SSP Issues

APRAST/8 Workshop on
SSP/SMS Integration and Measurement
28 Mar 2016

CAAS
Civil Aviation Authority of Singapore

Agenda

1. Recent developments

2. Safety Risk Management

3. Internal Implementation

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Recent Developments

SSP / SMS related goals remain relevant

ICAO GASP and APAC regional aviation safety priorities and targets:

- Relevant service providers implement SMS by 2017
- States with EI of over 60% implement SSP by 2017
- All States implement SSP by 2022

	Update at RASG-APAC/5	Update at APRAST/8
Aviation organisations that have implemented SMS out of those required to implement SMS	26 %	66*%

Table 2.9: Status of SMS implementation for Industry

Implementation Stage	Update at RASG-APAC/5	Update at APRAST/8
SSP implementation completed	2	2
Implementation Plan Defined	2	3
Gap Analysis completed	2	4
Gap Analysis started	4	6
No information available	28	23

Table 2.10: Implementation of SSP by APAC States

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Developments of Safety-Management Related PQs

Earlier:

- SM-related PQs would commence in States with an EI of over 60% in January 2016.
- States with an EI of over 60% would have until the end of 2015, to complete their self-assessments of the new SM-related PQs.
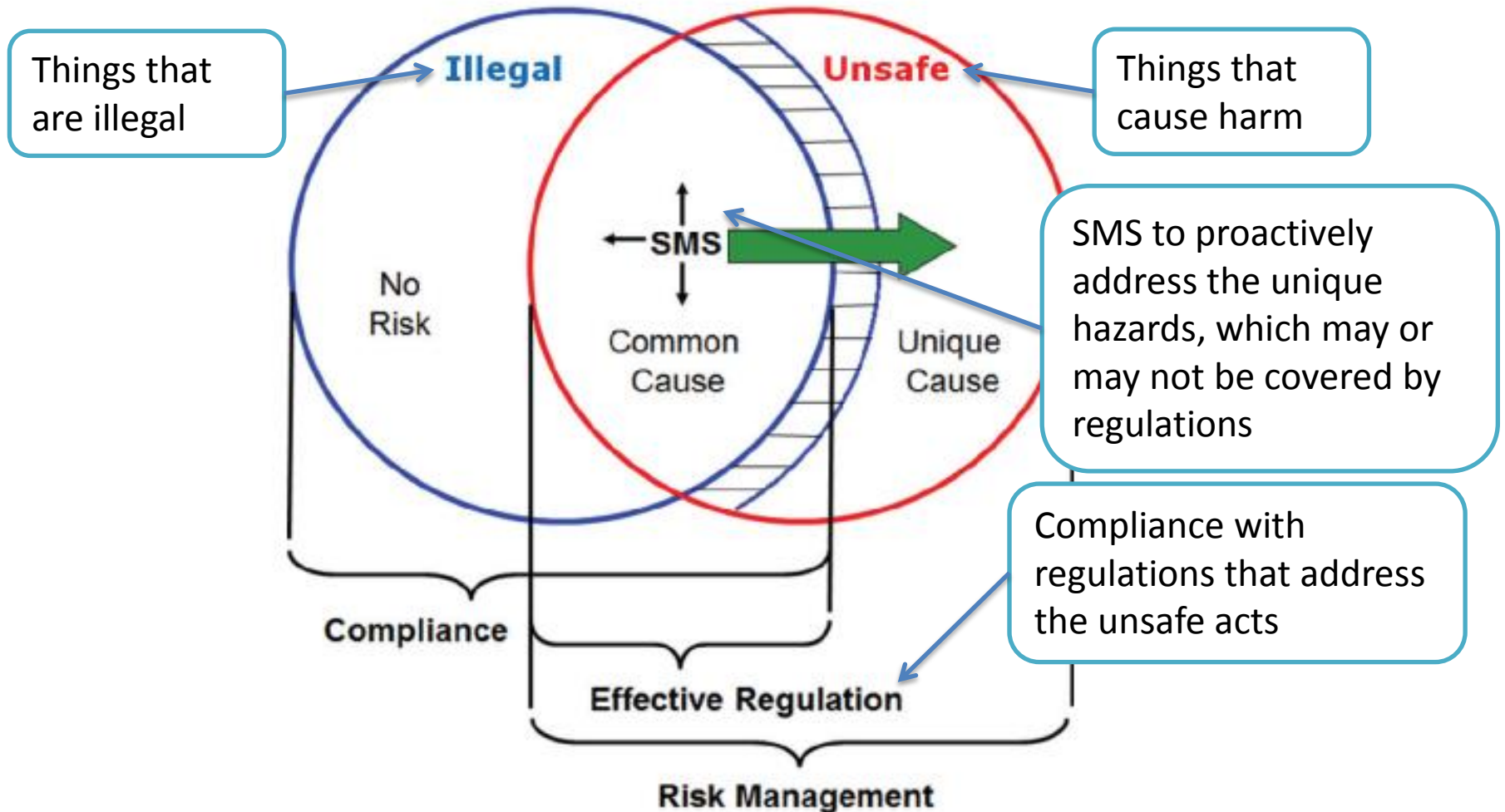
Update:

- Launch of the new SM-related PQs is postponed to January 2018 (ref ICOA EB 2015/56)
- States are required to complete self-assessment of the new SM-related PQs
- ICAO will perform assessments of the implementation of the new SM-related PQs, in selected volunteer States, throughout 2016.

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Gradual Pace of Implementation

- A number of States with an EI of over 60% would not be ready for an audit of the new SM-related PQs in 2016.

- Effective SSP implementation requires more time
  - Implementation pace depends on complexity of the air transportation system and level of safety oversight of State

- Not all guidance material and training material necessary to support the new SM-related PQs are available to date

- ICAO will amend the SM-related PQs as needed.

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Safety Risk Management

Relationship between Regulatory Requirements and Risk

Things that are illegal

Things that cause harm

SMS to proactively address the unique hazards, which may or may not be covered by regulations

Compliance with regulations that address the unsafe acts

Figure 2. Relationship between Regulatory Requirements and Risk

Source: A Systems Approach to Measuring Safety Performance: The Regulator Perspective
http://www.skybrary.aero/bookshelf/books/2620.pdf

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Safety Risk Assessment

Scan of key sectoral risks

Environment Scan

System Overview

Risk Management Tools

Action Plan

Risk-based regulatory activities, e.g.
- Rule Development
- Surveillance Activities

Challenge: Establishing coherence and relation between the various components and in the larger context of the SSP

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Environment Scan - Example

Growth in air traffic

- Competency of service providers to handle higher volume of operations
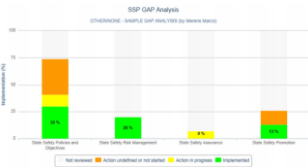- Competency of personnel

Emerging technologies

- Facilitating New Technologies and managing associated risk
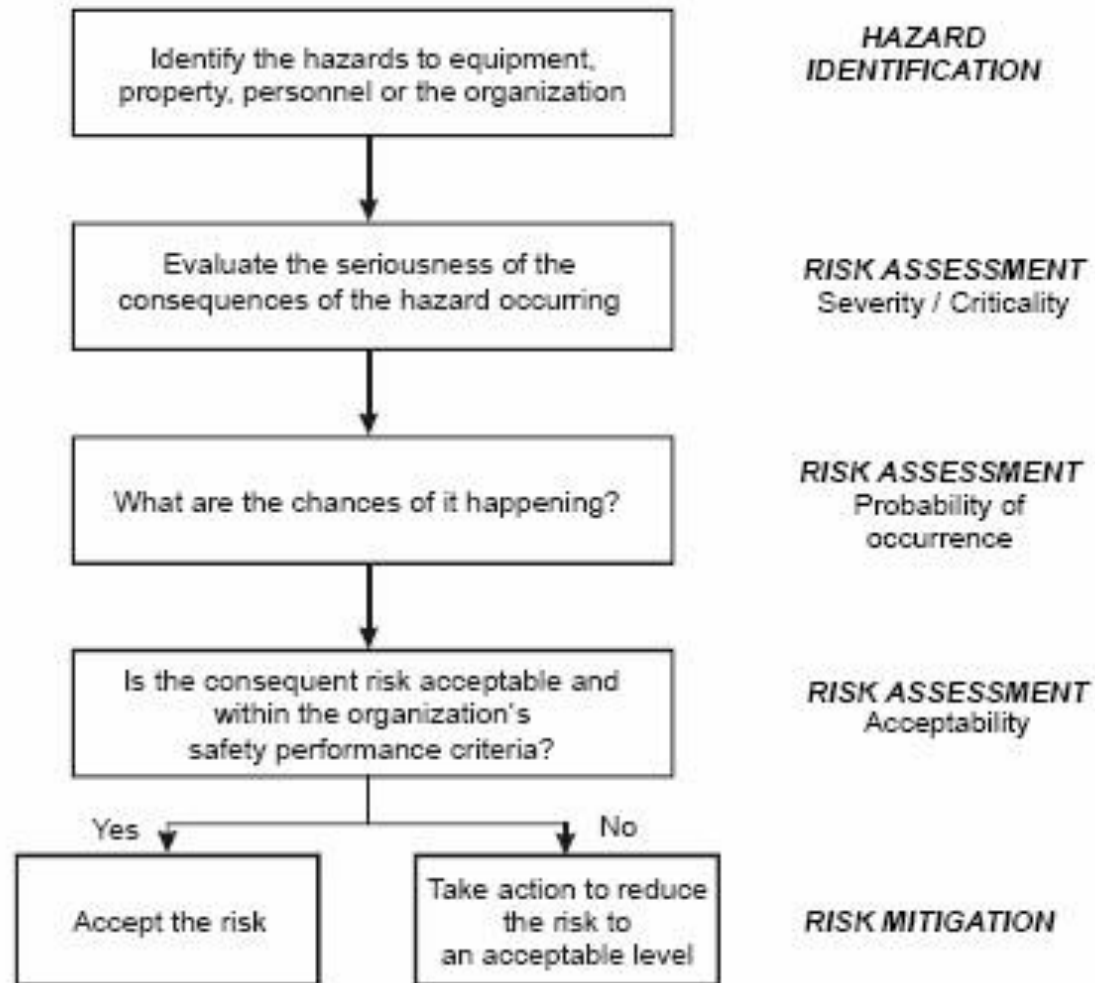- Balancing risks from RPA use

Focus on Safety Management

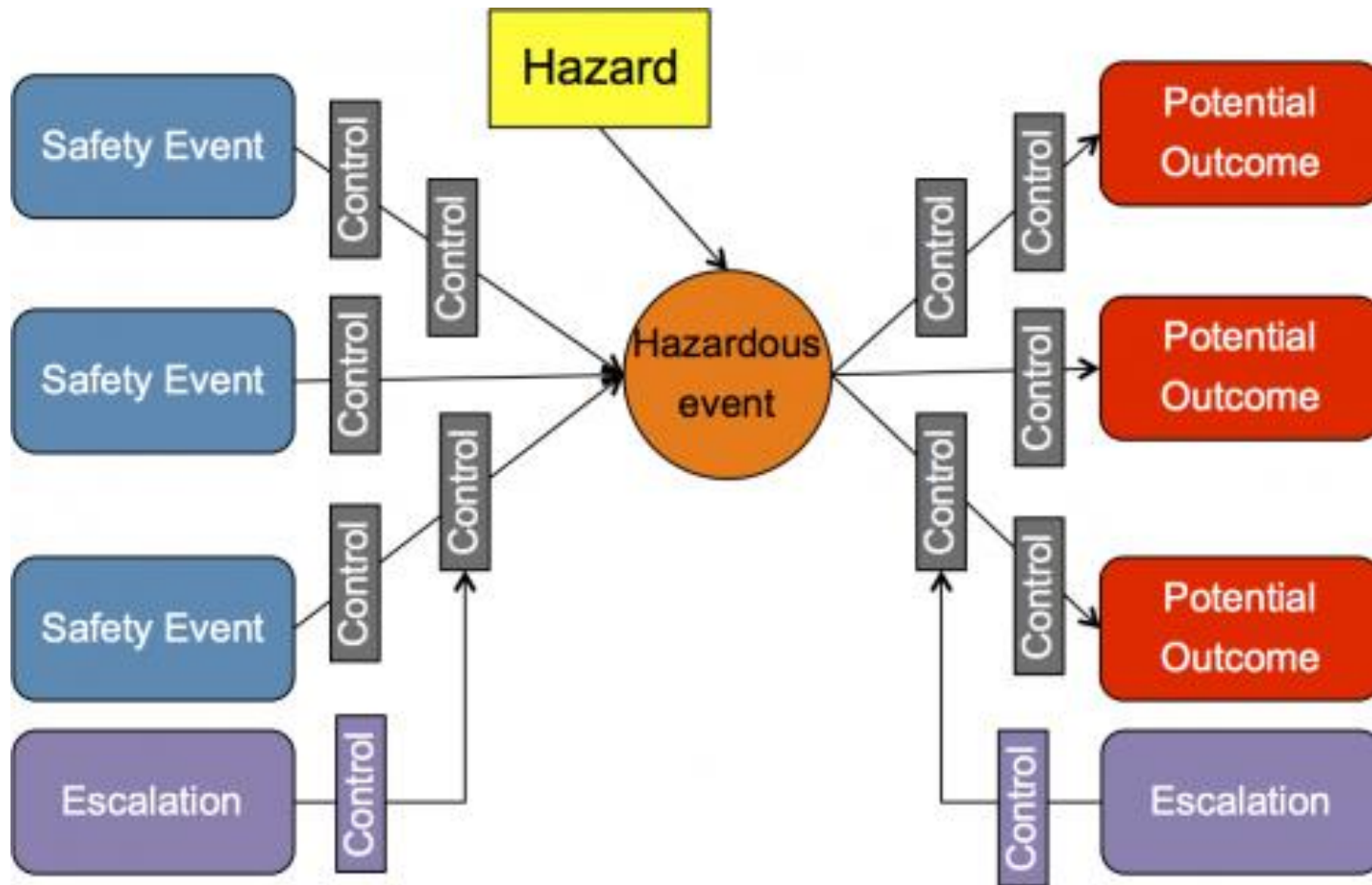- Adapting new concepts like safety management and risk-based approaches

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Risk Management – Hazard identification, Risk Assessment, Risk Mitigation

Source: SkyBrary - http://www.skybrary.aero/index.php/Risk_Management

Bow-Tie Risk Management – Hazard identification, Risk Assessment, Risk Mitigation

Source: SkyBrary - http://www.skybrary.aero/index.php/Bow_Tie_Risk_Management_Methodology

Risk-Based Regulatory Activities
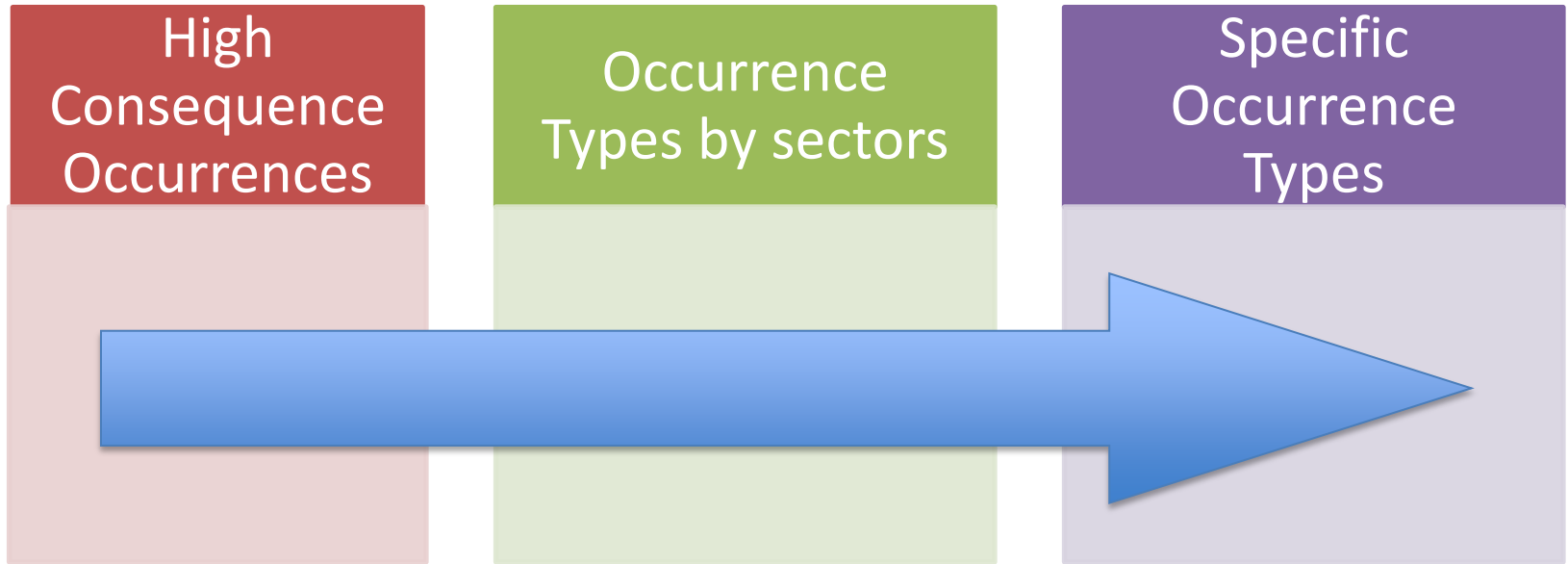
Rule Development

- Basis of rulemaking is to address risk that cannot be /sub-optimally addressed by other means
- Commensurate with risk posed
- Cost effective
- Performance-based vs Prescriptive

Surveillance

- Prioritised based on risks; data driven
- Commensurate with risk posed
- Going beyond compliance to focus on safety risk analysis based on service providers' risk profiles and activities

Reference: 1. SkyBrary – SM-ICG; 2. Australia RSMP

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Overview of SSP SPIs

High Consequence Occurrences	Occurrence Types by sectors	Specific Occurrence Types

Occurrence Types by sectors
- Aerodrome Occurrences

Specific Occurrence Types
- Runway incursion
- Runway excursion
- Ground handling/towing operation
- Pushback-related incident

Setting of Safety Indicators

- A combination of leading and lagging indicators

Outcome Indicators	Risk control process indicators
High Consequence Occurrences	• Regulatory processes?
Occurrence Types by sectors	• USOAP PQ Lack of Effective Implementation (EI)?
	• Resources?

Challenge: Insufficient data for meaningful statistical analysis and benchmarking in some areas.

Internal Implementation

1. State Safety Policy and Objectives

SMS regulations

Risk System Map

State Risk Management Tools

Prioritisation of Safety oversight

2. State Safety Risk Management

3. State Safety Assurance

Safety Oversight

Service provider safety performance

Policies and Procedures

Safety data collection, analysis and exchange

4. State Safety Promotion

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Coordination across sectors

- Working together on interdependent SM-related module PQs

- Coordinating development and review of procedures and guidance material
    - E.g. application of PSOE Concept; differentiating between Operating and Effective

- Holding recurrent training to ensure standards and consistency

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Thank you