



Commercial Air Transport Helicopters & Balloons

**Workshop CAA Sweden
Stockholm, 3 March 2009**



AGENDA

- 1. The Essential Requirements and Basis for the Implementing Rules**
 - 2. Part-OPS.GEN/CAT**
 - 3. Part-OPS.SPA (Helicopters)**
 - 4. Part-OR.GEN and OR.OPS**
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1. The Essential Requirements and Basis for the Implementing Rules



Essential Requirements

- **BR Annex IV Chapter 8 contains additional requirements for operation for commercial purposes**
 - ✦ **Organisation requirements and management system**
 - ✦ **Operator training**
 - ✦ **Minimum Equipment List (MEL)**
 - ✦ **Operations Manual**
 - ✦ **Security Programme**
 - ✦ **Flight Time Limitations and Rest Requirements**
 - **The proposed IRs had to be based on these ERs**
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IR Basis

➤ The Agency proposals

- ★ **are based on ICAO Annex 6**
 - ★ **follow latest amendments of EU-OPS/JARs:**
 - ➔ EU-OPS (Reg. 859/2008) / JAR-OPS 1 Amendment 13 / TGL 44
 - ➔ JAR-OPS 3 Amendment 5
 - ➔ Draft JAR-OPS 0,2,4 after A-NPA process - 2002/03
 - ★ **take into account JAA NPAs in an advanced phase of adoption**
 - ★ **for balloons are based on various MS legislation**
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Implementing Rules

Definition of Commercial Air Transport

An aircraft operation involving the transport of passengers, cargo or mail for remuneration or hire.



2. Part-OPS.GEN/CAT



Part-OPS Numbering principles

- **Same number as in OPS.GEN:**
 - ★ **OPS.CAT is an additional requirement**
 - ★ **can also replace the requirement in OPS.GEN (e.g. notwithstanding OPS.GEN...)**
 - **Different number from that in OPS.GEN:**
 - ★ **always additional requirement to that contained in OPS.GEN**
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Section I

General Requirements





Section I - General Requirements

- **Subpart OPS.GEN as presented this morning...**
 - **Subpart OPS.CAT...**
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Section I - General Requirements

➤ **OPS.GEN Section I:
General Requirements**



➤ **OPS.CAT Section I:
General Requirements**

- = Subpart A and B of JAR-OPS 3
 - ≠ Quality system and accident prevention and flight safety programme (now Part-OR)
 - ≠ exemptions for local operations or non-complex helicopters (within requirements)
 - ≠ specific H ops (now OPS.SPA)
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Section II

Operational Procedures



Section II - Operational Procedures

➤ **OPS.GEN Section II:
Operational Procedures**



➤ **OPS.CAT Section II:
Operational Procedures**

➤ = **Subpart D and E
(up to and including
Cat I) of JAR-OPS 3**



Section II - Operational Procedures

- **OPS.GEN – Helicopters
(beyond general paragraphs)**
 - ★ **OPS.GEN.140.H Rotor engagement**
 - qualified pilot at controls
 - ★ **OPS.GEN.147 Visual Flight Rules (VFR) Operating minima**
 - Transferred from JAR-OPS 3
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Section II - Operational Procedures

- **OPS.CAT – Helicopters
(beyond general paragraphs)**
 - ★ **OPS.CAT.150.H Operating minima - Helicopter Airborne Radar Approaches (ARAs) for overwater operations**
 - ★ **OPS.CAT.155.H Selection of alternate aerodromes**
 - ➔ Specific requirement for CAT only (“notwithstanding OPS.GEN”)
 - ★ **OPS.CAT.156.H Selection of take-off alternate aerodromes**
 - ★ **OPS.CAT.185.H Meteorological conditions**
 - ★ **OPS.CAT.205 Fuel and oil supply**
 - ➔ Specific requirement for CAT only (“notwithstanding OPS.GEN”)
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Section II - Operational Procedures

- **Balloons (beyond general paragraphs):**
 - ★ **OPS.GEN.205 Fuel and oil supply**
 - VFR reserve fuel = 30 minutes
 - ★ **OPS.GEN.210 Refuelling with passengers embarking, on board or disembarking**
 - Not allowed
 - ★ **OPS.GEN.220.B Operational limitations – balloons**
 - No landing at night
 - Take-off during night provided landing during day
 - ★ **beyond general paragraphs, no specific balloon requirements in OPS.CAT**
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A stylized logo on the left side of the slide, featuring a yellow bird in flight with white wings, positioned above a white swoosh that curves downwards and ends in a small white star.

Section III

Aircraft performance and operating limitations





Section III - Aircraft performance and operating limitations

**Annex IV – Air Operations
Chapter 4
Aircraft performance and
operating limitations**



**OPS.GEN
Section III:
Aircraft performance and
operating limitations**



**OPS.CAT
Section III:
Aircraft performance and
operating limitations**

- Performance factors that affect all phases of flight (e.g. runway conditions)
- Aircraft to be operated in accordance with the AFM or equivalent

- Operating limitations, weighing, mass and balance system
- General performance requirement for critical engine inoperative



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Section III - Aircraft performance and operating limitations

- **Subpart OPS.GEN as presented this morning...**

 - **Subpart OPS.CAT...**
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Section III - Aircraft performance and operating limitations

➤ Helicopter performance:

- ★ **All provisions from JAR-OPS 3 transferred**
 - ★ **Split into 2 sections:**
 - ➔ Those generally applicable in OPS.CAT
 - ➔ Those with 'exposure' requiring specific approval in OPS.SPA.SFL
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Section III - Aircraft performance and operating limitations

- **OPS.CAT.355.H Performance applicability**
 - ★ **Defining in which cases PC 1, 2 and 3 are required**

 - **OPS.CAT.360.H Performance General**
 - ★ **Mass limitations**

 - **OPS.CAT.365.H Obstacle accountability**

 - **OPS.CAT.370.H Flight hours reporting**
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Section III - Aircraft performance and operating limitations

- **No additional performance requirements for balloons**
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Section IV

Instruments, data and equipment





Section IV - Instruments, data and equipment

**Annex IV – Air Operations
Chapter 5
Instruments, data and
equipment**



**OPS.GEN
Section IV:
Instruments, data and
equipment**



**OPS.CAT
Section IV:
Instruments, data and
equipment**

- **Aircraft must be equipped with all instruments, data and equipment necessary for the flight, taking into account air traffic requirements and rules of the air applicable during any phase of the flight**
- **All flight instruments, navigation, communication, surveillance, safety, emergency and survival equipment required for each aircraft type involved in non-commercial operations or common to all commercial operations**
- **All additional flight instruments, navigation, communication, surveillance, safety, emergency and survival equipment required for each aircraft type involved in commercial air transport**



Section IV - Instruments, data and equipment

- **Appendices to JAR-OPS 3.005 for equipment have been included, except:**
 - ★ **carriage of supplemental oxygen when flying above 10 000 ft up to 16 000 ft (excursions of short duration up to 16 000 ft in Appendix 1 to JAR-OPS 3.005(f) para (d)(12))**

 - **Reasons:**
 - ★ **no definition of short duration**
 - ★ **criteria of pilots acclimatised to high altitudes is not objective**
-



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Section IV - Instruments, data and equipment

➤ **OPS.GEN – Helicopters
(beyond general paragraphs)**

★ **OPS.GEN.425.H Ditching**

- **Designed for landing on water or**
 - **Certificated iaw ditching provisions**
 - **Criteria for fitment of emergency flotation equipment**
-



Section IV - Instruments, data and equipment

- **OPS.CAT – Helicopters
(beyond general paragraphs)**
 - ★ **OPS.CAT.418.H Radio altimeters**
 - ➔ On flights over water
 - ★ **OPS.CAT.420 Flight over water**
 - ★ **OPS.CAT.426.H Crew survival suits**
 - ➔ Flights over water beyond a certain distance
-



Section IV - Instruments, data and equipment

- **OPS.CAT – Helicopters
(beyond general paragraphs)**
 - ★ **OPS.CAT.427.H Additional requirements for helicopters operating to or from helidecks located in a hostile sea area**
 - ➔ e.g. emergency lightening, emergency exits, non-jettisonable doors which are designated as Ditching Emergency Exits, life jackets (survival suit)
 - ★ **OPS.CAT.490 Flight data recorder**
 - ★ **OPS.CAT.495 Cockpit voice recorder**
 - ★ **OPS.CAT.516 Crew member interphone system**
 - ★ **OPS.CAT.517 Public address system**
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Section IV - Instruments, data and equipment

OPS.GEN – Balloons (beyond general paragraphs)

- **OPS.GEN.405 Equipment for balloons**
 - ★ **fire extinguisher and an alternative source of ignition**
 - ★ **large balloons (pax capacity of more than 11) and balloons used in commercial operations in addition:**
 - ➔ protective gloves for each crew member;
 - ➔ crew restraint harness(es);
 - ➔ a hook knife;
 - ➔ a fire blanket or fire resistant cover; and
 - ➔ a drop line of at least 30 metres (m)
-



Section IV - Instruments, data and equipment

- **OPS.GEN.410 Flight instruments and equipment - VFR flights balloons**
 - ★ **means of measuring and displaying:**
 - ➔ time, in hours, minutes and seconds;
 - ➔ pressure altitude;
 - ★ **a means of indicating:**
 - ➔ drift direction; and
 - ➔ envelope temperature
 - ★ **large balloons (pax capacity of more than 11) and balloons used in commercial operations in addition a means of measuring and displaying:**
 - ➔ vertical speed;
 - ➔ pressure for each supply line
-



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Section IV - Instruments, data and equipment

- **OPS.GEN.415 Flight instruments and equipment - VFR night flights balloons**
 - ★ **in addition to OPS.GEN.410:**
 - ➔ position lights;
 - ➔ a means of illuminating all of the instruments used by the flight crew
-



Section IV - Instruments, data and equipment

- **OPS.GEN.420 Flights over water balloons**
 - ★ **The pilot-in-command of a balloon shall determine the risks to survival of the occupants of the aircraft in the event of a ditching, based on which he/she shall determine the carriage of:**
 - ➔ life jackets for each person on board;
 - ➔ emergency locator transmitters; and
 - ➔ equipment for making distress signals
 - ★ **when operating a flight:**
 - ➔ over water beyond gliding distance from the shore; or
 - ➔ where the take-off or approach path is so disposed over water that in the event of a mishap there would be a likelihood of ditching
-



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Section IV - Instruments, data and equipment

➤ OPS.GEN.455 First-aid kits balloons

- ★ Balloons shall be equipped with one first-aid kit**
 - ★ In the case of balloons with a maximum passenger capacity of more than 11, a second first-aid kit shall be carried in the retrieval vehicle**
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Section IV - Instruments, data and equipment

- **OPS.CAT: no additional equipment requirements for balloons**
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Section IV - Instruments, data and equipment

- **OPS.GEN.550 Minimum equipment for flight**
 - ★ **A flight of an aircraft involved in commercial operations shall not be commenced when any of the aircraft instruments, items of equipment or functions are inoperative, except if:**
 - ➔ such the aircraft instrument, item of equipment or function is part of the operator minimum equipment list (MEL); or
 - ➔ the aircraft has been subject to a permit to fly issued by the competent authority or organisations approved in accordance with Part-21; or
 - ➔ the aircraft instrument, item of equipment or function is not required for the safe operation of the aircraft.
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Section V

Manuals, logs and records





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Section V - Manuals, Logs and Records

➤ OPS.GEN.600/605 Documents and information to be carried

★ **Certain alleviations for**

- ➔ Non-complex helicopters by day and navigating by reference to visual landmarks within a local area
 - ➔ Balloon operations: documents to be carried in retrieve vehicle
-



Section VI

Security





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Section VI – Security

➤ As presented this morning...



3. Part-OPS.SPA (Helicopters)



Part-OPS.SPA

- **OPS.SPA contains requirements for specific operations subject to a specific approval**
 - **For certificate (AOC) holders, these will be additional privileges on the certificate**
-



Section IV

Low Visibility Operations





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OPS.SPA.LVO

- **Contains the approval for Low Visibility Operations:**
 - ★ **Approaches below Cat I**
 - ★ **Take-off with RVR less than 400 meters**
 - **Transfer of JAR-OPS 3 Subpart E**
-



Section V
Transport of Dangerous
Goods



OPS.SPA.DG

- **Addresses the approval for the transport of dangerous goods**
 - **Alleviation/exceptions, which may be required for certain operations and which apply in general to all flights, are in OPS.GEN.030**
 - **Dangerous goods have to be transported in accordance with the ICAO Technical Instructions**
 - **Based on draft JAA NPA-OPS 70**
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Section VI

Helicopter operations without an assured safe forced landing capability





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OPS.SPA.SFL

- **Transposes elements relating to 'exposure' contained in:**
 - ★ **JAR-OPS 3 amendment 5, in particular:**
 - ➔ Appendices to 3.005 (c), (d), (e) and (i)
 - ➔ 3.517 and those requirements referring to it contained in subparts F (Performance general), H (PC 2) and I (PC 3)
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OPS.SPA.SFL

- **OPS.SPA.035.SFL Helicopter Flight Manual Limitations**
 - ★ **contains the JAR-OPS 3 alleviation contained in Appendix 1 to JAR-OPS 3.005 (c):**
'For helicopters certificated in Category A, a momentary flight through the height velocity (HV) envelope is allowed during the take-off and landing phases.'
 - **For CS-29 helicopters the Height Velocity (HV) envelope is contained in the limitations section of the approved AFM and the alleviation therefore in conflict with Annex IV 4.a. of the BR**
 - **Issue is being studied (CS-29 RM task, legal assessment)**
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Section VII

Helicopter operations with Night Vision Imaging Systems





OPS.SPA.NVIS

- **JAR-OPS 3 amendment 5 introduced in 3.005 (j) the possibility to conduct VFR night operations with the aid of NVIS, provided a specific approval being obtained**
 - **JAA TGL 34 contained additional information and provisions to be met, as well as minimum training standards to be followed**
 - **Transposition in OPS.SPA.NVIS**
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Section VIII

Helicopter Hoist Operations





OPS.SPA.HHO

- **Transposition of Helicopter Hoist Operations provisions contained in Appendix 1 to 3.005 (h)**
 - **In addition, draft JAA NPA-OPS 69 incorporated (Attachment C to explanatory note)**
 - ★ **Resulting from difficulties in interpretation and implementation of the Appendix**
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Section IX

Helicopter Emergency Medical Service Operations





OPS.SPA.HEMS

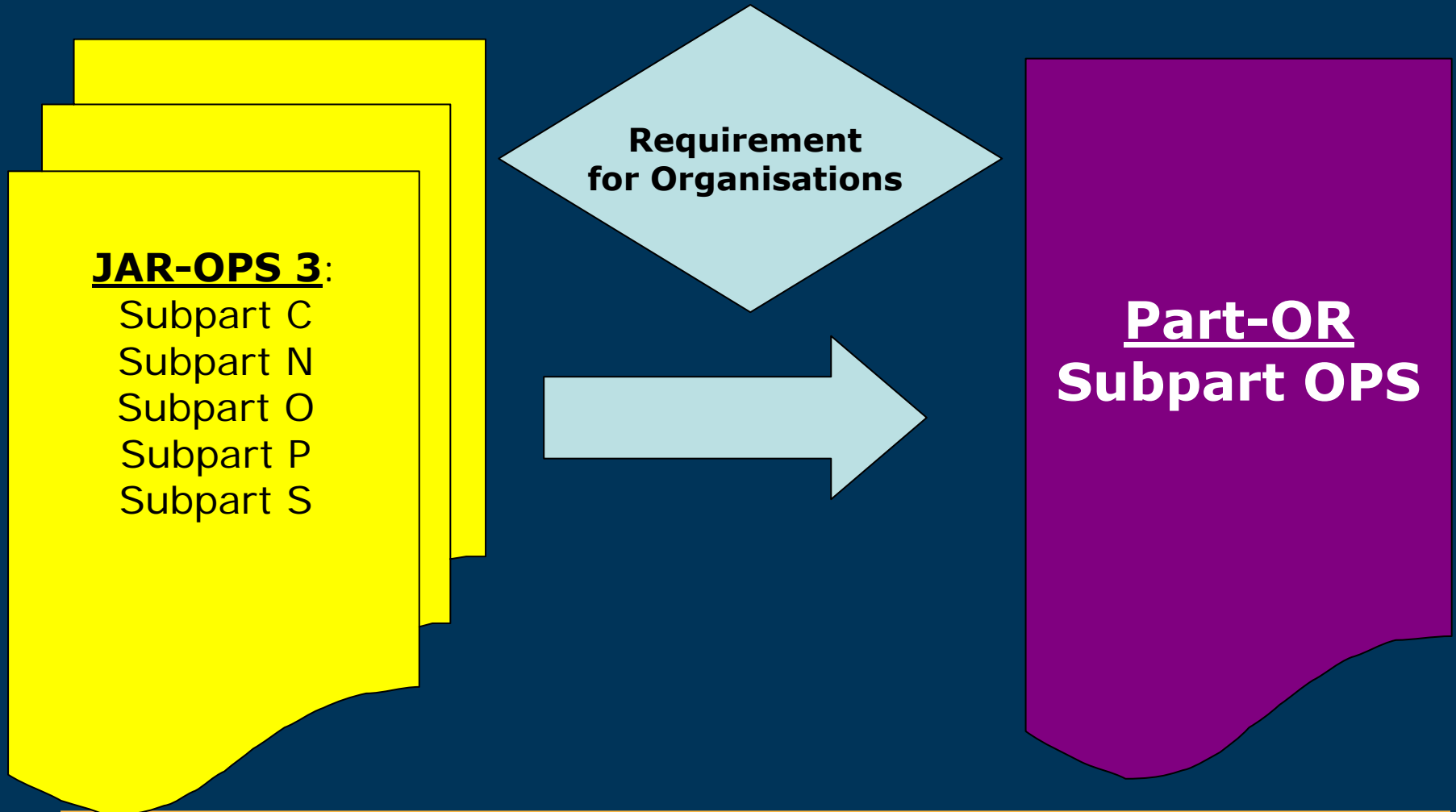
- **Transposition of Helicopter Emergency Medical Services (HEMS) provisions contained in Appendix 1 to 3.005 (d)**
 - **HSST-WP-07-03.4 included (Attachment D to explanatory note), recommending PC 2 at the HEMS operating site instead of PC 1, as far as possible**
 - ★ **Stakeholders are specifically requested to give their views**
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4. Part-OR.GEN and OR.OPS



OR.GEN and OR.OPS





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OR.GEN and OR.OPS

- **as presented this morning...**
 - **it is highlighted...**
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OR.OPS.TC

➤ **Section VII Technical Crew
(OR.OPS.TC)**

- ★ **Crew members used in HEMS, Hoist and NVIS operations**
 - ★ **Based on the common provisions of JAR-OPS 3 Subpart O**
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OR.OPS.FTL

- **Section VIII Flight and Duty Time Limitations and Rest Requirements (OR.OPS.FTL)**
 - ★ **FTL scheme part of Ops Manual**
 - CS, individual FTL scheme
 - ★ **Requirements for the development of an individual FTL scheme**
 - elements
 - safety objective, assessment
 - ★ **Corresponding fatigue risk management system**
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OR.OPS.FTL

- **Section VIII Flight and Duty Time Limitations and Rest Requirements (OR.OPS.FTL)**
 - ★ **CS FTL for helicopters and balloons need to be developed**
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**Thank you
for your attention**
