SSP/SMS Implementation

Session #8
Presentation #1
U.A.E
STATE SAFETY PROGRAMME (SSP)

OUR VISION: A LEADING, SAFE, SECURE AND SUSTAINABLE CIVIL AVIATION SYSTEM
UAE Aviation Industry

- 34 Operators
  - 4 Scheduled Carriers
- Numerous Training Organizations
- Over 45 MROs
- 734 aircraft under A6
- 9 Certified Aerodromes

OUR VISION: A LEADING, SAFE, SECURE AND SUSTAINABLE CIVIL AVIATION SYSTEM
UAE Aviation Industry

• 250,000+ Aviation Personnel
  – Pilots     -  8,243
  – Cabin Crew -  32,674
  – Engineers  -  3,340
  – ATCO’s    -   377
SSP Development

- Development Started in 2010
- Phased Approach Starting with Gap Analysis & Implementation Plan
- Project monitored by PMO office
- Project completion 31 Dec 2014
Overall Progress Status


- **State Safety Policy**: 100%
- **SSP Program Manual**: 100%
- **Safety Analysis Software Induction**: 100%
- **Service providers safety performance/draft agreement document**: 85%

Phase Budget Planned Completion Status Paid to Date Remaining

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<th>Planned Completion</th>
<th>Status</th>
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SSP Project Charter has NIL budget. All activities are financed through STRATEX on annual basis.
1.1 State Safety Legislative Framework

- UAE Civil Aviation Law & Regulations – in Place
- State Safety Policy – Developed in 2011
- Search & Rescue (SAR)
  - Regulations – promulgated in 2011
  - Certification of SAR Service Providers in 2013

OUR VISION: A LEADING, SAFE, SECURE AND SUSTAINABLE CIVIL AVIATION SYSTEM
Search & Rescue (SAR) – contd.

- Operations shared between UAE Defence Forces & Dubai Police
- UAE National Centre for SAR – Under UAE Supreme Council for National Security
- Certification/Over-Sight/Audit – GCAA ANA Dept.
- SAR LAW signed by H.H The President

Periodic Review of regulations – GCAA PRP Department
1.2 State Safety Responsibilities and Accountabilities

- H.E. the DG of GCAA is Accountable Executive for UAE SSP
- GCAA reorganisation completed in 2011
- Safety Management Committee (SMC) – 2012
- Industry committee coming soon

Documentation

- SSP Interdepartmental Procedures Manual - 2013
1.3 Accident and Incident Investigation
   - GCAA AAIS – An Independent Sector in GCAA

1.4 UAE Enforcement Standard
   - Enforcement Standard Established in 2013
   - Philosophy
   - Provisions for minor violations - Non Punitive under SMS environment
   - Conditions for enforcement actions
2.1 Safety Requirements for Service Provider’s SMS

- CAR Part – X promulgated in 2010. revised once

- CAAP 50 Published as Guidance Material

- CAR Part – X revision in process as part of periodic review
2.2 Agreement on Service Providers SPM

Safety Performance Measurement

- SPM Model developed in 2012; Further Enhancement as per ICAO SMM 9859 3rd edition
- Industry education/ Assistance
- Achievement being monitored by PMO office
- 2nd Cycle in process - Completion by June 2014
- Initial UAE ALoSP - 31 Dec 2014
GCAA SPM MODEL

SPIs ➔ ACTION PLANS ➔ SPTs

Annual Cycle

REPORTING CHANNELS ➔ DATA ➔ SPIs ➔ ACTION PLANS ➔ SPTs

REPORTING CHANNEL ➔ OCCURRENCE ➔ SPOs

STATE CONCERNS ➔ BEST INDUSTRY PRACTICES ➔ PARAMETERS TO COMPLETE MAPPING OF THE ENTIRE SYSTEM

Terminated SPOs ➔ Eliminated SPIs

PROACTIVE

Termination of SPOs: A Leading, Safe, Secure and Sustainable Civil Aviation System
3.1 Safety Oversight

Oversight Plan

- Q Pulse for Audit Management
- Masdar for feedback
- SMS Audit Criteria established in 2012 (generic checklist)
- SMS Audits Completed in 2013
- Detailed SMS Audit criteria development in process
- Risk profiling soft launch in June 2014
- SPMs Audits initiated in 2014
3.2 Safety Data Collection, Analysis & Exchange (SDCPS)

- ROSI – 2010
- VORSY – 2012
- RODGO/ROSB – 2013
- Data Analysis – 2013
- Safety Information Protection (SIP) Law – In process
- Accident & Incident reporting to ICAO – In Place
- Data Sharing & Information Exchange – Development in process
ROSI DATA

• PERIOD 1 JAN 2010 – 31 DEC 2013

► TOTAL – 15,741
► OPS ROSI (AOAW) – 6017
► ANA ROSI (ATC, AOP, BWI) – 9724
Launched in 2012

Objective

- To capture hazards, incidents and errors which may not have been reported through mandatory reporting system
- Voluntary & Confidential
- CAAP 57
3.3 Safety Data Driven Targeting of Oversight of Areas of Greater Concern or Need:

- Initiated in 2013
- Organisation Risk Profiling Criteria (checklist) – 2013
  - Developed as per ICAO guidelines for UAE service providers
4.1 Internal Training, Communication and Dissemination of Safety Information

4.2 External Training, Communication and Dissemination of Safety Information

• Ongoing & Continuous Process/Program
  ▶ Conferences
  ▶ Seminars
  ▶ Workshops
  ▶ Newsletters
  ▶ Promotional Materials
  ▶ Safety Alerts
THANK YOU
SSP/SMS Implementation

Session #8
Presentation #2
ICAO/IATA 2nd MID Region Safety Summit
28th APR 2014

Safety Management System
Safety Department,
Oman Air

Capt Waheed Al Subhi

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State Safety Program

- State Safety Programme for the Sultanate of Oman
- Produced by the Civil Aviation Affairs in conjunction with the Ministry of Transport and Communications
- Published April 2011
Gap Analysis

The outcome from the gap analysis:

- SMS Documentation
- SMS Training
- SMS Tool
- Hazard Reporting
- Establish Risk Management
- Feedback
SMS components

**Safety Policy**
Establishes senior management's commitment to continually improve safety; defines the methods, processes, and organizational structure needed to meet safety goals.

**Safety Risk Management**
Determines the need for, and adequacy of, new or revised risk controls based on the assessment of acceptable risk.

**Safety Assurance**
Evaluates the continued effectiveness of implemented risk control strategies; supports the identification of new hazards.

**Safety Promotion**
Includes training, communication, and other actions to create a positive safety culture within all levels of the workforce.
Documentation

SMS manual established on JUN 2012 and approved by Oman PACA in SEP 2012 and it is available for all staff in Oman Air portal under Q&S department, OASIS manual.
OMAN AIR PORTAL
OMAN AIR SAFETY POLICY

In Oman Air, safety is one of our core business functions. Safety has been, and always will remain the first priority in all our activities. We are committed to conduct our business in a manner that ensures the safety of our employees, customers, the general public, external contractors, agents and associated organisations. We will constantly strive to develop, implement, maintain and improve strategies and processes to ensure that all our aviation activities are aimed at achieving the highest level of safety performance and meeting national and international standards.

We will achieve our safety goals through the medium of the corporate Safety Management System, which ensures that all levels of management and all employees are accountable for the delivery of the highest level of safety performance, starting with the Chief Executive Officer.

Our commitment is to:

• Support the management of safety through the provision of all appropriate resources, that will result in an organizational culture that promotes safe practices, encourages effective safety management and communication, and actively manages safety with the same attention to results as the attention to the results of the other management systems of the organization;

• Enforce the management of safety as a primary responsibility of all managers and employees;

• Clearly define for all staff, managers and employees alike, their accountabilities and responsibilities for the delivery of the organisation’s safety performance and the performance of our safety management system;

• Establish and operate hazard identification and risk management processes, including a hazard reporting system, in order to eliminate or mitigate the safety risks of the consequences of hazards resulting from our operations or activities to a point which is as low as reasonably practicable (ALARP);

• Ensure that no action will be taken against any employee who discloses a safety concern through the safety reporting system, unless such disclosure indicates, beyond any reasonable doubt, an illegal act, gross negligence, or a deliberate or willful disregard of regulations or procedures;

• Comply with and, wherever possible, exceed, legislative and regulatory requirements and standards;

Ensure that sufficient skilled and trained human resources are available to implement safety strategies and processes;

• Establish and measure our safety performance against realistic safety performance indicators and safety performance targets;

• Continuously improve our safety performance through management processes that ensure that relevant safety action is taken and is effective; and

• Ensure externally supplied systems and services to support our operations are delivered meeting our safety performance standards.

Wayne Pearce
Chief Executive Officer

Mohammed Al Said
General Manager Quality & Safety
SAFETY REVIEW BOARD
SAFETY ACTION GROUP

Catering
IFE
Training
Fleet
Dispatch
Training
IOC
Crew Planning
NAV & Performance

Cabin

Flight

Safety Review Board

Ground
Ramp
Handling
Cargo
Training

Maintenance
Maintenance
Engineering
Airworthiness
Training
SAFETY OVERSIGHT COMMITTEE

Safety Review Board

- Safety Oversight Committee
- Catering
- IFE
- Training
- Fleet
- Dispatch
- Training
- IOC
- Crew Planning
- NAV & Performance
- Ramp
- Handling
- Cargo
- Training
- Maintenance
- Engineering
- Airworthiness
- Training
SAFETY TARGETS & GOALS

- Identify **Top Risks** in their area of operations and the risk mitigation strategies

- Set measurable **SAFETY TARGETS/ SAFETY GOALS**

- Follow up and track investigation reports and findings till closure

- Work closely with DGSAS & other strategic partners
## RISK ASSESSMENT

<table>
<thead>
<tr>
<th>Risk Probability</th>
<th>Probability of Occurrence</th>
<th>Severity of Occurrence</th>
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<tr>
<td>Frequent 5</td>
<td>likely to occur many times (has occurred frequently)</td>
<td>Catastrophic A</td>
</tr>
<tr>
<td>Occasional 4</td>
<td>likely to occur some times (has occurred infrequently)</td>
<td>Hazardous B</td>
</tr>
<tr>
<td>Remote 3</td>
<td>unlikelyly, but possible to occur (has occurred rarely)</td>
<td>Major C</td>
</tr>
<tr>
<td>Improbable 2</td>
<td>very unlikely to occur (not known to have occurred)</td>
<td>Minor D</td>
</tr>
<tr>
<td>Extremely improbable 1</td>
<td>almost inconceivable that the event will occur</td>
<td>Negligible E</td>
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### Probability of Occurrence

<table>
<thead>
<tr>
<th>Qualitative Definition</th>
<th>Meaning</th>
<th>Value</th>
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<td>Likely to occur many times (has occurred frequently)</td>
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<tr>
<td>Occasional</td>
<td>Likely to occur some times (has occurred infrequently)</td>
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<tr>
<td>Remote</td>
<td>Unlikely, but possible to occur (has occurred rarely)</td>
<td>3</td>
</tr>
<tr>
<td>Improbable</td>
<td>Very unlikely to occur (not known to have occurred)</td>
<td>2</td>
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<tr>
<td>Extremely improbable</td>
<td>Almost inconceivable that the event will occur</td>
<td>1</td>
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### Severity of Occurrence

<table>
<thead>
<tr>
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<th>Meaning</th>
<th>Value</th>
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<tr>
<td>Catastrophic</td>
<td>Equipment destroyed.</td>
<td>A</td>
</tr>
<tr>
<td>Hazardous</td>
<td>A large reduction in safety margins, physical distress or a workload such that the operators cannot be relied upon to perform their tasks accurately or completely.</td>
<td>B</td>
</tr>
<tr>
<td>Major</td>
<td>A significant reduction in safety margins, a reduction in the ability of the operators to cope with adverse operating conditions as a result of increase in workload, or as a result of conditions impairing their efficiency.</td>
<td>C</td>
</tr>
<tr>
<td>Minor</td>
<td>Nuisance.</td>
<td>D</td>
</tr>
<tr>
<td>Negligible</td>
<td>Little consequences</td>
<td>E</td>
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## Safety Performance Indicators

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<th>Remark</th>
<th>Value per 100 Flights for 2013 (Jan-Dec)</th>
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<td>increase the reporting by 5%</td>
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<td>Safety Culture Healthy</td>
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<tr>
<td>High ROD below 500 ft</td>
<td>bbbb</td>
<td>Reduction in High ROD below 500 ft /100 flights by 5%</td>
<td>bbbb</td>
<td>bbbb</td>
<td></td>
<td>bbbb</td>
<td>Dec 2013</td>
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<tr>
<td>Late Flap Configuration</td>
<td>aaaa</td>
<td>Reduction in Late Flap Configuration/ 100 flights by 5 %</td>
<td>aaaa</td>
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<td>aaaa</td>
<td>Dec 2013</td>
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<tr>
<td>TCAS RA</td>
<td>bbbb</td>
<td>Reduction in TCAS RA/ 100 flights by 20%</td>
<td>bbbb</td>
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<td></td>
<td>bbbb</td>
<td>Dec 2013</td>
</tr>
<tr>
<td><strong>A330</strong></td>
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<tr>
<td>Late Flap Configuration</td>
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<td>Reduction in Late Flap Configuration/ 100 flights by 5 %</td>
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<td>aaaa</td>
<td>bbbb</td>
<td></td>
<td>aaaa</td>
<td>Dec 2013</td>
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Reporting Trend

All values are calculated per 1000 flights

Comparison of No. of ASR, No. of CSR, and No. of GOR between JAN-DEC 2012 and JAN-DEC 2013.

Total Flights 2012: 43790
Total Flights 2013: 51567

JAN-DEC 2012  | JAN-DEC 2013
--- | ---
No. of ASR | No. of CSR | No. of GOR
Cabin Safety - Events

CSR during January to December 2013

Each GCR Date of Occurrence in Range "1/1/2013 to 12/31/2013" and GCR issue includes "Crew Injury" or "Injured Passenger" or "Sick Passenger" or "Sick Crew" or "Standing in cabin" or "Unruly Passenger" or "Drunk on board" or "Missing Documents"
Safety Reports Statistics - GOR

GSR / OSR

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<th>OSR</th>
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<td>2012</td>
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<tr>
<td>2013</td>
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OPEN REPORTING

Oman Air’s ‘Open Reporting & Just Culture’ Management Statement

Errors within any system are generally the outcome of being human, the design of a system, and our individual behavioral choices when interacting with that system.

Oman Air is committed to a strategy of continually striving for and achieving enhanced safety outcomes. In order to achieve this, it is imperative that we learn from our mistakes, strive to reduce instances of human error in the future, and to develop systems that are more error tolerant.

Consistent with this strategy, and our individual safety responsibilities, it is imperative that all Oman Air staff report instances of human error in which they are personally involved, or that they become aware of through any circumstances.

Through the universal reporting of human errors, the organisation will be able to learn more about the risks existing within the business. Analysis and investigation of these errors will allow identification of contributing factors and the implementation of strategies to strengthen our systems and prevent future events.

The effective dissemination of learning outcomes arising from the enhanced level of reporting will also provide for a more informed – and safer organisation and workplace.

In the context of human error management, it is recognised that the achievement of enhanced safety outcomes will be materially improved through the unobstructed reporting of all incidents and occurrences that compromise safety within our operating environment.

To achieve this outcome, all Oman Air staff are advised that under the terms of this ‘Open Reporting & Just Culture Management Statement’, any disciplinary action will be taken against any member of staff who reports an incident or occurrence involving human error, and who openly participates in the investigation and subsequent development of error prevention strategies.

This policy will not apply to employees who have behaved in a reckless of illegal manner or who have committed a series of human errors that indicates a general lack of care and professionalism.

This Open Reporting & Just Culture Management Statement is complimentary to Oman Air existing Safety Policy.

Wayne Pearce
Chief Executive Officer
01 July 2012
Safety Reporting Systems

What to report?
When to report?
How to report?
Whom to report to?
Where to report?
Safety Reporting Systems (Forms)

- ASR .......... Flight crew.
- CSR.......... Cabin crew.
- GOR......... Ground Ops staff.
- AOR......... maintenance staff.
- HSE.......... (TBN)
- FRMF......... (TBN)
- SCR......... All STAFF. SCR@omanair.com or fill up the SCR Form
MONTHLY STATISTICS

Flight Safety Monthly Statistics

- FDM Statistics
- ASR Statistics
- ASR Summary
- CSR Summary

December 2013
SAFETY EXCHANGE

WY SHARES SAFETY DATA WITH:

• IATA STEADES
• Participate in the IATA IRM
• Members of GFSC /ISASI/FSF.
Amend and review the SMS manual.
Promote Safety Culture
Safety Campaigns
SMS Training.
Enhance software to manage risk module for all risk assessments.
THANK YOU
SSP/SMS Implementation

Session #8
Presentation #3
ON TARGET

Implementing Safety Management in Kuwait Airways

Safety Department
ON TARGET

Implementing Safety Management in Kuwait Airways

Agenda


The Concept of Safety Management - A brief description of Safety Management

Implementing Safety Management - A description of the implementation process.

Obstacles faced during Implementation - Account of obstacles face during implementation and corrective measures taken

Results - A description of the Safety Management System implementation results.

Conclusion - Conclusion of implementation a safety management system in Kuwait Airways
Safety Management Project
Kuwait Airways Board of Governors in December 2004, under directions from the Kuwaiti Government, instructed Kuwait Airways CEO to ensure a safety management system is fully implemented prior to the expected privatization of the airlines in December 2006.
Implementation Concerns:
The limited time to implement SMS combined with the age and size of the organization posed the largest threat to success of the project.

*Careful planning was therefore needed.*
The Concept of Safety Management
Safety Management makes good business sense, it unlocks the potential to improve efficiency, lower costs related to events and advance the organization’s image.
Key Elements of Safety Management:

1. Gain senior management commitment.
2. Set safety management policies and objectives.
3. Appoint a safety officer.
4. Set up a safety committee. *(or committees)*
5. Establish a process to manage risks.
6. Set up a reporting system to record hazards, risks and actions taken.
7. Train and educate staff.
8. Audit your operation and investigate incidents and accidents.
9. Control documentation and safety data.
10. Evaluate how the system is working.
Implementing of Safety Management
To ensure effective implementation of SMS, a phased plan must be first developed.

A five phase implementation plan was developed and adopted.
Phase 1
Planning & Review
Management Commitment

Phase 2
Organization

Phase 3
Safety Oversight

Phase 4
Risk Management
Safety Analysis

Phase 5
Outsourced Functions
Continuous Monitoring

Re-evaluated

Risk Management

Risk management is the actions taken to identify hazards, evaluating of the risk associated with the hazards (risk analysis) and then the action taken to reduce or eliminate the risk (risk mitigation).

Management of risks will allow the organization to balance production and safety. It is therefore important to quantify risks.
Obstacles Faced During Implementation
During the implementation, a number of unexpected obstacles appeared and needed to be addressed to ensure that the SMS is implemented effectively.

These obstacles are as a direct result of:

- The size and age of the organization,
- The existence of effective SOP’s,
- The effectiveness of existing Quality system,
- The level of support from top management.
Obstacles

Some of the most significant obstacles are:

1. Reluctance of some management to apply SMS
2. Rejection of some staff to accept safety inspectors
3. Some Managers & Supervisors apposed the non-punitive policy
4. Reluctance to apply safety recommendations
5. Departments were reluctant to transfer staff to the safety office
6. Reluctance of management to include Safety in changes

Most obstacles were attributed to cultural issues and/or lack of Safety Management awareness.
Cultural issues proved to be the most difficult to resolve.

Type of Cultures:
✓ National
✓ Organization
✓ Professional
During the implementation, the culture of the organization and the existing negative mindset of a large number of staff proved to be the most difficult of obstacles to overcome.
National, Organization and professional cultures all play a critical role in safety management.

Management support, awareness training and drastic measures were applied to eliminate these issues.
Results
The safety management system was successfully implemented in Kuwait Airways within the specified time.

Continuous top management support ensured that personnel within the organization worked towards implementing safety management.

Safety management demonstrated its benefits in KAC in a very short time.
Conclusion
CONCLUSION

Planning and implementing a safety management system within an organization in a limited period such as two years while the organization is undergoing structure changes is plausible but also extremely challenging.

Top management commitment proved to be one of the primary pillars to the success of the safety management system.

Culture has a direct impact on how well and effective a safety management system operates.
CONCLUSION

For myself, this project allowed me to utilize and put in practice strategic management knowledge, safety management skills and airline management know-how into practical use.

The project also gave me first hand evidence that a well implemented SMS will also attribute to a better and more efficient organization.

It is very important to ensure that top management understand and be fully convinced of SMS **BEFORE** implementation.
SIMPLIFYING SMS

Hazard

Risk
(Likelihood + Consequences)
Management Team Work is essential in implementing SMS
Management Team Work is essential in implementing SMS
SSP/SMS Implementation

Session #8
Presentation #4
MID Safety Summit

Jamal Zaal

Vice President, Airside Operations
1. SMS IMPLEMENTATION
2. CHALLENGES/ LESSONS LEARNT
3. CHALLENGES- SAFETY DATA SHARING
4. ACHIEVING PROACTIVE & PREDICTIVE MITIGATION STRATEGIES
5. PROMOTING SAFETY CULTURE
SMS IMPLEMENTATION

1. Start

2. Plan
   - SOPs
   - Aerodrome manual
   - Emergency plan

3. Review
   - Policy
   - Airside safety review meeting
   - Safety review board
   - Stakeholder audits
   - Internal audit

4. Check
   - AO duty team inspections
<table>
<thead>
<tr>
<th>1. Safety Policy and Objectives</th>
<th>2. Safety Risk Management</th>
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<tbody>
<tr>
<td>• Appointment of key personnel</td>
<td>• Task specific</td>
</tr>
<tr>
<td>➢ SMS/Compliance/Planning/Projects/ Emergency planning</td>
<td>• Management of Change (MOC)</td>
</tr>
<tr>
<td>• SMS documentation</td>
<td>• Safety case</td>
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<tbody>
<tr>
<td>• Inspections (Level 1/2/3)</td>
<td>• Safety communications (5 types)</td>
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<td>• SOPs</td>
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<td>• Meetings (5 types)</td>
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<td>• Audits (10-3rd party audits)</td>
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<td>• KPI monitoring- Intelex</td>
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<tr>
<td>SMS Element</td>
<td>June</td>
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<tr>
<td>Mtg. Airside Safety Review - Monthly</td>
<td></td>
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<tr>
<td>Mtg. Airport Emergency Planning Group</td>
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<tr>
<td>Mtg. Airside Safety Committee – Quarterly</td>
<td></td>
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<tr>
<td>Mtg. Runway Safety Team Meeting - Quarterly</td>
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<tr>
<td>Mtg. Airside Working Progress Meeting - Weekly</td>
<td></td>
</tr>
</tbody>
</table>

Note 3: Meeting Safety Review Board – Joint meeting DWC & DXB
1. SMS IMPLEMENTATION

2. REACTIVE SAFETY KPI’S

2.1 Aircraft Related Incidents
   - Runway Incursions
   - FOD on Runway
   - Bird Strike
   - Tyre Burst
   - Aircraft Roll back
   - Unauthorised Pushback
   - Aircraft-vehicle Conflict
   - Aircraft Ground Damage
   - Aircraft Ground Damage
   - Other Critical Airside Gaf (Runway excursion/Powe aside vehicles/Taxiway issues/VGGS issues/Mar

2.2 Personal injury
   - Staff Injury
   - Passenger Injury

2.3 Vehicle Accidents

2.4 Spillages
   - Aircraft Spillages
   - Equipment Spillages

2.5 Project related incidents

3. PROACTIVE SAFETY KPI’S

3.1 Wildlife management

3.2 Inspections
   - Duty Team Inspections
   - FOD Inspections
   - ADP Checks/Violations issued

3.3 Audits
   - GCAA Audits
   - Internal Departmental Audits
   - Stakeholder Audits
   - Turnaround Audits
   - SUSA

3.4 Meetings

3.5 Campaigns

3.6 Communications

3.7 Risk register

3.8 Risk Assessments

3.9 Runway Friction Test

4. GENERAL PERFORMANCE KPI’S

4.1 Staff Absence
   - Airside Ops Duty Team
   - ARFFS

4.2 Positions Vacant

4.3 Vehicle Serviceability
2. CHALLENGES/LESSONS LEARNT

- Huge data for Accident Analysis
  - Use Intelex software
- Different risk assessment templates for AO and corporate
  - Revise risk assessment format
- Fast paced project implementation
  - HAZOP meetings/MOC
- Regulatory non compliance
  - Monthly meeting with regulator
3) CHALLENGES- SAFETY DATA SHARING

Within organization

With Stakeholders in airport

With other airports

Common tool- Intelex

Open reporting in Safety committees.

DA participation in stakeholder safety committees.

Coordination by regulator
Achieving Proactive & Predictive Mitigation Strategies

- **Predictive**
  - Project HAZOPs
  - Risk assessments
  - Compliance checks
  - Aeronautical study
  - Highly efficient

- **Proactive**
  - INTELEX analysis
  - Inspections
  - Audits
  - Very efficient

- **Reactive**
  - INTELEX
  - Efficient

- **Reactive**
  - Accident and incident reports
  - Insufficient
5 PROMOTING SAFETY CULTURE

FOD Campaign

The Safe Driving Campaign
SSP/SMS Implementation

Session #8
Presentation #5
**Objective:** Develop safety management guidance and tools which will assist Air Navigation Service Providers’ (ANSPs’) transition to increasingly automated service delivery.

- Aligned the CANSO Standard of Excellence (SoE) in SMS with ICAO Annex 19 and added two new elements under Safety Achievement: *Safety-by-Design* and *Fatigue-related Risk Management*.
- Developed a new CANSO Standard of Excellence: *Common Safety Method on Risk Evaluation and Assessment for ANSP*.

Organised by: CANSO
Future SMS Development

- The CANSO Standard of Excellence in SMSs aligns to ICAO Annex 19 and provides a framework for the implementation and continuous improvement of SMSs within Air Navigation Service Providers (ANSPs) that:
  - Exceeds the existing domestic and international regulatory framework
  - Allows ANSPs to build a system appropriate to their size and operational complexity
  - Captures the knowledge of ANSPs with mature SMSs already fully integrated into operations

- The SMS Implementation Guide aligns to the Standard of Excellence and provides guidance that:
  - Transfers learning across the industry
  - Builds a consistent approach to safety management across the globe within ANSPs
  - Allows ANSP management to plan for safety at the corporate, group and project levels to assure that risks to operational service delivery are reduced As Low As Reasonably Practicable (ALARP)
Common Safety Method on Risk Evaluation and Assessment for ANSP applies to all ATM/ANSP ground based functional changes, including people, procedures or equipment and changes to the interactions between them. Topics addressed include:

- Determining the safety significance of a change
- Risk management process
- General ANSP obligations
- Interface management
- Description of the risk assessment process
- Demonstrations of the compliance with safety requirements
- Evidence from the application of the risk management process
Safety-by-Design provides detailed guidance, utilising a total system approach (e.g., examining the technical equipment, airspace, people and procedural elements involved), on two aspects of safety that must be considered throughout the design phase of a change (from initial concept to detailed specification):

1. The ‘failure case’ – to minimise the safety effects of failures
2. The ‘success case’ – to maximise safety benefit
SMS Implementation Guide

- **Risk Management** outlines the steps necessary to implement and conduct risk management for existing hazards and provides guidance on:
  - Risk management terminology
  - Risk management processes;
  - Practical examples (in the form of case studies)
  - Assessment tools (in the form of templates)

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<table>
<thead>
<tr>
<th>Probability</th>
<th>Catastrophic 1</th>
<th>Hazardous 2</th>
<th>Major 3</th>
<th>Minor 4</th>
<th>Negligible 5</th>
</tr>
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<tbody>
<tr>
<td>Frequent A</td>
<td><strong>High Risk</strong></td>
<td><strong>High Risk</strong></td>
<td><strong>High Risk</strong></td>
<td><strong>Low Risk</strong></td>
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<td>Occasional B</td>
<td><strong>High Risk</strong></td>
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<tr>
<td>Improbable D</td>
<td><strong>High Risk</strong></td>
<td><strong>Medium Risk</strong></td>
<td><strong>Low Risk</strong></td>
<td><strong>Low Risk</strong></td>
<td><strong>Low Risk</strong></td>
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<tr>
<td>Extremely Improbable E</td>
<td><strong>High Risk</strong></td>
<td><strong>Medium Risk</strong></td>
<td><strong>Low Risk</strong></td>
<td><strong>Low Risk</strong></td>
<td><strong>Low Risk</strong></td>
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</table>

* Unacceptable with Single Point and/or Common Cause Failures
**Fatigue Risk Management** defines and describes fatigue risk and provides detailed interim guidance (pre-ICAO) for development of fatigue risk management systems, including:

- Scope
- Structure
- Risk identification, assessment, mitigation, and assurance
- Education and promotion

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**Diagram:**

1. Identify fatigue hazards
2. Assess
3. Control or Mitigate Hazards
4. Implement Controls/Mitigations
5. FRMS Operates
6. Educate and Promote
7. Monitor effectiveness of risk management intervention (via Assurance Mechanisms)

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Organised by:

[Logo] cannso
SMS Implementation Guide

- **Safety Assurance** provides detailed guidance on the reviewing and reporting mechanisms ANSPs use to determine how well their SMS is performing. Elements include:
  - Safety Occurrence Reporting, Investigation and Improvement
  - Operational Safety Surveys and SMS Audits
  - Safety Performance Monitoring
  - Management of Change
  - Continual Improvement of the SMS
SSP/SMS Implementation

Session #8
Presentation #6
Implementation of SSP in the MID Region / Action Plan
(Support to Member States)

Nadia Konzali
Project Coordinator, COSCAP-GS

2nd MID region Safety Summit
Muscat, 27-29 April 2014
Flight Plan

1. References

2. Objectives

3. Action Plan & Schedule of actions

4. Challenges
REFERENCE

1. Annex 19 to the Convention (1st Edition, July 2013);
2. Safety Management Manual (3rd Edition, DOC 9859);
3. Revised Global Aviation Safety Plan (GASP) provisions;
4. ICAO training material (Material provided from ICAO);
5. ICAO / ANB (Air Navigation Bureau) recommendations;
OBJECTIVE

Using best practices from Gulf States, provide assistance other MID region States (Under RASG-MID) for the harmonization of their approach to SSP implementation and Operators surveillance in respect of SMS implementation.
SSP Implementation

ACTION PLAN

**Regulations:** Review existent regulations and amend as necessary, including recent ICAO provisions contained in Annex 19 (Develop and Issue Regulatory framework);

**Guidance Material (Procedures & Check-lists regarding SMS implementation, Auditing):** Development of Procedures & Check-lists for the CAA inspectors to audit the operators SMS implementation (Develop and Issue model check-lists);

**Training on Annex 19 & DOC 9859** (3 day training courses, planned in the 3 member states in 2014, with support of ICAO);

**Audit of CAAs (Proactive oversight):** Conduct assessment missions (Gap Analysis) regarding CAAs present SSP implementation status;

**Seminar on SSP implementation by CAAs,** 2 days workshop planned in June 2014;

**Training on Advanced SMS Auditing:** Advanced training of CAA inspectors on the auditing of operators regarding the SMS implementation. Planned in October 2014;

**Collection/Analysis/Monitoring of safety data:** Provide support to member States for the collection, Analysis and monitoring of safety data/Safety Reports (ICAO training on CCAIRS in Bahrain and Kuwait, June 2014).
SSP Implementation

DIPs *(Under RASG-MID)*

*Model regulation* on SSP available for customization by other States;

*Model Procedures/Check-lists* for the surveillance of operators (SMS implementation);

*Training Program* available for 2014/2015:

- Training on Annex 19 / SMM Doc 9859;
- Seminar on SSP Implementation for CAAs managers;
- Advanced training on SMS auditing (to CAAs inspectors);
P Implementation

Key Milestones (Deliverables)

Revised Regulation _____ End 2014
Guidance Material _____ End 2014

Gap Analysis _____ End 2015

Training Program/workshops _____ 2014 (recurrent)

ex 19/SMM, SSP implementation, Advanced SMS Auditing)
SSP/SMS Implementation

Session #9
Presentation #6
Second MID Region Safety Summit

SSP/SMS Safety Indicators and Targets

Mashhor Alblowi
Regional Officer, Flight Safety
ICAO MID Regional Office
## Current SSP Indicators and Targets

<table>
<thead>
<tr>
<th>Safety Indicator</th>
<th>Safety Target</th>
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<tbody>
<tr>
<td>Number of States having completed the gap analysis on iSTARS</td>
<td>a. 7 States by the end of 2014; and</td>
</tr>
<tr>
<td></td>
<td>b. all the 15 MID States by the end of 2016.</td>
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<tr>
<td>Number of States having completed implementation of SSP Phase 1</td>
<td>a. 5 States by the end of 2014;</td>
</tr>
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<td></td>
<td>b. 10 States by the end of 2015; and</td>
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<tr>
<td></td>
<td>c. all the 15 MID States by the end of 2016.</td>
</tr>
<tr>
<td>Number of States having completed implementation of SSP Phase 2</td>
<td>a. 5 States by the end of 2015;</td>
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<tr>
<td></td>
<td>b. 10 States by the end of 2016; and</td>
</tr>
<tr>
<td></td>
<td>c. all the 15 MID States by the end of 2017.</td>
</tr>
<tr>
<td>Number of States having completed implementation of SSP Phase 3</td>
<td>a. 5 States by the end of 2016;</td>
</tr>
<tr>
<td></td>
<td>b. 10 States by the end of 2017; and</td>
</tr>
<tr>
<td></td>
<td>c. all the 15 MID States by the end of 2018.</td>
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</table>
## Current SMS Indicators and Targets

<table>
<thead>
<tr>
<th>Safety Indicator</th>
<th>Safety Target</th>
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</table>
| **Number of Service Providers having completed implementation of SMS Phase 1, as a percentage of all service providers required to implement SMS** | a. 40% of the service providers having completed implementation of SMS Phase 1 by the end of 2014;  
b. 75% of the service providers having completed implementation of SMS Phase 1 by the end of 2015; and  
c. all the service providers having completed implementation of SMS Phase 1 by the end of 2016 |
| **Number of Service Providers having completed implementation of SMS Phase 2, as a percentage of all service providers required to implement SMS** | a. 40% of the service providers having completed implementation of SMS Phase 2 by the end of 2015;  
b. 75% of the service providers having completed implementation of SMS Phase 2 by the end of 2016; and  
c. all the service providers having completed implementation of SMS Phase 2 by the end of 2017 |
| **Number of Service Providers having completed implementation of SMS Phase 3, as a percentage of all service providers required to implement SMS** | a. 40% of the service providers having completed implementation of SMS Phase 3 by the end of 2016;  
b. 75% of the service providers having completed implementation of SMS Phase 3 by the end of 2017; and  
c. all the service providers having completed implementation of SMS Phase 3 by the end of 2018 |
### Proposed SSP and SMS Indicators and Targets

<table>
<thead>
<tr>
<th>Safety Indicator</th>
<th>Safety Target</th>
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<tbody>
<tr>
<td>Number of MID States having completed the SSP gap analysis on TARS</td>
<td>a. 7 MID States by the end of 2014; and</td>
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<td></td>
<td>b. 13 MID States by the end of 2016.</td>
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<tr>
<td>Number of MID States that have developed an SSP implementation plan</td>
<td>All MID States by end of 2014</td>
</tr>
<tr>
<td>Number of MID States with &gt;60%, having completed implementation of SSP Phase 1, 2 and 3</td>
<td>a. all MID States with EI&gt;60% to complete phase 1 by the end of 2015.</td>
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<td></td>
<td>b. all MID States with EI&gt;60% to complete phase 2 by the end of 2016.</td>
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<tr>
<td></td>
<td>c. all MID States with EI&gt;60% to complete phase 3 by the end of 2017.</td>
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<tr>
<td>Number of MID States with &gt;60% that have established a process for acceptance of</td>
<td>a. 50% of MID States with EI&gt;60% by the end of 2015</td>
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<tr>
<td>individual service providers’ SMS</td>
<td>b. 100% of MID States with EI&gt;60% by the end of 2017</td>
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</table>
THANK YOU
SSP/SMS Implementation
Session #8
Panel Discussion

**Moderator:** Mr. Mohamed Smaoui, ICAO MID

**Panelists:**
- Mr. Walid Al Rahmani, GCAA
- Capt. Waheed Al Subhi, Oman Air
- Mr. Kamel Awadhi, Kuwait Airways
- Mr. Jamal Zaal, Dubai Airports
- Mrs. Maggie Geraghty, FAA
- Mr. Mashhor Alblowi, ICAO MID
The Second MID Region Safety Summit

27-29 April 2014
Muscat, Oman

Lunch Break
1:00 – 2:00

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