and guidance is intended to give a general appreciation of the requirements for the transport by air of dangerous goods. It may be achieved by means of handouts, leaflets, circulars, slide presentations, videos, etc, or a mixture of several of these means. The training does not need to be given by a formal training course and may take place 'on-the-job' or 'off-the-job'.

5.2 Training providing in-depth guidance and a detailed appreciation of the whole subject or particular areas of it is intended to give a level of knowledge necessary for the application of the requirements for the transport by air of dangerous goods. It should be given by a formal training course which takes place at a time when the person is not undertaking normal duties. The course may be by means of tuition or as a self-study programme or a mixture of both of these. It should cover all the areas of dangerous goods relevant to the person receiving the training, although areas not likely to be relevant may be omitted (for instance, training in the transport of radioactive materials may be excluded where they will not be carried by the operator).

~~5~~***6*** Training in Emergency Procedures~~. The training in emergency procedures~~ should include as a minimum:

a. ~~For those personnel covered by JAR-OPS 1.1220(b) and (c),~~ except for crew members whose emergency procedures training is covered in sub-paragraphs ~~***56b***~~ or ~~***56c***~~ (as applicable) below:

i. Dealing with damaged or leaking packages; and

ii. Other actions in the event of ground emergencies arising from dangerous goods;

b. For flight crew members:

i. Actions in the event of emergencies in flight occurring in the passenger cabin or in the cargo compartments; and

ii. The notification to Air Traffic Services should an in-flight emergency occur (See JAR-OPS ~~3.420(e)~~ ***3.1215(e)***)**.**

c. For crew members other than flight crew members:

i. Dealing with incidents arising from dangerous goods carried by passengers; or

ii. Dealing with damaged or leaking packages in flight.

~~6~~***7*** Recurrent training~~. Recurrent training~~ should cover the areas ~~in Table 1 or Table 2~~ relevant to initial Dangerous goods training unless the responsibility of the individual has changed.

~~7~~***8*** Test to verify understanding. It is necessary to have some means of establishing that a person has gained ~~in~~ ***an*** understanding as a result of training; this is achieved by requiring the person to undertake a test. The complexity of the test, the manner of conducting it and the questions asked should be commensurate with the duties of the person being trained; and the test should demonstrate that the training has been adequate. If the test is completed satisfactorily a certificate should be issued confirming this.

~~**IEM OPS 3.1220**~~

~~**Training**~~

~~**See JAR-OPS 3.1220**~~

~~1 Areas of Training. Dangerous goods is The areas of training identified in Tables 1 and 2 of JAR-OPS 1.1220 are applicable whether the training is:~~

~~a. For general information and guidance; or~~

~~b. To give an in-depth and detailed appreciation of the subject.~~

~~1.1 The extent to which the training should be covered and whether areas not identified in Table 1 or Table 2 need to be added **[**or the identified areas varied,**]** is dependent on the responsibilities of the person being trained. In particular, if a crew member is a loadmaster the appropriate areas of training required may be ***different than for other types of crew***. may be those in column 4 of Table 2 and not those in column 5. **[**Also, if an operator carries only cargo, those areas relating to passengers and their baggage may be omitted from the training.**]**~~

~~2 How to Achieve Training~~

NPA-OPS 70 (JAR-OPS 3) Dangerous Goods

~~2.1 Training providing general information and guidance is intended to give a general appreciation of the requirements for the transport by air of dangerous goods. It may be achieved by means of handouts, leaflets, circulars, slide presentations, videos, etc, or a mixture of several of these means. The training does not need to be given by a formal training course and may take place 'on-the-job' or 'off-the-job'.~~

~~2.2 Training providing in-depth guidance and a detailed appreciation of the whole subject or particular areas of it is intended to give a level of knowledge necessary for the application of the requirements for the transport by air of dangerous goods. It should be given by a formal training course which takes place at a time when the person is not undertaking normal duties. The course may be by means of tuition or as a self-study programme or a mixture of both of these. It should cover all the areas of dangerous goods relevant to the person receiving the training, although areas not likely to be relevant may be omitted (for instance, training in the transport of radioactive materials may be excluded where they will not be carried by the operator).~~

~~AMC~~ *ACJ* OPS 3.1225
Dangerous Goods Incident and Accident Reports

See JAR-OPS 3.1225

~~1 Any type of dangerous goods incident or accident should be reported, irrespective of whether the dangerous goods are contained in cargo, mail, passengers' baggage or crew baggage. The finding of undeclared or misdeclared dangerous goods in cargo, mail or baggage should also be reported.~~

~~2 Initial reports may be made by any means, but in all cases a written report should be made as soon as possible.~~

~~3 The report should be as precise as possible and contain all data known at the time the report is made, for example:~~

~~a. Date of the incident or accident, or the finding of undeclared or misdeclared dangerous goods;~~

~~b. Location, the flight number and flight date, if applicable;~~

~~c. Description of the goods and the reference number of the air waybill, pouch, baggage tag, ticket, etc;~~

~~d. Proper shipping name (including the technical name, if appropriate) and UN/ID number, where known;~~

~~e. Class or division and any subsidiary risk;~~

~~f. Type of packaging, if applicable, and the packaging specification marking on it;~~

~~g. Quantity involved;~~

~~h. Name and address of the shipper, passenger, etc;~~

~~i. Any other relevant details;~~

~~j. Suspected cause of the incident or accident;~~

~~k. Action taken;~~

~~l. Any other reporting action taken; and~~

~~m. Name, title, address and contact number of the person making the report.~~

~~4 Copies of the relevant documents and any photographs taken should be attached to the report.~~

Use of a standard form for the reporting of dangerous goods incidents and accidents would assist the Authorities and enable them to establish quickly the essential details of an occurrence. The following form has been developed for such use and its correct and full completion means that all the details required by Appendix 1 to JAR-OPS 3.1225 would have been covered. It may be sent to the relevant Authorities by any appropriate means including fax, mail, electronic mail, etc.

DGOR No:

DANGEROUS GOODS OCCURRENCE REPORT

Using this form will meet the reporting requirements of JAR-OPS 1.1225 and JAR-OPS 3.1225.
See the Notes on the reverse of this form. Those boxes where the heading is in italics need only be completed if applicable.

1. Operator:	***2. Date of occurrence:***	***3. Local time of occurrence:***
4. Flight date:	***5. Flight no:***	
6. Departure airport:	***7. Destination airport:***	
8. Aircraft type:	***9. Aircraft registration:***	
10. Location of occurrence:	***11. Origin of the goods:***	
12. Description of the occurrence, including details of injury, damage, etc (if necessary continue on the reverse of this form):		

13. Proper shipping name (including the technical name):			***14. UN/ID no (when known):***
15. Class/division (when known):	***16. Subsidiary risk(s):***	***17. Packing group***	***18. Category, (class 7 only)***
19. Type of packaging:	***20. Packaging specification marking:***	***21. No of packages:***	***22. Quantity (or transport index, if applicable):***
23. Reference no of Air Waybill:			
24. Reference no of courier pouch, baggage tag, or passenger ticket:			
25. Name and address of shipper, agent, passenger, etc:			
26. Other relevant information (including suspected cause, any action taken):			

27. Name and title of person making report:	***28. Telephone no:***

NPA-OPS 70 (JAR-OPS 3) Dangerous Goods

29. Company:	***30. Reporters ref:***
31. Address:	***32. Signature:***
	33. Date:

Description of the occurrence (continuation):

NOTES

1. Any type of dangerous goods occurrence must be reported, irrespective of whether the dangerous goods are contained in cargo, mail or baggage.

2. A dangerous goods accident is an occurrence associated with and related to the transport of dangerous goods which results in fatal or serious injury to a person or major property damage. For this purpose serious injury is an injury which is sustained by a person in an accident and which: (a) requires hospitalisation for more than 48 hours, commencing within 7 days from the date the injury was received; or (b) results in a fracture of any bones (except simple fractures of fingers, toes or nose); or (c) involves lacerations which cause severe haemorrhage, nerve, muscle or tendon damage; or (d) involves injury to any internal organ; or (e) involves second or third degree burns, or any burns affecting more than 5% of the body surface; or (f) involves verified exposure to infectious substances or injurious radiation. A dangerous goods accident may also be an aircraft accident; in which case the normal procedure for reporting of air accidents must be followed.

3. A dangerous goods incident is an occurrence, other than a dangerous goods accident, associated with and related to the transport of dangerous goods, not necessarily occurring on board an aircraft, which results in injury to a person, property damage, fire, breakage, spillage, leakage of fluid or radiation or other evidence that the integrity of the packaging has not been maintained. Any occurrence relating to the transport of dangerous goods which seriously jeopardises the aircraft or its occupants is also deemed to constitute a dangerous goods incident.

4. This form should also be used to report any occasion when undeclared or misdeclared dangerous goods are discovered in cargo, mail or unaccompanied baggage or when accompanied baggage contains dangerous goods which passengers or crew are not permitted to take on aircraft.

5. An initial report, which may be made by any means, must be despatched within 72 hours of the occurrence, to the Authority of the State (a) of the operator; and (b) in which the incident occurred, unless exceptional circumstances prevent this. This occurrence report form, duly completed, must be sent as soon as possible, even if all the information is not available.

6. Copies of all relevant documents and any photographs should be attached to this report.

7. Any further information, or any information not included in the initial report, must be sent as soon as possible to authorities identified in 5.

8. Providing it is safe to do so, all dangerous goods, packagings, documents, etc, relating to the occurrence must be retained until after the initial report has been sent to the Authorities identified in 5 and they have indicated whether or not these should continue to be retained.

Attachment C to Appendix I - Explanatory memorandum on Part-OPS

JAA NPA-OPS 69

NPA-OPS 69

(JAR-OPS 3)

Helicopter Hoist Operations

NPA-OPS 69 (JAR-OPS 3) Helicopter Hoist Operations

NPA-OPS XX to JAR-OPS Part 3 (Commercial Air Transportation Helicopters)

This NPA is comprised of:-

1. Explanatory Note

1.1. Regulatory Background

1.2. Regulatory Impact Assessment

2. Text Proposals

For ease of reference, the proposals are shown in much the same format as they would appear in the JAR. Thus, Section 1 material is shown in columnar format and Section 2 reads across the page. The proposed changes to the text are shown by a combination of ~~strikeout~~ and ***bold italics.*** The latter indicates proposed new text (or numbering).

Paragraph/s affected:-

Appendix 1 to JAR-OPS 3.005(h) Helicopter Hoist Operations (HHO) Amended

ACJ to Appendix 1 to JAR-OPS 3.005(h) sub-paragraph (e)(1) - Airworthiness Approval for Human External Cargo New paragraph

NPA-OPS 69 (JAR-OPS 3) Helicopter Hoist Operations

1. Explanatory Note

1.1. Regulatory Background

1.1.1 Introduction

Some of the requirements relating to Helicopter Hoist Operations detailed in Appendix 1 to JAR-OPS 3.005(h) have been found to be difficult to interpret and implement. This is particularly relevant to subparagraph (e)(1) of Appendix 1 to JAR-OPS 3.005(h) which relates to the helicopter hoist equipment and its standard of airworthiness approval appropriate to the intended use or function. The aim of this paper is to introduce a new ACJ to provide explanatory material to clarify and explain the requirements.

The FAA included the airworthiness standard for HEC application into Part 27.865 Amendment 36 and Part 29.865 Amendment 43. The JAA endorsed these regulations as JAR requirements accordingly in JAR 27.865 Amendment 2 (with some modifications - including JAR 27.865(c)(6), the requirement for one-engine-inoperative hover performance data - not present in FAR 27.865) and JAR 29.865 Amendment 2, which were released in May 2001. Later, the EASA adopted the JAR requirements with some modifications and released them in November 2003 as CS 27/29.865. The FAA advisory circular (AC), AC29-2C Change 1, remains the current guidance for the compliance finding process as indicated in the Acceptable Means of Compliance Book 2 of CS-27/29. However, this AC has been updated to Change 2 status which amongst other subjects included merging MG 12 into AC27.865B and AC29.865B. AMC to CS-27/29 are under review by EASA and the updated status of the AC material is likely to be incorporated in due course when some outstanding issues - including the restoration of performance compliance for HEC Class D in AC 27-1B - have been dealt with.

The majority of hoist installations currently in existence were certificated in accordance with previous amendment standards where the airworthiness requirements did not distinguish between the kinds of external cargo that were intended to be carried. In interpreting the phrase “appropriate to the intended function”, and due to past experience following several accidents, some Authorities decided to require the higher standards necessary for HEC applications to be applied for existing installations even though it was clearly explained in AC29-2C MG12 that the described methods of compliance were intended to apply only to either new designs or major modifications to existing designs that occurred after the effective date of these specifications. Such Authorities require that retrofit actions or further investigations are mandatory for the granting or maintaining of the operational approval for existing hoist systems.

1.1.2 Proposal

In order to achieve a European wide solution to the interpretation of the requirements, it is proposed to introduce a new ACJ to Appendix 1 to JAR-OPS 3.005(h) sub-paragraph (e)(1).

The new ACJ describes alternative approaches to the minimum level of retrofit effort necessary to achieve a satisfactory standard of equipment installation. These approaches could include a comprehensive review to confirm safe design of the existing hoist installation to demonstrate an acceptable level of compliance against the actual specifications of HEC as required by CS 27/29.865 or JAR 27/29 Amendment 2 (27/29.865).

Additionally, it is proposed to insert references to the relevant ACJs into the heading of Appendix 1 to JAR-OPS 3.005(h) which are currently missing.

1.2. Regulatory Impact Assessment

1.2.1 Purpose and intended effect.

The effect of the new text at ACJ to Appendix 1 to JAR-OPS 3.705(a) sub-paragraph (e)(1) will be to make the interpretation of the requirement to have an airworthiness approval for HHO equipment appropriate to the intended function clearer and to ensure that the intent of the code is harmonious with FARs and standardised across JAA States.

1.2.2 Options

a. One option would be to do nothing and this would leave the interpretation of the subject code unclear.

b. The other option is to introduce the ACJ material to provide a clear form of interpretation. This is the preferred option.

1.2.3 Impacts

There are not expected to be any additional economic, safety or other effects following these amendments.

1.2.4 Consultation

This proposal has received wide input from operators, National Authorities and manufacturers during its development within the HSST and has been reviewed and amended by EASA.

The proposal was thereafter presented and endorsed during the OST 07-1 March 2007 meeting for first RST review before Public Consultation.

1.2.5 Summary

The introduction of this advisory material will help to alleviate different interpretations of text within Appendix 1 to JAR-OPS 3.005(h) sub-paragraph (e)(1) and a more harmonious approach to its application.

Those affected would be operators of older helicopter / hoist equipment combinations which had certification completed before more stringent standards were applied for the external carriage of human cargo.

The preferred option is to insert the new ACJ as proposed.

2. Text Proposals

A. Section 1

Appendix 1 to JAR-OPS 3.005(h)
Helicopter Hoist Operations (HHO)

Insert:

(See ACJ to Appendix 1 to JAR-OPS 3.005(h), sub-paragraph (d)(2)(iv))
(See ACJ to Appendix 1 to JAR-OPS 3.005(h), sub-paragraph (e)(1))

B. Section 2

Insert new ACJ:

ACJ to Appendix 1 to JAR-OPS 3.005(h) sub-paragraph (e)(1)

NPA-OPS 69 (JAR-OPS 3) Helicopter Hoist Operations

Airworthiness Approval for Human External Cargo
(See Appendix 1 to JAR-OPS 3.005(h))

1. Hoist installations which have been certificated according to any of the following standards are considered to satisfy the airworthiness criteria for Human External Cargo (HEC) operations when required under subparagraph (e)(1) of Appendix 1 to JAR-OPS 3.005(h):

a. CS 27.865 or CS 29.865;
b. JAR 27 Amendment 2 (27.865) or JAR 29 Amendment 2 (29.865) or later;
c. FAR 27 Amendment 36 (27.865) or later - including compliance with CS 27.865(c)(6);
d. FAR 29 Amendment 43 (29.865) or later.

2. Hoist installations which have been certificated prior to the issuance of the airworthiness criteria for HEC as defined in paragraph 1 may be accepted as eligible for HHO operations in accordance with subparagraph (e)(1) of Appendix 1 to JAR-OPS 3.005(h) provided that following a risk assessment either:

a. The service history of the hoist installation is found satisfactory to the Authority; or

b. For hoist installations with an unsatisfactory service history, additional substantiation to allow acceptance by the Authority should be provided by the Hoist Installation Certificate Holder (TC or STC) on the basis of the following requirements:

i. The hoist installation should withstand a force equal to a limit static load factor of 3.5, or some lower load factor, not less than 2.5, demonstrated to be the maximum load factor expected during hoist operations, multiplied by the maximum authorised external load.

ii. The reliability of the primary and back-up quick release systems at aircraft level should be established and Failure Mode and Effect Analysis at equipment level should be available. The assessment of the design of the primary and back-up quick release systems should consider any failure that could be induced by a failure mode of any other electrical or mechanical rotorcraft system.

iii. The operation or flight manual contains one-engine-inoperative hover performance data and procedures for the weights, altitudes, and temperatures throughout the flight envelope for which hoist operations are accepted.

iv. Information concerning the inspection intervals and retirement life of the hoist cable should be provided in the instructions for continued airworthiness.

v. Any airworthiness issue reported from incidents or accidents and not addressed by (i), (ii), (iii) and (iv) should be addressed.

HSST/WP-07/03.4

PROPOSAL FOR THE AMENDMENT OF HEMS PERFORMANCE REQUIREMENTS POST NPA-OPS 38

Attachment D to Appendix I - Explanatory memorandum on Part-OPS

HSST-WP-07-03.4

Appendix D to Explanatory memorandum on Part-OPS

NPA-OPS XX

(JAR-OPS 3)

PROPOSAL FOR THE AMENDMENT OF THE HEMS PERFORMANCE REQUIREMENTS POST NPA-OPS 38

HSST/WP-07/03.4

PROPOSAL FOR THE AMENDMENT OF HEMS PERFORMANCE REQUIREMENTS POST NPA-OPS 38

NPA-OPS XX
NPA to (JAR-OPS Part 3 (Commercial Air Transportation Helicopters))

This NPA is comprised of:-

1. Explanatory Note

1.1 Regulatory Background

1.2 Regulatory Impact Assessment

2 Text Proposals

For ease of reference, the proposals are shown in much the same format as they would appear in the JAR. Thus, Section 1 material is shown in columnar format and Section 2 reads across the page. The proposed changes to the text are shown by a combination of ~~strikeout~~ and ***bold italics.*** The latter indicates proposed new text (or numbering)

Paragraph/s affected:-

Appendix 1 to JAR-OPS 3.005(d) paragraph (c)(2)(i)

Appendix 1 to JAR-OPS 3.005(d) paragraph (c)(2)(i)(B)

Appendix 1 to JAR-OPS 3.005(d) paragraph (c)(2)(ii)

HSST/WP-07/03.4

PROPOSAL FOR THE AMENDMENT OF HEMS PERFORMANCE REQUIREMENTS POST NPA-OPS 38

Explanatory Note

1.1 Regulatory Background

1.1.1 Introduction

Helicopter Emergency Medical Service (HEMS) operations have now been conducted under the auspices of JAR-OPS 3 for many years. Some of the terms used within the context of HEMS are:

> HEMS flight. *A flight by a helicopter operating under a HEMS approval, the purpose of which is to facilitate emergency medical assistance, where immediate and rapid transportation is essential, by carrying: Medical personnel, or Medical supplies (equipment, blood, organs, drugs), or Ill or injured persons and other persons directly involved*.
>
> HEMS operating site. *A site selected by the commander during a HEMS flight for Helicopter Hoist Operations(HHO), landing and take off*.

By the very nature of the task, helicopters responding to scenes of accidents and incidents may be required to land and take-off from HEMS operating sites that have not been used before and that cannot be prepared. Aircraft Commanders are required to assess the risk of such manoeuvres and balance those risks against the urgency of the task. ACJ to Appendix 1 to JAR-OPS 3.005(d) provides a comprehensive overview of the philosophy of HEMS operations and in particular the basis behind such risk assessment and the considerations that should be employed to manage those risks.

The performance and operating conditions of the helicopter must be taken into consideration when assessing the suitability of a HEMS operating site. For helicopters with a maximum Take-off Mass (MTOM) greater than 5700 kg, Appendix 1 to JAR-OPS 3.005(d) stipulates that such performance must be in accordance with Performance Class 1 (PC1). The reference requires helicopters lighter than this and conducting operations to a HEMS operating site located in a hostile environment to do so as far as possible in accordance with Subpart G (PC1). It goes on to say that 'the commander shall make every reasonable effort to minimise the period during which there would be danger to helicopter occupants and persons on the surface in the event of failure of a power unit (See ACJ to Appendix 1 to JAR-OPS 3.005(d) sub-paragraph (c)(2)(i)(B))'.

Due to the unpredictability of where accidents may occur and thereby the location of the HEMS operating site, the requirement to meet PC 1 specifications, in particular with regards to the obstacle environment in the take-off and landing areas, is difficult if not impossible to meet. As a result, HEMS operations to HEMS operating sites have not been conducted by helicopters with a MTOM of more than 5700 kg and for lighter helicopters into sites in hostile environments different interpretations have been applied to the phrase "so as far as possible in accordance with Subpart G (PC1)" causing variations in practices across States.

With the introduction of changes to JAR-OPS 3 brought about by the adoption of NPA-OPS 38, the opportunity now exists to rationalise the text of Appendix 1 to JAR-OPS 3.005(d) and amend the requirements of paragraph (c)(2)(i)(B) to be both achievable and realistic for all helicopters by requiring such operations to be conducted to Performance Class 2 (PC2). In addition, the previous caveat on operations of helicopters with a MTOM greater than 5700 kg can be removed.

1.1.2 Proposal

The proposed changes to the regulations in Appendix 1 to JAR-OPS 3.005(d) will allow more realistic and achievable performance criteria to be set for HEMS operations whilst retaining the level of safety necessary for such operations by the appropriate assessment and management of risk.

1.1.3 Harmonisation

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The proposal does not introduce any harmonisation issues but will clarify and help standardise the interpretation of the requirements across States.

1.2 Regulatory Impact Assessment

1.2.1 Purpose and intended effect

a. This paper examines the HEMS performance requirements contained in Appendix 1 to JAR-OPS 3.005(d) - and their rationale. It explains how these might be amended subsequent to Amendment 5 of JAR-OPS 3 (NPA-OPS 38); it contains a reassessment of the ability of helicopters to operate in Performance Class 1 (PC1) outside of heliport boundaries, with un-surveyed obstacle environments, and makes proposals to bring such operations into compliance with the revised performance regulations.

b. General performance requirements are contained in the Subparts of F, G, H and I with more specific text in Appendix 1 to JAR-OPS 3.005(d) 'Helicopter Emergency Medical Service'. Guidance for application of the requirements is contained in Section 2 of JAR-OPS 3; these requirements and their associated guidance are now examined in detail.

1.2.2 Application of the Extant Requirements

a. Performance requirements for HEMS are expected to be applied pragmatically; they are targeted at the three basic HEMS operational sites:

- The HEMS Operating Base;
- The Hospital Site – i.e. the heliport at a hospital which is located in a hostile environment.
- The HEMS Operating Site;

b. As stated in paragraph 7 of ACJ to Appendix 1 to JAR-OPS 3.005(d):

"The HEMS philosophy attributes the appropriate levels of risk for each operational site; this is derived from practical considerations and probability of use. The risk is expected to be inversely proportional to the amount of use of the site."

The text that follows this statement in the ACJ (shown as bold in the following sections) explains the policy.

> **i.** ***"HEMS Operating Base;*** **from which all operations will start and finish. There is a high probability of a large number of take-offs and landings at this heliport and for that reason no alleviation from operating procedures or performance rules are contained in the HEMS appendix."**
>
> This is a clear statement that the applicable requirements of Subparts F, G, H, I and JAR-OPS 3.240(a)(5)[69] should be applied. The text does not call for the application of any specific Performance Class *per se* only that the existing requirements for Commercial Air Transport - as contained in the main body of JAR-OPS 3 - be applied**. Because the** number of occupants carried in HEMS is usually less than nine[70], any applicable Performance Class could be applied.
>
> ***Note: no changes are proposed***

[69] The requirement, in PC3, to fly over surfaces which would permit a safe-forced-landing to be carried out - which is repeated in Appendix 1 to JAR-OPS 3.005(d) paragraph (c)(1).

[70] Specifically that the maximum approved passenger seating configuration (MAPSC) is (normally) nine or less.

ii. "*The hospital site*; is usually at ground level in hospital grounds or, if elevated, on a hospital building. It may have been established during a period when performance criteria were not a consideration. The amount of use of such sites depends on their location and their facilities; normally, it will be greater than that of the *HEMS operating site* but less than for a *HEMS operating base*. Such sites attract some alleviation under the HEMS rules."

The text of paragraph 8 that follows this text in the ACJ clearly explains problems with existing hospitals; Appendix 1 to JAR-OPS 3.005(i) provides alleviation that can be applied to these locations.

Note 1: after the HEMS guidance was produced, the alleviation was removed from the HEMS Appendix and a pointer to 'Appendix 1 to JAR-OPS 3.005(i) - Public Interest Sites' inserted.

Note 2: no changes are proposed

iii. "*HEMS operating site;* because this is the primary pick up site related to an incident or accident, its use can never be pre-planned and therefore attracts alleviations from operating procedures and performance rules - when appropriate."

When the requirement and this guidance was written, it was well known that HEMS would be performed in city centres such a London and Amsterdam where, if Subpart F were to be applied, PC1 would be required. Obviously, with most accident sites there is little possibility of applying the associated requirements of PC1[71].

1.2.3 Issue

a. The text in Appendix 1 to JAR-OPS 3.005(d) paragraph (c)(2)(i)(B):

"Helicopters conducting operations to/from a *HEMS operating site* located in a hostile environment shall as far as possible be operated in accordance with Subpart G (Performance Class 1). The commander shall make every reasonable effort to minimise the period during which there would be danger to helicopter occupants and persons on the surface in the event of failure of a power unit…"

was intended to be an indicator to the commander that no unnecessary risk should be taken; routes in and out of the accident site should be such that the consequence of engine failure would be minimised. The reference to PC1 rather than PC2 was because there was, at that time, no framework (in Subpart H) for establishing ground level exposure. This has **changed with the** introduction of Amendment 5 (NPA-OPS 38) and ground level exposure is now permitted to a maximum height of 200ft[72].

b. This particular text has caused problems for Authorities and operators alike because "shall as far as possible be operated in accordance with Subpart G" it is open to interpretation. Guidance was provided in ACJ to Appendix 1 to JAR-OPS 3.005(d), paragraph 7 (repeated at the head of this section) but still, different practices have ensued.

c. At one end of the spectrum it could have meant OEI HOGE performance; it could have meant a Category A 'helipad' procedure (where the take-off and landing site could be as small as 1D); it could merely have been a reference to second segment climb performance.

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[71] The requirements of PC1 are: a rejected take-off area with a suitable surface (in terms of size and surface condition) where a helicopter can be (re)landed OEI without damage; provision of specified obstacle clearance in the approach and take-off segments. These requirements have to be substantiated (calculated using graphs in the RFM) before PC1 operations can be commenced at any site.

[72] 200ft is the last point at which the requirement for the take-off-flight-path can be applied and compliance with PC1 established.

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1.2.4 Scale of Issue

a. To understand the implication of each or any of these, we have to look at the elements that are required to operate in Subpart G:

- the first requirement is for a surface on which a rejected take-off can be conducted without damage to the helicopter (for take-off or landing); whilst this might not be necessary with OEI HOGE performance (because a re-landing is not forced following a power-unit-failure) it is not present at most HEMS Operating Sites - thus precluding compliance with a Category A Helipad procedure;
- the second requirement is for obstacle clearance on the continued take-off – once again this might be possible with OEI HOGE performance or even a 'steep' Category A helipad procedure but, without a survey of the site to establish the required climb gradient, it precludes deterministic (PC1) performance;
- the final requirement is that all obstacles are cleared following a power-unit-failure at or after LDP – while it may be possible to continue and land with OEI HOGE performance following a steep approach, it would be difficult (for the same reasons as in the take-off) to establish clearance from obstacles in the balked landing, when the required climb gradient is unknown. There is no regulatory requirement for a manufacturer to provide a 'steep' approach for the Category A helipad procedure (some provide an approach to meet the ICAO Annex 14 slopes – where 6° is regarded as steep); hence, while the helicopter could approach to land on one engine (with the proviso about the surface made earlier), it could not (without a steep procedure in the Flight Manual) tolerate obstacles in the approach sector – which are normal at a HEMS Operating Site. This would almost inevitably ensure that most HEMS Operating Sites are outside of any Category A procedure – i.e. exposed.

Note: if take-off and landing masses for a Category A helipad procedure are required (without being more specific), the type which has a procedure with a near vertical approach from 100ft will be disadvantaged against the one which has only a 3°approach – thus penalising the more powerful one.

b. What could be achieved by requiring OEI HOGE performance, or the restricted mass of a Category A helipad procedure, is the reduction of exposure. Quantifying that reduction under circumstances where the actual take-off and landing paths (at the HEMS Operating Site) are unknown, is problematical.

c. It has also recently been established (in a paper produced to assess performance for HEMS in mountain conditions) that while modern helicopters have good power margins at sea level with ISA conditions; OEI HOGE performance at higher altitudes and with higher than ISA temperatures is not practical.

d. Recent work on PC1 has reinforced the understanding that, even if one engine inoperative (OEI) hover out of ground effect (HOGE) performance is available, the approach and take-off flight paths still have to be assessed (by surveying the obstacle environment) before obstacle clearance can be established. Clearly, such assessment is impractical at the HEMS Operating Site and PC1 is not therefore achievable.

e. In a Hostile Environment (congested or otherwise), flights in or out of the HEMS Operating Site inevitably have a level of risk attached. Now that PC2 with ground level exposure is described in Subpart H, requirements at a HEMS Operating Site can be precisely established and compliance with JAR-OPS 3.520, 3.525, 3.530, 3.535 can be achieved without further interpretation. This would not substantially change the way that operations are conducted to a HEMS Operating Site but would provide a clear, unambiguous and risk assessed compliance with regulations.

f. The proposal for amendment of (c)(2)(i)(B) is shown in Section 2.

1.2.5 Helicopter Development

a. We are about to witness the introduction to HEMS of helicopters that have operational masses in excess of 5,700kg. These helicopters introduce a measure of safety that has not previously been seen in

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HEMS both with regard to inherent performance and the standard of certification. It would not be in the interest of safety to make compliance with requirements difficult for these helicopters.

b. Appendix 1 to JAR-OPS 3.005(d) paragraph (c)(2)(ii) requires that helicopters with a MTOM exceeding 5,700 kg shall be operated in accordance with PC1.

c. What has been discussed above also applies to helicopters of this size – i.e. it is not possible for operators to apply PC1 under conditions where the site does not permit appropriate procedures (lack of knowledge about size and obstacles). It is therefore illogical (to attempt) to apply a higher standard and it is proposed that paragraph (c)(2)(ii) be deleted.

d. As these larger helicopters are introduced, operators should ensure that the risk assessment that precedes their introduction, takes account of both the additional size[73] required at the HEMS Operating Site and the increased propensity for damage caused by rotor-wash in a confined area – particularly in a congested hostile environment.

e. The proposal for amendment of (c)(2)(i) and (c)(2)(ii) is shown in Section 6.

1.2.6 Equipment and Exposure Issues

a. Because the existing text calls for compliance with PC1 (and not PC2), it is not clear whether operators have considered it a necessity to fit UMS. If the proposed changes occur, there would be a direct link between the requirements of Appendix 1 to JAR-OPS 3.005(d), paragraph (c)(2)(i)(B) and Appendix 1 to JAR-OPS 3.517(a). It is understood that some HEMS operators have already been required to fit UMS (probably because of operations to Public Interest Sites).

b. It is not clear whether the proposed change in the rule should require full compliance with Appendix 1 to JAR-OPS 3.517(a) although risk assessment indicates that the majority of HEMS flights include a landing/take-off at a HEMS Operating Site (a high proportion of which will be in a hostile environment) where exposure is likely to be extant. Currently, partial compliance with Appendix 1 to JAR-OPS 3.517(a) is specified for operations to a Public Interest Site which, as with the HEMS Operating Site, could be in a congested hostile environment.

c. It is not intended to modify operations to a HEMS Operating Site, only to revise the text so that compliance with the performance requirement can be achieved without interpretation; the onus for risk reduction is already placed upon the operator in complying with paragraph (c)(2)(i)(D) **"Guidance on take-off and landing procedures at a previously unsurveyed HEMS operating sites shall be contained in the Operations Manual"** for which: *size-related* guidance is provided in 'IEM to Appendix 1 to JAR-OPS 3.005(d)**,** sub-paragraph (c)(2)(i)(C)'; *procedure-related* guidance in paragraph 5 of 'AMC No 1 to OPS 3.220'; and *performance-related* guidance in paragraph 7 of ACJ to Subpart H.

d. Opinion is therefore sought from all parties on whether compliance with Appendix 1 to JAR-OPS 3.517(a) should be part of the requirement and, if so, whether such compliance should include the formality of an <u>additional</u> risk assessment (under circumstances where the risk profile is already well understood and described). Option 2 contains three sub-options which reflect this issue - and the proposed text contains conditional statements which correspond to each of the three sub-options.

e. As part of the changes proposed in NPA-OPS 38, the prescriptive requirements of Appendix 1 to JAR-OPS 3.517(a) were replaced by objective text; it is considered that compliance with the requirement for UMS could be provided by (appropriately configured) FADEC with its associated non-volatile memory, and recording and download functions (which are present in most modern light twins used for HEMS). Modern

[73] For example, the overall size ('D') of the AW139 is 16.7m compared to: 12.2m for the EC135; 13m for the EC145; 13m for the A109; and 13.7 for the AS365.

helicopters could therefore be able to comply without further investment; the same is not true for older helicopters, for which exposure could be longer.

1.2.7 Options

a. **Option 1**: One course of action would be to do nothing and rely upon interpretation of the HEMS appendix; this has already been shown to be unsatisfactory as the regulation is interpreted in quite different ways by individual States. It would leave helicopters in excess of 5,700kg at a substantial disadvantage – i.e. without an implementable regulation. It would also be unfortunate not to provide a clear regulation which can be transitioned to EASA without further discussion or amendment.

b. **Option 2**: The second course of action would be to make the proposed changes and provide a regulation that does not need interpretation and which could be applied universally; this would permit operations to a hostile environment by taking advantage of ground level exposure (as permitted in Subpart H post NPA-38). It would also permit the introduction of larger helicopters with increased flexibility, payload and performance so that more sophisticated equipment and more specialist personnel could be carried. If this course of action is preferred it leads to further choices of if and how compliance with Appendix 1 to JAR-OPS 3.517(a) needs to be shown:

i. **Option 2(a) –** full compliance with Appendix 1 to JAR-OPS 3.517(a). This would put HEMS operators on the same footing as operators who, post NPA-OPS 38, will be seeking approval to operate with ground level exposure.

ii. **Option 2(b)** – no requirement to show compliance with Appendix 1 to JAR-OPS 3.517(a). This would leave HEMS operations as they are today – i.e. no need to seek additional approval for operations with exposure (albeit now with the ability to show compliance with the operating rule).

iii. **Option 2(c)** – partial compliance with Appendix 1 to JAR-OPS 3.517(a). As the risk profile at a HEMS Operating Site is already well known, there would be no requirement for the operators to provide the additional risk assessment that is called for in Appendix 1 to JAR-OPS 3.517(a) paragraph (a)(1) but would have to show compliance with paragraph (a)(2).

c. The preferred option is Option 2 to amend the text. However, this option leads to the three choices detailed above and requires comment and response from industry as to the most appropriate route to be selected before the final decision can be made.

1.2.8 Impacts

a. **Sectors Affected**

The Authorities; will be impacted positively by this proposal as it will reduce the need to interpret the regulation. Regulatory oversight should also be improved with the simplification of the rule and by the reduction of non-compliance. There are no costs associated with the proposed changes apart from revision of the text. The code will also be submitted to EASA without the necessity for further amendment.

Operators; there will be a positive impact for HEMS operators because it will clarify the exact meaning of the rule. There could be additional cost if it is decided that a change in rule will require the fitting of UMS where it is not currently required. For modern helicopters with FADEC – i.e. the majority – this should not be necessary.

Manufacturers; will not be affected by this proposal.

b. **Impacts Identified**

The following text considers the overall impact of the proposed amendment of the regulation.

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i. ***Safety***

It is not possible for PC1 to be applied deterministically at the HEMS Operating Site. The proposed change to PC2 at the HEMS Operating Site will permit uniform compliance without a reduction in safety. A rule which can be universally applied and for which compliance is not a matter of interpretation or dispute can only improve the relationship between the Authority and Operator. The application of Risk Assessment will remove the false sense of security that has surrounded the impractical requirement for PC1 "as far as possible" – it was never possible at an un-surveyed site.

ii. ***Economic***

The Authorities; for the majority of Authorities, there will be no economic impact; for the minority there might be an additional cost of approving equipment and procedures required for operations with exposure.

The Operators; for the majority of HEMS operations there will be no impact; for a minority, there will be the once-and-for-all cost of the provision of UMS.

The Manufacturers; there should be no additional cost for the manufacturers

iii. ***Harmonisation***

Harmonisation will be improved; operations to the HEMS Operating Site will all be conducted to a single standard.

iv. ***Environmental***

It is not considered that there will be any detrimental effect on the environment.

v. ***Social***

There is not considered to be any detrimental social effect.

vi. ***Other aviation requirements outside the JAA/EASA scope***

This proposal is unlikely to have any impact outside the JAA/EASA scope

1.2.9 Consultation

This proposal has been extensively discussed in the HSST and in the HEMS organisations (EHA/EHAC); they are in support of the intent of this policy.

1.2.10 Summary and Final Assessment

The proposed change provides a substantial simplification to the rules. It removes the current text with its uncertainties and potential for dispute and replaces it with text that permits universal compliance with no impact on safety. The proposal also removes the unnecessary division between rules for helicopters with a MTOM greater than 5,700kg and the others – thus permitting larger and more capable helicopters into HEMS operations without artificial constraints.

The proposal leaves open the question of whether UMS will be required; initiatives like the IHST – supported by the FAA, EASA and most manufacturers - appear to be moving towards a recommendation for universal adoption of usage and other monitoring systems.

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The preferred option is to amend Appendix 1 to JAR-OPS 3.005(d) as indicated but to leave the final decision on which of the three choices of text is most appropriate to be made following the results of consultation. Industry is therefore encouraged to provide feedback on these choices.

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2 Text Changes

2.1 Amend Appendix 1 to JAR-OPS 3.005(d) paragraph (c)(2)(i) as shown:

(i) *Take-off and landing ~~- helicopters with a MTOM of 5 700 kg or less~~*

2.2 Amend Appendix 1 to JAR-OPS 3.005(d) paragraph (c)(2)(i)(B) as shown:

(B) Helicopters conducting operations to/from a HEMS operating site located in a hostile environment shall ***be operated in Performance Class 2***

(Option 2(a) no additional text would be required and compliance would be shown)

(Option 2(b) the following text would be added; "***without the requirement to comply with Appendix 1 to JAR-OPS 3.517(a)"***)

(Option 2(c) the following text would be added; ***"without the requirement to comply with Appendix 1 to JAR-OPS 3.517(a) paragraph (a)(1)"***)

~~as far as possible be operated in accordance with Subpart G (Performance Class 1). The commander shall make every reasonable effort to minimise the period during which there would be danger to helicopter occupants and persons on the surface in the event of failure of a power unit~~ (See ACJ to Appendix 1 to JAR-OPS 3.005(d) sub-paragraph (c)(2)(i)(B)).

2.3 Remove Appendix 1 to JAR-OPS 3.005(d) paragraph (c)(2)(ii)

~~(ii) *Take-off and landing - helicopters with a MTOM exceeding 5 700 kg*. Helicopters conducting HEMS shall be operated in accordance with Performance Class 1.~~