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Federal Office for Civil Aviation - FOCA

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# **Training - Maintaining technical proficiency**

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## **PANEL 8 : Training- Maintaining technical proficiency**

As technology changes and new business practices are applied it is important for regulators to keep abreast with developments, maintaining proficiency is a key challenge to maintaining the role of a 'competent' authority.



# Basic structure

## To have the right staff

- Selection
  - Is there the right staff available on «our market»?
  - Takes several years
- Initial training
  - Takes several years
- Recurrent training



# AR – requirements – Flight Operations inspector

COMMISSION REGULATION (EU) No 290/2012 of 30 March 2012

## SECTION II

### *Management*

#### **ARA.GEN.200 Management system**

(a) The competent authority shall establish and maintain a management system, including as a minimum:

....

(2) a sufficient number of personnel to perform its tasks and discharge its responsibilities. **Such personnel shall be qualified to perform their allocated tasks and have the necessary knowledge, experience, initial and recurrent training** to ensure continuing competence. A system shall be in place to plan the availability of personnel, in order to ensure the proper completion of all tasks;

....

# AR – requirements – Flight Operations inspector

COMMISSION REGULATION (EU) No 290/2012 of 30 March 2012

AMC2 ARA.GEN.200(a)(2) Management system

QUALIFICATION AND TRAINING - INSPECTORS

(a) Initial training programme:

The initial training programme for inspectors should include, as appropriate to their role, current knowledge, experience and skills in at least all of the following:

- (1) aviation **legislation** organisation and structure;
- (2) the Chicago Convention, relevant **ICAO annexes** and documents;
- (3) the applicable **requirements** and procedures;
- (4) management systems, including auditing, risk assessment and reporting techniques;
- (5) human factors principles;
- (6) **rights and obligations** of inspecting personnel of the competent authority;
- (7) 'on-the-job' training; *Annex to ED Decision 2012/006/R - Page 11 of 61*
- (8) suitable **technical training** appropriate to the role and tasks of the inspector, in particular for those areas requiring approvals.

(b) Recurrent training programme:

The recurrent training programme should reflect, at least, changes in aviation legislation and industry. The programme should also cover the specific needs of the inspectors and the competent authority.

# Typical inspectors skills required

## traditional

- Specialist in technical questions
- Experienced in treated topics
- Huge technical knowledge

## Performance based

- Experience in **management**
- Sparring partner
- Overall knowledge
- Ability to „**assess**“ an **SMS** (incl. safety assessments)
- Identifying / agreeing **safety performance metrics** (incl. organisations risk portfolio)
- Understanding of **business processes**
- Judgement ability (= ability to deal with subjectivity)

# Inspector training topics

- **Subjects:**
  - *Rules (new/updated)*
  - *Certification*
  - *Auditing / Inspecting*
  - *SMS / QM (HAZID / SPI / ...)*
  - *Managing a company (org-structure, staffing, business-model)*
  - *CRM/HF*
  - *PANS OPS*
  - *Maintenance*
  - **SAFA / SASA**

➔ **Systematic recurrent training required**

# The ideal inspector





# ICAO – Flight Operations inspector

ICAO DOC 8335

## PART I. SAFETY OVERSIGHT OF COMMERCIAL AIR TRANSPORT OPERATIONS — THE STATE

### Chapter 5. State safety oversight organization

#### 5.3 STAFFING

5.3.1 The ability of a State to effectively supervise and control commercial air transport operations in the public interest is dependent upon the effectiveness of the CAA inspectorate.

...

To adequately perform their duties, it is important that the CAA inspectorate staff have the **qualifications, operational or technical work experience, and training compatible with the operations that they are required to certificate or inspect and that their qualifications compare favorably with those of operator personnel they will encounter in their inspections**



# ICAO – Flight Operations inspector

ICAO DOC 8335

## PART I. SAFETY OVERSIGHT OF COMMERCIAL AIR TR OPERATIONS — THE STATE

### Chapter 6. Qualifications and training of the inspe

#### 6.2 QUALIFICATIONS OF THE INSPECTOR

6.2.1 Ideally a CAA inspector should be **at least as qualified as the personnel to be inspected or supervised**. To carry out in-flight inspections, a CAA inspector should be qualified on the type of aircraft concerned or on a type of aircraft with similar operational characteristics, and also possess appropriate route experience.

ACM - CEO

Safety  
manager

PH ops  
– tng  
- gnd



# ICAO – Flight Operations inspector – **the problem**

ICAO DOC 8335

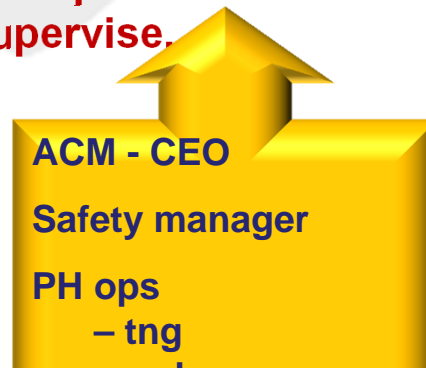
## PART I. SAFETY OVERSIGHT OF COMMERCIAL AIR TRANSPORT OPERATIONS — THE STATE

### 5.3 STAFFING

#### 5.3.1

...

Furthermore, the CAA inspectorate staff should enjoy **conditions of service and remuneration** consistent with their education, technical knowledge and experience and **comparable to those personnel of the operator whose activities they will inspect and supervise.**



# Standard for flight ops inspectors

Basic requirement: PIC [ATPL] on MPA; TRI ( TRE)

background	tasks
Specific experience in aviation (e.g. training, tech pilot, etc.)	Co-inspector; responsible for specific items (chapters/programs/documents)
<b>training</b>	
+ experience in management	Lead-inspector / « <b>Assigned Inspector</b> »; responsible for oversight over an operator Certification of manual systems.
+ project management / experience as ass insp	Senior inspector; leads projects (e.g new AOC / development of oversight plans)

## Summary

- Old requirements still valid (technical knowledge, field experience)
- new requirements are ADDITIONAL
- No lever for CAA ops-managers towards CAA executives regarding recruitment requirements and remuneration (as no requirements in EASA IR's)
- **Availability on market low is critical → very important:**
  - internal training, especially recurrent
  - Technical training means ...
  - „staying in the industry“





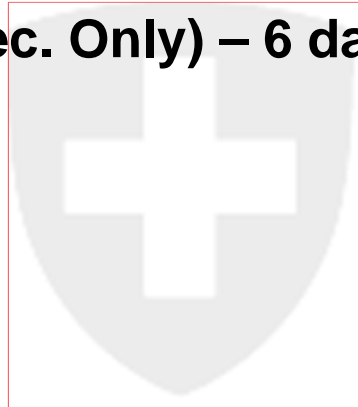
Capt. Stephan Eder

# Inspector training

**Initial Training – approx. 3 Mte.**

**including OJT aprox. 1 Yr**

**Recurrent training (spec. Only) – 6 days / yr**



# My Person

1990	Master of Science (Physics and Mathematics)
2010	Executive MBA HSG
1992	ATPL,
since 1992	pilot on MD-80, MD-11, A-320, A330, A340, C550, E505
1993 – 1999	Instructor (Sim and CRM)
1999 – 2002	Area Manager Long Haul, Swissair
2002 – 2005	Head of Section Route Support, Swiss Intl Air Lines
Since 2005	FOCA: Safety Division Flight Operations - Special Services



# Compliance based I

## → Prescriptive regulatory architecture

- What must be done how

Defined to a level of detail and accuracy such that compliance will ensure that the system is performing safely.

- Within limits = safe
- Outside limits = unsafe

# Compliance based II

## → Compliance based

- Is black & white... compliant or not.
- Related to a specific topic
- Clear formulation of question
- **Tool:** checklist audit

# Performance based I

## → Performance-based architecture

- establish “what” is to be achieved, but provides flexibility on “how” it must be achieved
- if it is achieved → SMS



# Performance based II

- Performance based
  - Measurement of **an organization's** realized or actual safety accomplishments compared with its safety objectives.
  - **Judgement** of companies way of doing things (e.g. safety assessments)
  - Interconnected topics
  - Example: Relaxed (or increased) intervals of on-site inspections based on **SMS safety reports**
  - **Tool**: assessment guide

# AR – requirements – Flight Operations inspector

COMMISSION REGULATION (EU) No 290/2012 of 30 March 2012

AMC1 ARA.GEN.200(a)(2) Management system

## QUALIFICATION AND TRAINING - GENERAL

- (a) The competent authority **should ensure appropriate and adequate training** of its personnel to meet the standard that is considered necessary to perform the work. To ensure personnel remain qualified, arrangements should be made for initial and recurrent training as required.
- (b) The basic capability of the competent authority's personnel is a matter of recruitment and normal management functions in selection of personnel for particular duties. Moreover, the competent authority should **provide training in the basic skills as required for those duties**. However, to avoid differences in understanding and interpretation, all personnel should be **provided with further training specifically related to Regulation (EC) No 216/2008**, its Implementing Rules and related AMCs, CSs and GM, as well as related to the assessment of alternative means of compliance.
- (c) The competent authority may provide training through its own training organisation with qualified trainers or through another qualified training source.
- (d) When training is not provided through an internal training organisation, adequately experienced and qualified persons may act as trainers, provided their training skills have been assessed. If required, an individual training plan should be established covering specific training skills. Records should be kept of such training and of the assessment, as appropriate.

