Safety Oversight and Surveillance

ICAO Regional Workshop on the Implementation of a Safety Management System (SMS) and the Development of Air Navigation Services (ANS) Inspection Programmes

Mexico City, 12-14 March 2012
Overview

• General considerations
• Few words on ICAO
• Hierarchy of ICAO provisions
• States - ICAO roles and objectives
• Data analysis
• ADREP
Presentation Objective

- To familiarize the participants with the practical problems, obligations and responsibilities of States regarding safety oversight programmes
Lack of safety may create complex legal, safety, enforcement and practical problems for the State, raising uncertainty about:

- Who is responsible for the safe operation and operational control?
- Who is responsible for safety oversight?
- Which regulations are applicable?

Confusing combination of:
- State Legislation
- Regulations
- the operating procedures and methodologies that may be conducted in support to the inspection personnel
A few words on ICAO

- Part of the UN System but independent
- Created in December 1944 by the Convention on International Civil Aviation (Chicago Convention)
- Membership: 191 States
ICAO - Objectives & Role

• **Objectives** (preamble to the Convention):

  ➢ To promote cooperation between nations and people

  ➢ To agree on certain principles and arrangements in order that international civil aviation may be developed in a safe and orderly manner and that international air services may be established on the basis of equality of opportunity and operated soundly and economically
ICAO - Objectives & Role

Output:

- Standards, Recommended Practices and guidance material
  - 18 Annexes, 4 PANS and many manuals/circulars
  - Annex 19, Safety - in progress

- Coordination of international air navigation activities
  - Regional Planning

- Implementation
  - Implementation Support & Development
  - Technical Co-operation
  - Audit Programme
Hierarchy of ICAO provisions:

**Standard**

- “…specification must be such that its uniform application by all Contracting States is necessary in the interest of safety or regularity of international civil aviation.”

**Recommended Practice**

- “…uniform application by all Contracting States is desirable, but not essential in the interests of safety, regularity or efficiency of international civil aviation.”

SARPs are *adopted* by the ICAO Council and form the core of the 18 ICAO Annexes.
Hierarchy of ICAO provisions:

**Procedures for Air Navigation Services (PANS)**

- …operating practices as well as material considered too detailed for SARPs that…amplify the basic principles in the corresponding SARPs…

- PANS do not have the same status as the Standards and Recommended Practices. PANS are **approved by the Council and recommended** to Contracting States for worldwide application.

- PANS-TRG, PANS-OPS, PANS-ATM, PANS-ABC & PANS-AGA

Art. 38 - Significant differences are required to be listed in the AIP.
Hierarchical of ICAO provisions:

**Guidance material** (Attachments to Annexes, Circulars and Manuals)

- Technical manuals and circulars provide guidance and information in amplification of the provisions of Annexes and PANS, and are intended to facilitate uniform application of these documents.

- Manuals and Circulars are prepared and published **under the authority of the Secretary General**

- The ICAO Assembly directed that Manuals be kept up to date. Circulars are not updated.
Other provisions: Coordination of international air navigation activities

- Regional Air Navigation Plans
  - Approved by the Council
  - Facilities and services contracting States are expected to provide (Article 28)

- Regional Supplementary Procedures Doc. 7030
  - Procedural part of the ANP
  - Complementary regional material not found on ANP, Annexes or PANS
Roles and Objectives

Solutions:

- Ensure recognition of adequate **oversight** by the State of the Operator (ICAO USOAP audits, agreements with Regional Safety Oversight Organizations (RSOOs)).

- Ensure adequate State safety **surveillance** of airport operators, ANSPs.

- Bilateral or multilateral safety agreements (RSOOs, States, etc.)
Guidance Material – inspection

• Selection of a particular unit to inspect should normally be done at random, in a non-discriminatory manner. However, the CAA should apply **principles of risk management** to identify operations perceived to present a higher safety risk and, as a result, conduct additional inspection activities.

• Inspection checklists should be based on ICAO provisions
• After an inspection activity, the inspector’s action resulting from findings will depend on the seriousness of the safety finding.

• Generally, the State inspection programme should have detailed procedures to guide the inspector when deciding on an action.

• Guidance on levels of seriousness and the corrective actions required should also be provided.
**Guidance Material – Action on findings**

<table>
<thead>
<tr>
<th>Seriousness of findings</th>
<th>Minor</th>
<th>Significant</th>
<th>Major</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Actions to be taken after findings during a ramp inspection of a foreign operator</strong></td>
<td>Information to pilot-in-command.</td>
<td>Information to responsible CAA (State of the Operator and/or State of Registry) and operational management of the operator.</td>
<td>Corrective action(s) required.</td>
</tr>
<tr>
<td><strong>Seriousness of findings</strong></td>
<td><strong>Yes</strong></td>
<td><strong>Yes</strong></td>
<td><strong>Yes</strong></td>
</tr>
<tr>
<td><strong>Actions</strong></td>
<td><strong>No</strong></td>
<td><strong>Yes</strong> Letter to CAA and copy to operator’s management.</td>
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</tr>
<tr>
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<td><strong>Yes</strong></td>
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<td><strong>Actions consisting of operational restrictions, corrective actions before flight or at maintenance-base, grounding and/or withdrawal of authorization to operate in the territory of the State will depend on national regulations.</strong></td>
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<tbody>
<tr>
<td><strong>A</strong></td>
<td><strong>Flight Deck:</strong></td>
<td></td>
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<tr>
<td></td>
<td><strong>General</strong></td>
<td></td>
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</tr>
</tbody>
</table>
| 1     | General Condition| Dirty and untidy | | Large unsecured objects (e.g. cargo or baggage)  
Unserviceable flight crew seats |
| 2     | ...........       |       |             |       |
| 3     | **Equipment:**   |       |             |       |
|       | • GPWS           | Inoperative and in accordance with MEL provisions | Inoperative and MEL provisions not applied | Not installed  
Forward looking GPWS required and not installed.  
FMS database more than 28 days outdated.  
Required and not installed. |
|       | • FMC            | Inoperative and in accordance with MEL provisions | FMS database recently outdated (<28 days).  
Inoperative and MEL provisions not applied | |
|       | • ACAS/CVR/FDR/ELT | Inoperative and in accordance with MEL provisions | Inoperative and MEL provisions not applied | |
Guidance Material – inspection

- Inspection rules and procedures should cover the qualifications of inspectors who will conduct inspection activities:
  - Inspectors must be experienced in the inspections of their national operators and specially trained and authorized for inspection of foreign aircraft.
  - Inspectors should be fluent in English and flight operations inspectors ≥ ICAO level 4.
  - Inspectors must be knowledgeable about the difference in inspection Standards (ctd...)
• Inspection is carried out as for a particular area but the inspector does not have the authority to touch any control/open doors/etc.

• Inspections should be planned using risk management and past inspection records.
Guidance Material – inspection

Training Requirements for inspectors:

- ICAO Convention and its Annexes and PANS
- Differences between ICAO standards and national regulations
- Diplomacy, dealing with potential language difficulties and cultural differences
- Sovereignty of foreign aircraft, which means that the inspector authority is limited to document, communicate and report findings
- Observing, recording and reporting procedures during inspections
- Understanding that activities are limited to surveillance, not to the certification process
Reactive to Predictive System

- ICAO is transitioning to performing predictive analysis for decision making.
- Multi-dimensional safety analysis is necessary to effectively predict and mitigate global safety issues.
Data analysis

• Data or information?
  – Data consists of facts
    • May be sensitive or create liability
  – Information is the result of data analysis
    • May be more easily exchanged with external entities
  – Common taxonomies and interoperable data management systems are essential
ADREP - Speaking a Common Language

Harmonizing Taxonomies

Data Source A  Common  Data Source B
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Thank you & any question?