

Iran Aseman Airlines

Safety Management System Challenges and Regulatory Requirements

Mehdi Fayyazi

SMS Regulatory Requirements: An Overview

- There are requirements for SMSs set out in ICAO Standards and Recommended Practices (SARPS).
- Relationship between ICAO SARPs and state civil aviation legislation.
- ICAO Safety Oversight program – audits compliance with ICAO SARPs -consequences of non compliance.

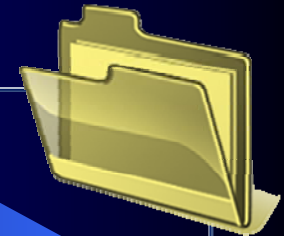
ICAO SMS Requirements

- SMS Standards and Recommended Practices (SARPs) relevant to SMS are set out in:
 - Annex 6.
 - Annex 11.
 - Annex 14.

Relationship Between ICAO SARPs and State Civil Aviation Legislation

- ICAO SARPs only become legally enforceable in a contracting State when they are incorporated in the domestic legislation governing civil aviation in that State.
- Countries have specific State regulatory requirements mandating safety management systems – effective Jan 2009.
- Consequences of non compliance of ICAO Safety Oversight program audits!!

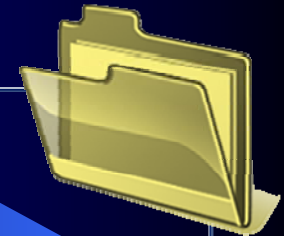
Annex 6: Operation of Aircraft



3.2.4 *From 1 January 2009, States shall require, as part of their safety programme, that an operator implements a safety management system acceptable to the State of the operator that, as a minimum:*

- (a) identifies safety hazards;*
- (b) ensures that remedial action necessary to maintain an acceptable level of safety is implemented;*

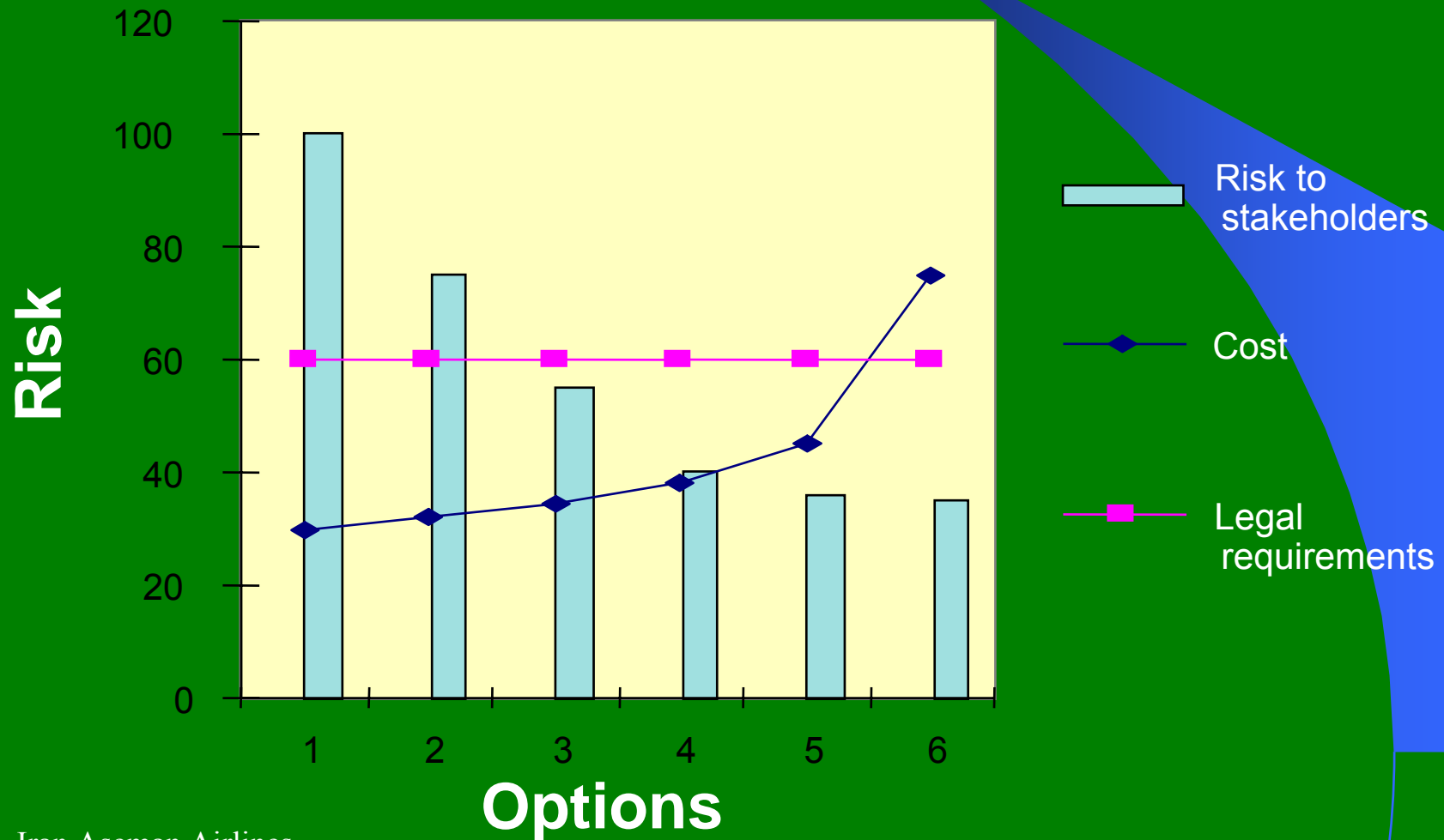
Annex 6: Operation of Aircraft (Cont)



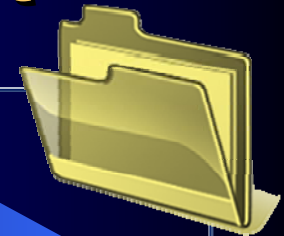
- (c) *provides for continuous monitoring and regular assessment of the safety level achieved; and***
- (d) *aims to make continuous improvement to the overall level of safety.***

What is ALARP?

ALARP = As Low As Reasonably Practical



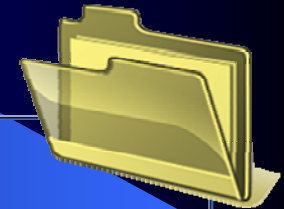
Annex 6: Operation of Aircraft



3.2.5. *A safety management system shall clearly define lines of safety accountability throughout the operator's organisation, including a direct accountability for safety on the part of senior management.*

Note: Guidance on safety management systems contained in the ICAO Safety Management Manual (Doc 9859).

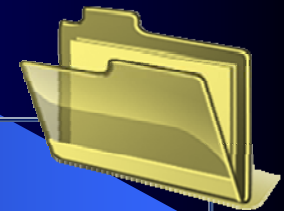
8.7 Approved Maintenance Organisation



From 1 January 2009, States shall require, as part of their safety programme, that a maintenance organisation implements a safety management system acceptable to the State of the operator that, as a minimum:

- (a) identifies safety hazards;***
- (b) ensures that remedial action necessary to maintain an acceptable level of safety is implemented;***

8.7 Approved Maintenance Organisation (Continued)



- (c) provides for continuous monitoring and regular assessment of the safety level achieved; and***
- (d) aims to make continuous improvement to the overall level of safety.***

8.7 Approved Maintenance Organisation (Continued)



8.7.3.5 *A safety management system shall clearly define lines of safety accountability throughout the operator's organisation, including a direct accountability for safety on the part of senior management.*

Note: Guidance on safety management systems contained in the ICAO Safety Management Manual (Doc 9859).

Annex 11

Air Traffic Services

Annex 14

Aerodromes

JAR-OPS

- JAR-OPS 1/3.037 states that:

“an operator shall establish an accident prevention and flight safety programme, which may be integrated with the Quality System, including programmes to achieve and maintain risk awareness by all persons involved in operations.”

- This statement is based on the ICAO recommended practice (Annex 6 Pt 1) for operators to have such a programme in place. ICAO Doc 9422 (Accident Prevention Manual) gives appropriate guidance material and describes a Safety Management System.

SMS Principles

- All SMSs share common core principles and elements, differing only in detail.
- They can be customised to any operation in any area of aviation.
 - Operation of Aircraft, Air Traffic Services, Aerodromes, MROs

CAO SMS Regulations

- SMS will be mandated on 1 January 2009, and by then all AOC Holders and AMOs must have in place a functioning SMS in order to meet the requirements relevant to their CAO approval.

SMS Regulations

An integrated safety management system should include:

- a) a safety policy on which the system is based;
- b) setting of safety objectives, goals and performance indicators;
- c) clearly defined lines of safety accountability throughout the organisation, including a direct accountability for safety on the part of the Accountable Manager;
- d) identification of hazards to aviation safety and the evaluation and management of their associated risks;

SMS Regulations

- e) personnel training to ensure their competency to perform their duties;
- f) documentation of all SMS components, procedures and activities including their relevant integration for making personnel aware of their responsibilities with respect to them;
- g) A process for the internal reporting and analyzing of hazards, incidents and accidents and for taking corrective actions to prevent their recurrence;
- h) periodic review or audit of the safety management system;
- i) an emergency response plan.

IAA SEM

- Safety Policy
- Safety Accountability
- Safety Targets and Performance Indicators
- Hazard and Risk Management
- SMS Training and Promotion
- SMS Documentation and Records
- SMS Audit

IAA SMS

- Safety Management Exposition
- Safety Department
- Health Safety and Environment
- Hazard and Risk Management
- SMS Documentation and Records
- Safety Audit
- Management Review Meeting
- Emergency Response Plan
- Flight Data Record Analysis

What's Ahead

- Incident/Hazard Reporting Programmes
- Flight Data Analysis Programme (FDAP)
- Line Operations Safety Audit (LOSA)
- CRM: Threat & Error Management (TEM)
- Ground Ramp Incident Prevention (GRIP)
- Safety Information Sharing/Promotion
- IATA Operational Safety Audit (IOSA)
- Operational Risk Management
- Target is to be in full compliance of ICAO recommendations (Doc 9859)

SMS Challenges

Change – Hard management

- Change has many consequences
- Some of these are what would be intended and expected
- Others are side-effects
- Some side-effects are known and built in
- Others are not considered and may produce unexpected and undesired consequences

SMS Challenges

Change Management

- Change can be regarded as a hazard
- Failure to consider how change impacts the organisation is a major source of problems
- The solution is to develop a process to manage the desired and undesired consequences of change
- This is very similar to the hazard and risk identification process

SMS Challenges

➤ Quality Assurance:

- systematic production processes - Imperative
- It is a set of activities intended to ensure that products (goods and/or services) satisfy customer requirements in a systematic, reliable fashion.

➤ SMS:

- Systematic management of the risks - Imperative
- It is a systematic, explicit and comprehensive process for managing safety risks. As with all management systems, a safety management system provides for goal setting, planning, and measuring performance.

SMS Challenges

➤ Quality Assurance:

- cannot absolutely guarantee the production of quality products, unfortunately, but makes this more likely
- QA Versus QC - QA does not necessarily eliminate the need for QC

➤ SMS:

- A safety management system is woven into the fabric of an organization. It becomes part of the culture, the way people do their jobs
- a documented process for managing risks that integrates operations and technical systems with the management of financial and human resources to ensure aviation safety or the safety of the public

SMS Challenges

- **Quality Assurance Elements:**
 - On-going internal audits; constant upgrading of system in pursuit of excellence;
 - Independent corrective action determination;
 - Independent implementation of corrective action recommendations; on-going observation and evaluation of corrective actions.

SMS Challenges

- **SMS Elements:**
 - Safety Policy
 - Safety Accountability
 - Safety Targets and Performance Indicators
 - Hazard and Risk Management
 - SMS Training and Promotion
 - SMS Documentation and Records
 - SMS Audit
 - Emergency Response Plan

SMS Challenges

- **Quality Assurance:**

- Audit in accordance with specified manual or procedures (OM, MOE, EASA)

- **SMS:**

- Culture, Human factors, Errors, risk management, accident/incident investigations, performance measurement, emergency response plan and audit
- FDAP, LOSA, MEDA, IOSA, USOAP

Conclusion

- SMSs provide a sound basis for regulatory audit – a primary reason why they will become a regulatory requirement.
- SMSs facilitate a standardised approach to safety management.
- Implementing of SMS need some change - making people change is not always easy
- Airlines can implement Safety Management Systems and also develop generative organisations

Thank You