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European Aviation Safety Agency



OPS Workshop

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From JARs to IRs – Air Operations

Commercial operations other than CAT

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Disclaimer



- ➔ **Presentation = summary of the explanatory note & IR & AMC. But: Please read it before studying the rest!**
- ➔ **Why?**
Explanatory note contains valuable other information that is required to understand the framework for OPS.
- ➔ **Due to the ongoing review the numbering given in this presentation may deviate from the numbering in the NPA.**



Air Operations “Workshop” COM



Contents

- ✧ **Introduction & Abbreviations**
- ✧ **Structure of the NPA – Subpart COM**
- ✧ **General Requirements**
- ✧ **Operational procedures**
- ✧ **A/C performance and limitations**
- ✧ **Instruments, data & equipment**
- ✧ **Specific Organisation Requirements COM**
- ✧ **Concept of SOPs**

Discussion



Abbreviations



OR - Organisational Requirements

AR - Authority Requirements

CAT - Commercial Air Transport

COM - Commercial Operations other than CAT

SPA - Operations requiring specific approvals

HEMS - Helicopter Emergency Medical Services

HHO - Helicopter Hoist Operations



Abbreviations



NVIS - Night Vision Imaging Systems

HELO - Helicopter External Load Operations

AOC - Air Operator Certification

SOP - Standard Operating Procedures

IRs - Implementing Rules

AMC - Acceptable Means of Compliance



Abbreviations



TAWS – Terrain Awareness System

DG – Dangerous Goods

AFM – Aircraft Flight Manual

OPC – Operator Proficiency Check

C.A. – Competent Authority



Air Operations - Initiation -



→ The starting point ?

- OPS.001 started in 2006
- subgroup „aerial work“ (COM)
- review draft OPS 0 & 4
- take into account national rules (Q)
- drafting of the proposals for AW
- proposals for OPS 0 (GEN) and AR/OR



European Aviation Safety Agency

Air Operations - Initiation -



What are we talking about ?



Subgroup „aerial work“ identified more than 30 different types of operation.....

<..\..\Documents\Aerial work activities.doc>



Air Operations “Workshop” COM



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- ✧ Concept of SOPs

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Air Operations

- where are we now? -



Basic Regulation EC 216/2008

Cover Regulation OPS

Subpart GEN
General Operating and Flight Rules

Subpart CAT
Commercial Air
Transport

Subpart COM
Commercial operations
other than CAT

Subpart SPA
Operations requiring
specific approvals



Air Operations Subpart COM



→ Subpart COM structure

- Section I - General requirements
- Section II - Operational procedures
- Section III - Performance & limitations
- Section IV - Instruments, data & equip.



Part-OPS

Numbering principles



- ➔ **When same numbering as in Part OPS.GEN:**
 - ✧ Additional requirement but the same content
 - ✧ Can also replace the requirement in Part OPS.GEN (e.g. “notwithstanding OPS.GEN...”)
- ➔ **If different numbering as in Part OPS.GEN:**
 - ✧ Always additional requirements to those in OPS.GEN



Air Operations Workshop COM



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Discussion



Air Operations Subpart COM



Part-OPS Subpart COM - General Requirements **OPS.COM.005 Scope**

„...This subpart establishes additional and specific requirements to be met by an operator undertaking commercial operations other than Commercial Air Transport, to ensure compliance with the BR (216/2008).....“

Article 8 and Annex IV



Air Operations Subpart COM Basic Regulation 216/2008



Article 8 (2):

".....Unless otherwise determined in the implementing rules, operators engaged in commercial operations shall demonstrate their capability and means of discharging the responsibilities associated with their privileges.

These capabilities and means shall be recognised through the issuance of a certificate. The privileges granted to the operator and the scope of the operations shall be specified in the certificate...."



Essential Requirements for Air Operations

Annex IV - 3. Flight operations

"...3.a. With regard to flight operations, all the following conditions must be complied with:

.....

*3.a.3. where relevant for the type of aircraft and the type of operation, before take-off and landing, during taxiing and whenever deemed necessary in the interest of safety, the pilot in command must ensure that **each passenger is properly seated and secured**;..."*



Essential Requirements for Air Operations

Annex IV:

*8. Additional requirements for **operation for commercial purposes** and operation of complex motor-powered aircraft*

.....

*8.a.4. the **operator must implement and maintain a management system** to ensure compliance with these essential requirements for operations and aim for continuous improvement of this system; and*



Section I General Requirements

OPS.GEN.005 - OPS.COM.005

Annex IV – Air Operations
Chapter 1
General



Part OPS.GEN
Section I:
General Requirements



Part OPS.COM
Section I:
General Requirements

Responsibilities of Crew members and all other personnel involved;
Checklist System and procedures;
Carriage of certain articles or substances
Data, documents records and information

Competent authority, scope and definitions;
PIC responsibilities & Crew responsibilities;
Common language
Transport of Dangerous Goods

Scope
Carriage and use of Dangerous Goods
Carriage and use of weapons during task



Air Operations

Example GEN & COM



Part-OPS Subpart GEN - General Requirements
OPS.GEN.035 Transport of Dangerous Goods

DG shall only be transported by an operator in accordance with OPS.SPA.DG, except when:

„....required on board the aircraft for specialised services...”

& OPS.COM.035 Carriage and use of Dangerous Goods in specialised tasks



Air Operations Subpart COM



Part-OPS Subpart COM - General Requirements

OPS.COM.035 Carriage and use of dangerous goods in specialised tasks

„.....The operator shall ensure that congested areas of cities , towns or settlements or an open-air assembly of persons is not overflown when applying or using dangerous goods for the purpose of a specialised task....“

Dangerous Goods: OPS.COM.035 & OPS.GEN.035



Air Operations Subpart COM



Part-OPS Subpart COM - General Requirements

OPS.COM.040 Carriage and use of weapons in specialised tasks

The operator shall ensure that when weapons are carried on a flight for the purpose of a specialised task:

- the weapons are secured and
- when used, the aircraft, persons on board and on the ground are not endangered



Air Operations Workshop COM



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- ✧ **Concept of SOPs**

Discussion



Section II Operational Procedures

OPS.GEN.100 - OPS.COM.100

Annex IV – Air Operations
Chapter 2 / 3
Flight Preparation
Flight Operation



Part OPS.GEN
Section II:
Operational Procedures



Part OPS.COM
Section II:
Aircraft performance and
operating limitations

Adequate facilities; location and use of emergency equipment; PIC responsibilities before flight; amount of fuel & oil; obstacle clearance; taxiing procedures;

Ice and contaminants; simulated abnormal situations; passenger briefing; smoking on board; taxiing of aircraft; minimum altitudes; use of aerodrome / operating sites; approach and landing conditions; fuel and oil;

Briefing of operational personnel
Standard operating procedures (SOPs)



Air Operations

Subpart COM Section II



AMC COM OPS.GEN.110

Carriage of persons

„...The carriage of operational personnel indispensable to the performance of a task and carried on a flight taking place immediately before, during or after and directly associated with a specialised task, is not considered as CAT.

Except for parachute operations, the number of persons carried should not exceed six, excluding crew members.....”



Air Operations

Subpart COM Section II



Operational Procedures

OPS.COM.116

Briefing of operational personnel

Operational personnel involved in specialised tasks shall be briefed on operational procedures associated with the specific task before each flight or series of flights.



Air Operations

Subpart COM Section II



AMC OPS.COM.116

Briefing of operational personnel

1. Purpose of operational briefing:
ensure that personnel involved in specialised tasks are familiar with all aspects of the operation, including their responsibilities.
2. Such briefing should include, as appropriate:
 - behaviour on the ground
 - procedures (boarding / loading / etc.)
 - use of doors & COM equipment
 - and in addition to AMC OPS.GEN



Air Operations

Subpart COM Section II

AMC COM OPS.GEN.145

Use of aerodromes / operating sites

When using operating sites, the operator should take account of the AMC 1 to OPS.GEN.145.

- adequate site
- procedure for the pre-survey
- indication in the OPS manual
- detailed description
- not pre-surveyed sites: procedure for the pilot



Air Operations

Subpart COM Section II

Part-OPS COM - Operational Procedures

Minimum Flight Altitudes

(will possibly moved to OPS.GEN.175)

- not below specified minimum altitudes established by the state overflown
- except when necessary for t/o or landing
- except for or descending in accordance with procedures established by the state overflown

Additionally: ...subject to demonstration by the operator that the operation does not create a hazard to persons or property on the surface.....



Air Operations

Subpart COM Section II



Part-OPS GEN - Operational Procedures

GM to Minimum Flight Altitudes

OPS.GEN.175

- The state may approve procedures for certain commercial operations (e.g. photo-flights or helicopter operations) or flight instruction (e.g. training of emergency landings)



Air Operations

Subpart COM Section II



Part-OPS COM - Operational Procedures

AMC 1 COM OPS.GEN.205

Fuel and oil supply – Reserve Fuel

Notwithstanding AMC X & Y for flights remaining within 25 NM of the aerodrome/operating site of departure and with operating flight crew on board only, reserve fuel should not be less than:

- **20 minutes fuel for aeroplanes** (at cruising altitude)
- **10 minutes fuel for helicopters** (best range speed)
(in AMCs OPS.GEN.205: 30 min. for VFR (A) & 20 min. VFR (H))



Air Operations

Subpart COM Section II

Part-OPS COM - Operational Procedures

AMC 1 COM OPS.GEN.205

Fuel and oil supply – Reserve Fuel

The operator should demonstrate to the CA that this amount of reserve fuel is essential for carrying out a specialised task

The operator should specify ...(type / methods / SOP)

Refuelling facilities and procedures



Air Operations

Subpart COM Section II

Part-OPS COM - Operational Procedures

AMC 2 COM OPS.GEN.205

Fuel and oil supply – Re/Defuelling Procedures

The operator should establish procedures specifying:

- fuelling sites and equipment
- fuel quality
- precaution and preparedness
- transport and storage
- Refuelling with engines/rotors running



Air Operations Subpart COM



Part-OPS Subpart COM - Operations Procedures

OPS.COM

Standard operating procedures

- Specialised operations shall be performed in accordance with Standard Operating Procedures
- Before conducting these operations, the operator shall carry out a risk assessment and the SOPs shall address:

...this will be our discussion item at the end !!!!



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Section III Aircraft performance and operating limitations

Annex IV – Air Operations
Paragraph 4
Aircraft performance and operating limitations



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



Part OPS.COM
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 requirements for take-off, critical power unit / engine inoperative and landing

Performance criteria aeroplanes when operating below a certain height
Performance criteria helicopter



Air Operations

Subpart COM Section III

AC performance and operating limitations

OPS.COM.A.315

Performance criteria aeroplanes

The operator shall when operating an aeroplane at a height of less than 150m; over congested area and when in the event of critical power unit failure, is not able to sustain flight:

- establish operational procedures
- establish a training programme for the crew
 - ensure that all occupants are briefed
- ensure that all occupants wear protective equipment



Air Operations

Subpart COM Section III



AC performance and operating limitations

OPS.COM.H.350

Performance criteria helicopter

- (a) Helicopters operating in a congested hostile environment shall be certificated in category A and operated at a mass and in conditions that in the event of a critical power unit failure the helicopter is capable to sustain level flight. (see Explanatory Note – category B)
- (b) Helicopters operating outside a congested hostile environment shall be certificated in category A or B.



Air Operations

Subpart COM Section III

AC performance and operating limitations

OPS.COM.H.350

Performance criteria helicopter

(c) When operating helicopters which are not capable to sustain flight or perform a safe forced landing in the case of a critical power unit failure the operator shall establish / ensure:

- procedures to minimise the consequences
- training programme
- briefing of all occupants
- helicopter equipped with crash mitigation equipment
- occupants wear protective equipment
- compliance with OPS.SFL when persons are carried



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Discussion



Section IV Instruments, data and equipment – All aircraft

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



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



**Part OPS.COM
Section IV:
Instruments, data and
equipment**

Aircraft must be equipped with all instruments, data and equipment needed to necessary for the flight taking into account the air traffic regulations and rules of the air applicable during any phase.... .

Equipment for all aircraft; Instruments and equipment for VFR/IFR and for flights over water; ELT & Oxygen; First-aid kits & parachutes; ACAS / TAWS, data-recording; seat-belts & harness; COM / NAV equipment

Life jackets / Survival suits
TAWS alleviation – aeroplanes
Emergency egress from cockpit
Crash mitigation and protective equipment



Air Operations Subpart COM



Part-OPS Subpart COM - Section IV Instruments, data and equipment

OPS.COM.406 Seats and restraining devices

- See also OPS.GEN.405
- carriage of parachutists: the floor may be used as a seat provided means are available for the parachutists to hold on
- operations with doors opened or removed: crew members other than flight crew shall be restrained when carrying out specialised task



Air Operations

Subpart COM Section IV



Instruments, data and equipment

OPS.COM.H.420 Life Jackets - Helicopters

- In addition to OPS.GEN.420
- Each person on board shall wear a life jacket during a flight operated on water or over water beyond auto-rotational / gliding distance from land where, in the event of a mishap, there would be a likelihood of ditching.



Air Operations

Subpart COM Section IV



Instruments, data and equipment

OPS.COM.H.425 Ditching - Helicopters

- In addition to OPS.GEN.425
- Helicopters operated on a flight over water beyond 10 minutes distance from land, when carrying persons other than flight crew, shall be designed for landing on water and/or fitted with emergency flotation equipment.



Air Operations

Subpart COM Section IV



Instruments, data and equipment

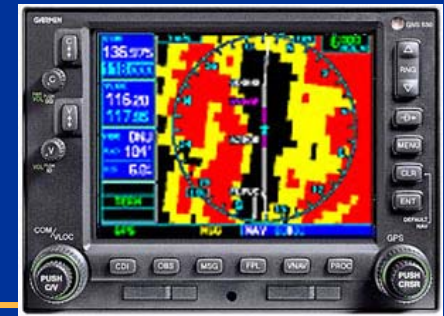
OPS.COM.H.426 Survival Suits-Helicopters

- In addition to OPS.GEN.426
- Each crew member
- flight operated on water or over water beyond auto-rotational / gliding distance from land
- where likelihood of ditching
- if the weather report indicates: $< +10^{\circ}\text{C}$



Air Operations

Subpart COM Section IV



Instruments, data and equipment

OPS.COM.A.465 Terrain Awareness Warning System (TAWS) - Aeroplanes

- In addition to OPS.GEN.A.465
- TAWS may be disabled during specific AW tasks
- when require to operate within a distance from ground that would trigger the TAWS
- in accordance with the AOC or specifications



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Discussion



Air Operations Aerial Work



→ Subpart OPS in OR - Structure

- Section I
- Section II
- Section III
- Section IV
- Section V
- Section VI
- Section VII
- Section VIII
- Section IX
- Operator requirements
- Manuals, logs and records
- Air Operator Declaration
- Air Operator Certification
- Flight Crew
- Cabin Crew
- Technical Crew Member
- FTL and Rest Requirements
- Security



Subpart OR.OPS content Approval procedure



Section I Operator requirements

OR.OPS.005.GEN Scope

This subpart establishes additional requirements to be followed by an air operator to qualify for the issue of an AOC to conduct commercial operations.



Subpart OR.OPS content Approval procedure



Section I Operator requirements

OR.OPS.100.GEN Operator responsibilities

- ✧ responsible for the operation (according legisl.)
- ✧ establish and maintain a system of supervision
- ✧ ensure that A/C equipped and crew qualified
- ✧ **establish procedures and instructions (=> SOP)**
- ✧ establish a check list system
- ✧ train the crew and the personnel to recognise DG



Subpart OR.OPS content Manuals, logs and records



Section II Manuals, logs and records

- ✧ OR.OPS.015.MLR Operations manual
- ✧ **separate AMC to this for OPS manual COM**
- ✧ OR.OPS.020.MLR Minimum Equipment List (MEL)
- ✧ OR.OPS.220.MLR Record keeping



Subpart OR.OPS content Approval Procedure



Section IV Air operations (OR.OPS)

- * Requirements
- * AOC approval
- * Operational validity
- * **Operational operations = AOC**
- * **Want to make the difference**
- * **Let's**
- * **Standards & documentation**



Subpart OR.OPS content Approval Procedure



Section V – Flight Crew (OR.OPS.XXX.FC) – Chapter 1 General

- ✧ Composition of Flight Crew
- ✧ Crew resource management training
- ✧ Conversion training
- ✧ Differences training and familiarisation training
- ✧ Nomination as Pilot in command
- ✧ **Recurrent training**
- ✧ Training records



Subpart OR.OPS content Approval Procedure



Section V – Flight Crew

Chapter 3 – Additional requirements for COM

OR.OPS.240.FC Recurrent training & checking

- **by appropriately qualified personnel (Part FCL)**
- **Operator Proficiency Check (OPC)**
 - each flight crew member annual OPC (relevant aspects of task)
 - specific consideration when IFR or at night
 - period of validity: 12 calendar months
 - revalidation of OPC: within last 3 months



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Discussion



Here is our open discussion item!



Part-OPS Subpart COM - Operational Procedures

OPS.COM.270

Standard operating procedures

- Specialised operations shall be performed in accordance with Standard Operating Procedures
 - Before commencing these operations, the operator shall carry out a risk assessment and the **SOPs shall address:**



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Air Operations Subpart COM



Part-OPS Subpart COM - Operational Procedures

OPS.COM.270

Standard operating procedures

SOP shall address:

- scope & complexity / AC and equipment / crew composition and training / performance / procedures / ground equipment /
- Applicants for an AOC shall demonstrate to the competent authority that the SOPs are suitable for the intended operation



Air Operations Concept SOPs



Concept of Standard Operating Procedures

OPS.COM.270 Standard operating procedures

AMC to OPS.COM.270

✓ SOP Template

[..\..\Documents\SOP IR & AMC OPS WS.doc](#)

- ✓ AMC to OR.OPS. Operator Responsibilities
Development of SOP – Risk Assessment



Air Operations Concept SOPs



Concept of Standard Operating Procedures

1. Scope and complexity of the activity
2. Aircraft and equipment
3. Crew members
4. Performance
5. Normal Procedures
6. Emergency Procedures
7. Ground equipment
8. Records



Air Operations Concept SOPs

Concept of Standard Operating Procedures **EXAMPLE**



Appendix 1 to AMC OPS.COM.270 SOPs **Helicopter External Load Operations**

..\..\Documents\HELO_Appendix 1 to AMC OPS WS.doc



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Thank you for your attention !



Discussion Questions

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