



EUROPEAN AVIATION SAFETY AGENCY
AGENCE EUROPÉENNE DE LA SÉCURITÉ AÉRIENNE
EUROPÄISCHE AGENTUR FÜR FLUGSICHERHEIT

Conference RMT MDM.055

Cologne, 13 December 2012

SMS for Part-M and Part-145

NPA 2012-25
Introduction

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Product Safety Department – Continuing Airworthiness

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Outline

Objectives



the NPA



Origin of changes



Link with ICAO SMS framework





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Origin of changes

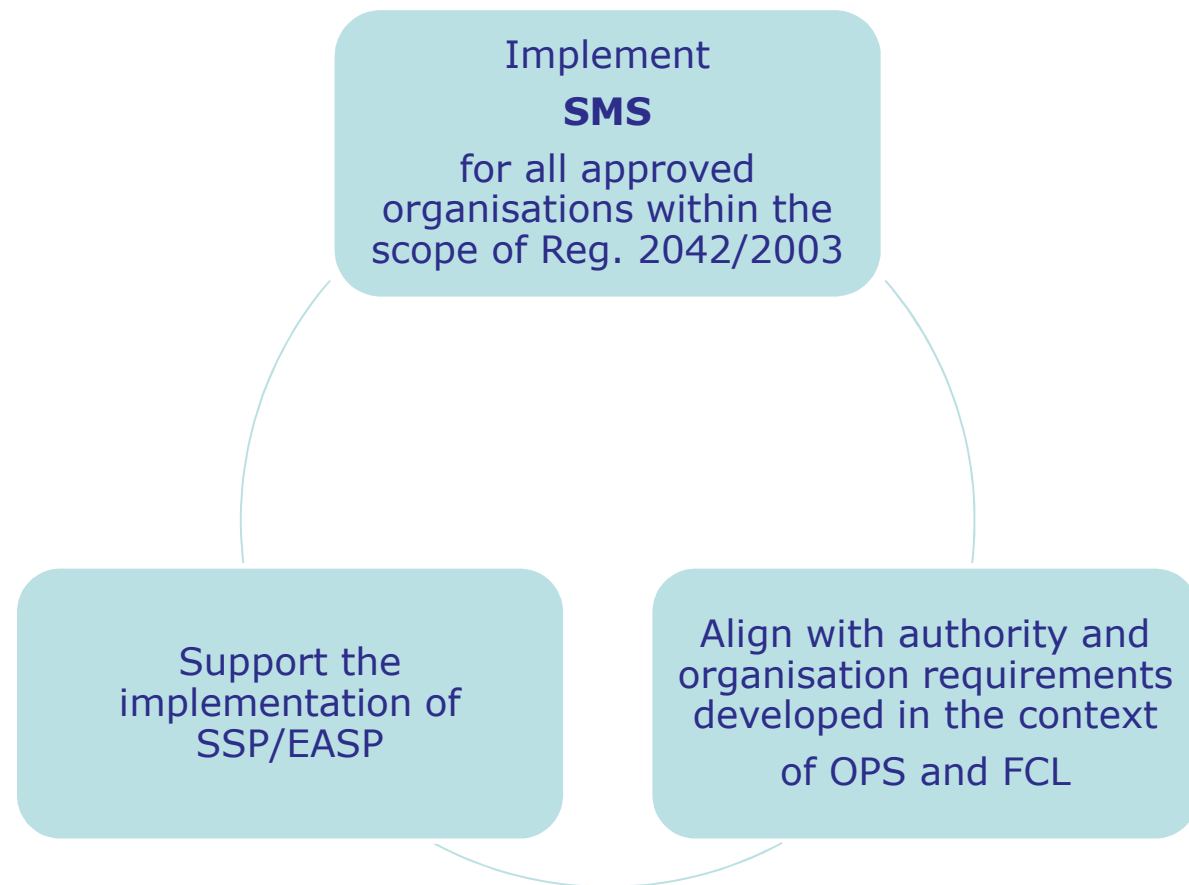


Link with ICAO SMS framework





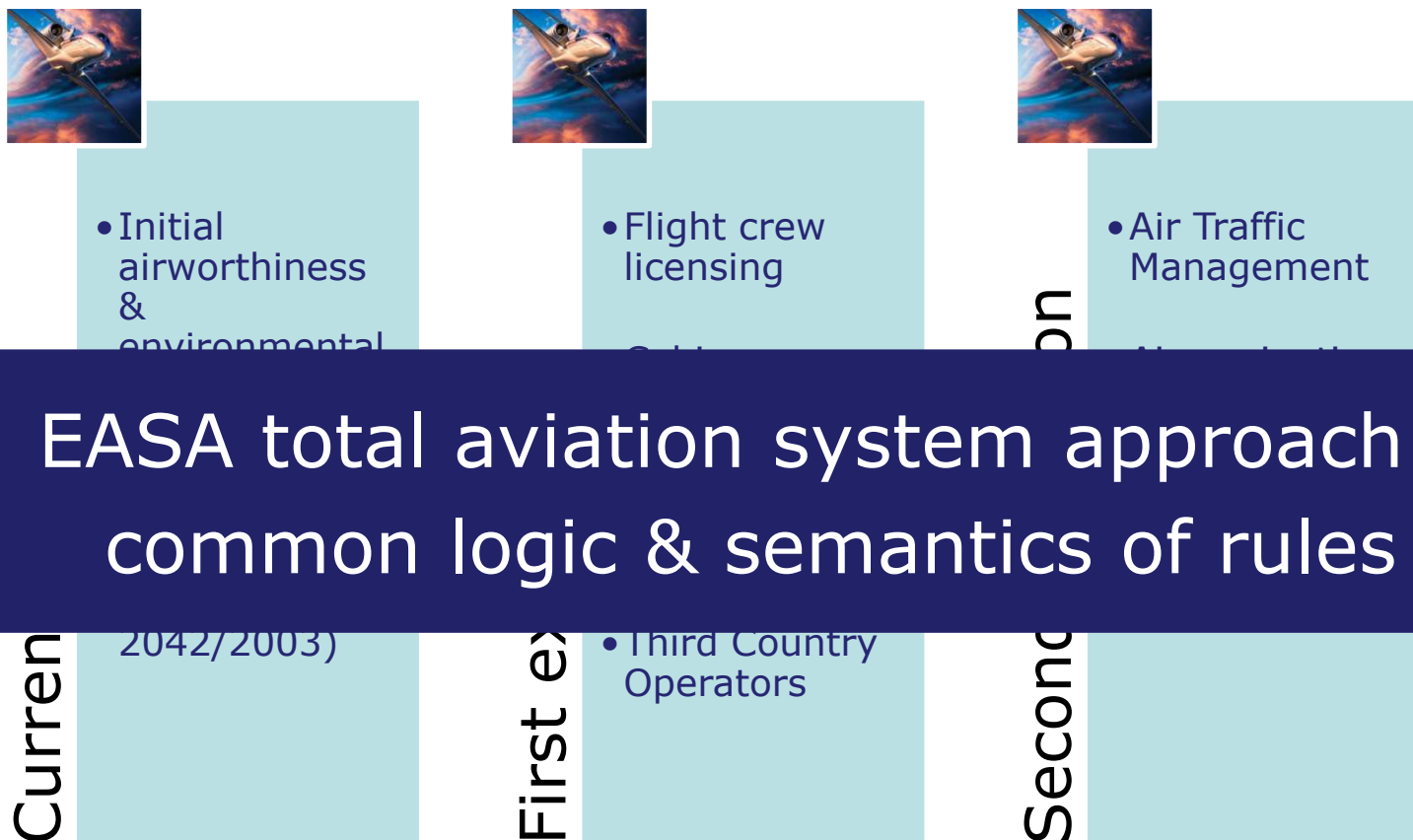
RMT MDM.055 – main objectives



This rulemaking task implements EASp actions **SYS 1.3** and **SYS 2.2**.



EASA remit: towards a total system





Ensure Consistency in Organisation Approvals – the COrA Initiative

JAA COrA Report A-NPA 15/2006

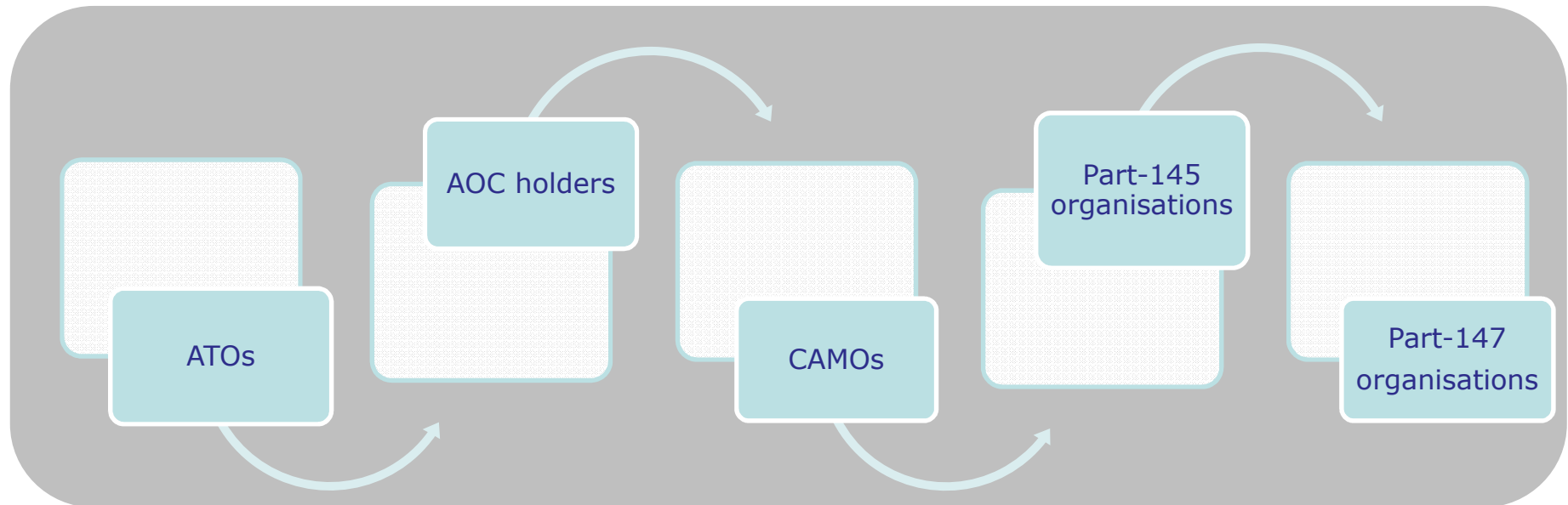
- Clarification of wording, harmonisation and standardisation
- Concept of approved organisations & organisation management principles to promote safety
- Single management system approval
- Performance related oversight (risk based, possible use of industry standards)

COrA OBJECTIVES

- Consistency in organisation management system requirements, essential for SMS
- Streamlined application processes
- Efficiency in the oversight process: reduce the risk of inconsistencies, duplication, loopholes



Same management system framework for:





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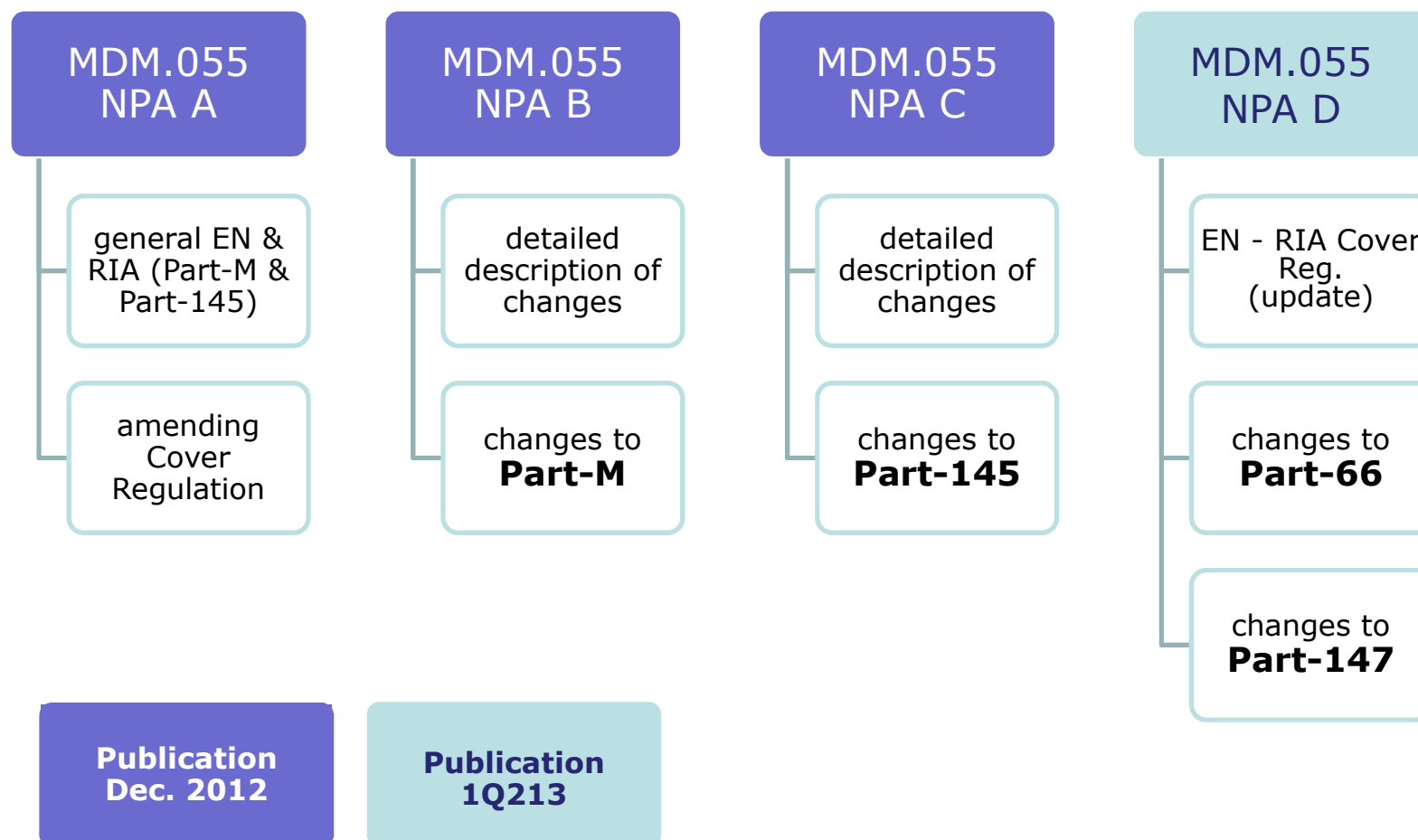


Link with ICAO SMS framework





NPA MDM.055 – general structure





Part-M & General Aviation



- All changes proposed to Part-M not related to CAT / CMPA should be considered 'provisional' at this stage:
 - *The EASA Management Board General Aviation Strategy Group will recommend further actions to the Agency on how to consider existing rules affecting general aviation.*
 - *Following publication of a first NPA (NPA 2012-17) the Part-M General Aviation Task Force will make further recommendations.*
- These initiatives may result in a full review of existing organisation approvals for all approved organisations not involved in the design, production, operation maintenance or continuing airworthiness management of complex motor-powered aircraft or aircraft used in commercial air transport.



NPAs B and C: a detailed list of changes is provided (extract):

Reference	Type of change	Description
AMC 145.A.1 General	deleted	This AMC is deleted, as the issue is now addressed through the new Article in the Cover Regulation related to 'Oversight capabilities'.
145.A.10 Scope	amended	The text has been amended for consistency ('certificate' instead of 'approval').
AMC1 145.A.10 Scope	amended	In 1.b, a reference to an appropriate risk assessment has been added for consistency with the new management system processes introduced in 145.A.65.
GM 145.A.10 Scope	deleted	The GM is now included with 145.A.65 (cf. GM2 to 145.A.65(b)).
145.A.15 Application for an organisation certificate*	title changed, text amended	The title and text have been amended to transpose ORX.GEN.115.
AMC1 145.A.20 Terms of approval	amended	In Rating CS, ATA chapter BS has been added.
145.A.30 Personnel requirements	amended	<p>Text in (b) and (c) has been amended in order to clarify that the safety manager and compliance monitoring manager are also considered managers but not part of the maintenance management function.</p> <p>Point (e) has been amended to address safety management principles as part of competence control.</p> <p>Points (j)(3) and (j)(4) have been amended by deleting all references to Flight Engineer (FE) licences as these are no longer foreseen in EASA Part-FCL (Commission Regulation (EC) No 1178/2011 as amended by Commission Regulation (EU) No 290/2012).</p> <p>In order not to affect holders of a FE licence in accordance with JAR-FCL 4, a specific provision is added in the cover Regulation to ensure any CS authorisation issued on the basis of a FE licence continues to remain valid.</p> <p>In addition, the case of technical crew in HEMS and HHO as identified in Part-ORO Subpart TC is now covered, as requested by stakeholders. This will allow such crew members to obtain a limited certifying staff authorisation. This is justified from a safety point of view as it can be expected that the technical crew member (e.g. hoist operator, who usually is also the HEMS technical crew member) is more familiar and knowledgeable about the hoist and its operation than flight crew. Likewise, HEMS technical crew</p>



NPA text sample: rules, AMCs, GM and Appendices to AMCs are grouped with the corresponding rule §

145.A.82 Means of compliance

- (a) Alternative means of compliance to the AMC adopted by the Agency may be used by an organisation to establish compliance with this Regulation .
- (b) When an organisation wishes to use an alternative means of compliance, it shall, prior to implementing it, provide the competent authority with a full description of the alternative means of compliance. The description shall include any revisions to manuals or procedures that may be relevant, as well as an assessment demonstrating compliance with this Regulation.

The organisation may implement these alternative means of compliance subject to prior approval by the competent authority and upon receipt of the notification as prescribed in 145.B.12(d).

AMC1 145.A.82 Means of compliance

DEMONSTRATION OF COMPLIANCE

In order to demonstrate that the Implementing Rules are met, a risk assessment should be completed and documented. The result of this risk assessment should demonstrate that an equivalent level of safety to that established by the AMC adopted by the Agency is reached.

For the final Opinion/Decision, we will revert back to the normal procedure.



No change in existing rule structure!

Changes have been made without changing the current structure of Commission Regulation (EC) No 2042/2003.

This entails replicating all new/amended provisions (organisation and authority requirements) and related AMCs/GM in each of the Annexes/Subparts concerned:

- 1. Annex I 'Part-M' Subpart F,**
- 2. Annex I 'Part-M' Subpart G,**
- 3. Annex II 'Part-145'**
- 4. and later on also Annex IV 'Part-147'.**

For the final Decision, and pending the outcome of the consultation process the Agency may 'extract' specific AMCs/GM to include them into a single document, such as AMC-20 or an FAA AC.

This option may be retained for:

- Section A: all AMCs and GM related to 'management system'
- Section B: all AMCs and GM related to 'oversight'



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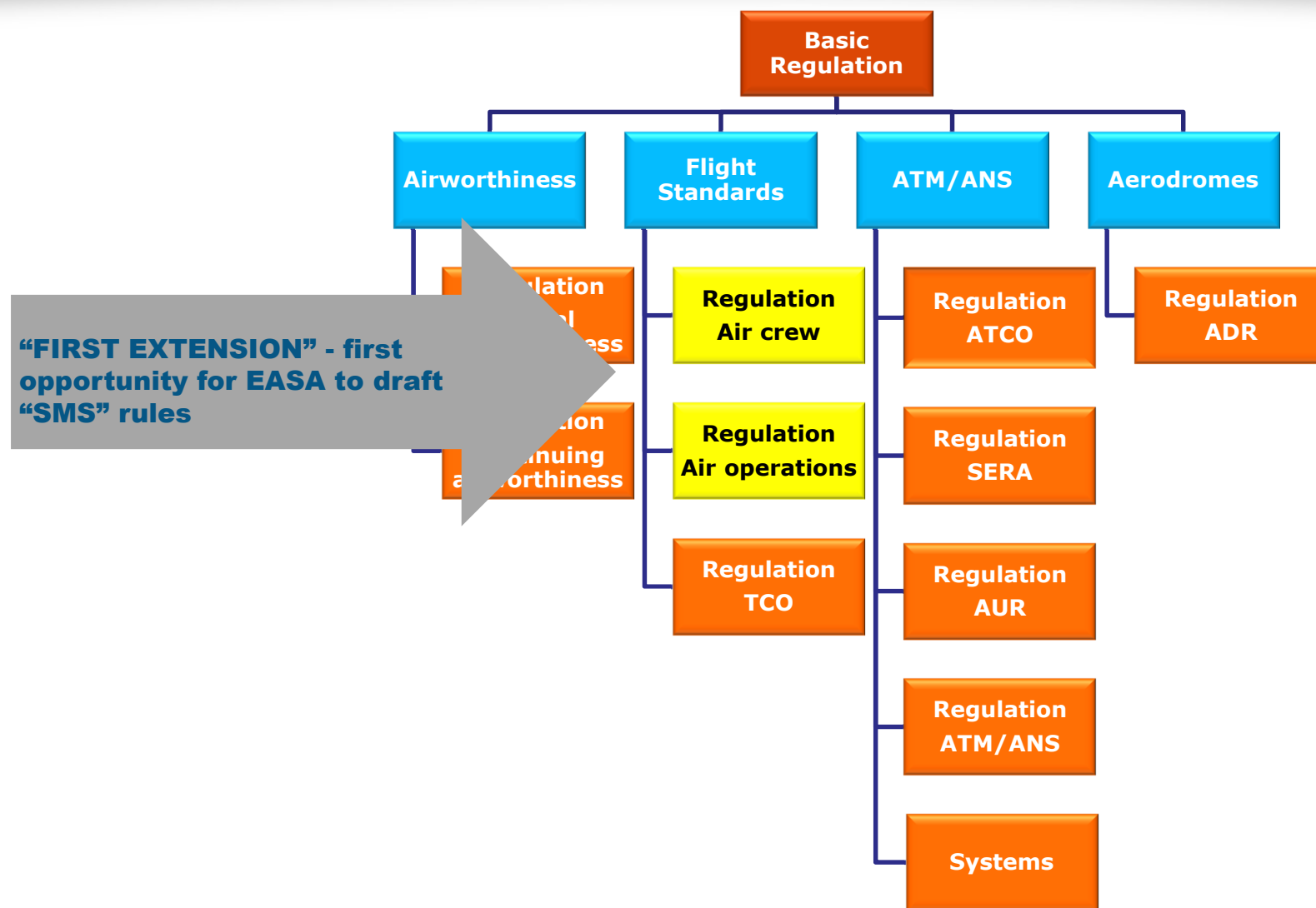


Link with ICAO SMS framework





Rule structure – the big picture





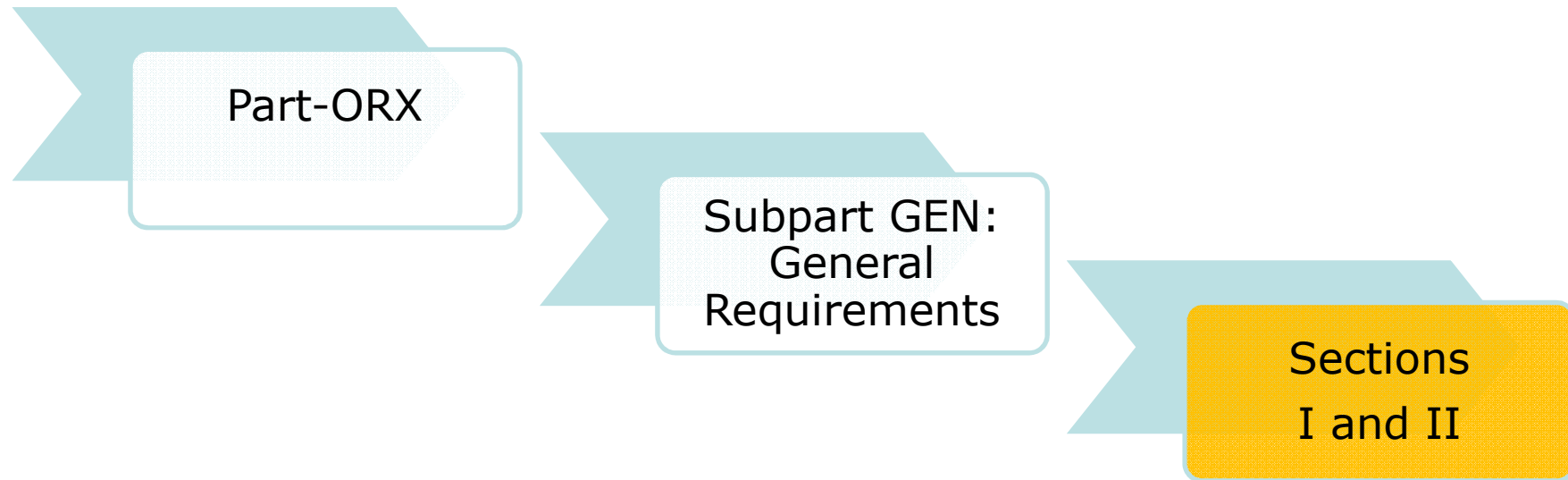
material 'transposed'

Implementing Rules	related AMCs & GM	Reg. 2042/2003
amending Reg. 290/2012 * to Reg. 1178/2011 <i>FCL – MED – CC – ARs & ORs for Air Crew</i>	ARA: Decision 2012/006/R* Subpart GEN	M/145/147 Section B
	ORA: Decision 2012/007/R* Subpart GEN	M/145/147 Section A
Reg. 965/2012* <i>Air Ops / OPS I: CAT aeroplane & helicopters</i>	ARO: Decision 2012/016/R* Subpart GEN	as above
	ORO: Decision 2012/017/R * Subpart GEN	

* Subparts GEN are fully aligned



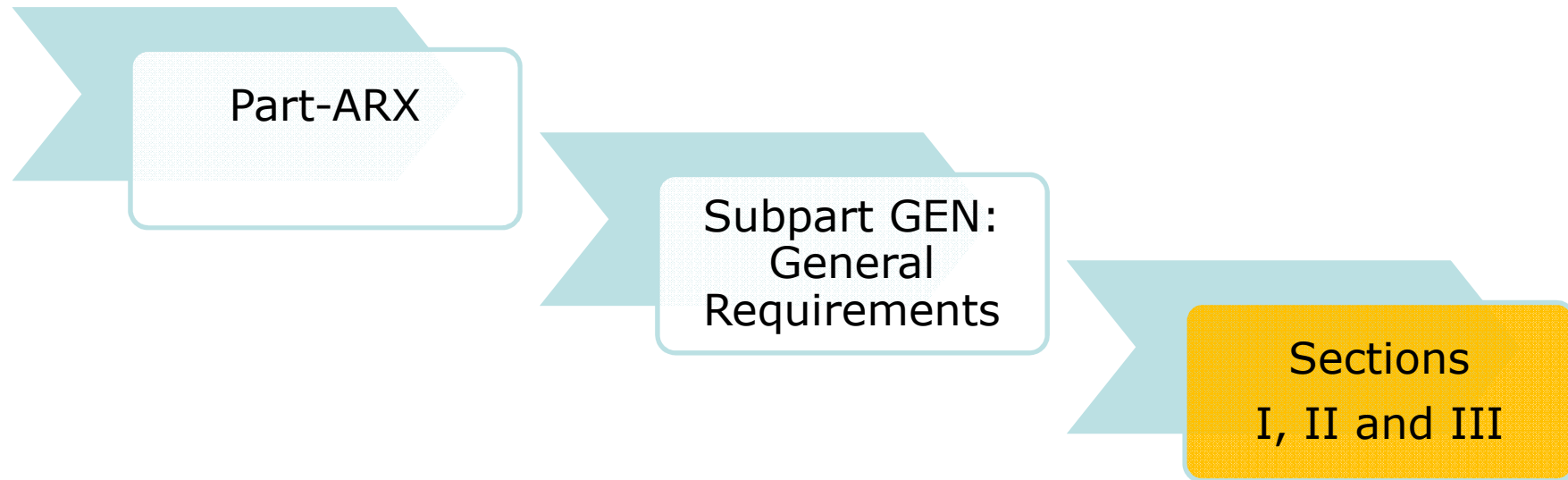
Organisation Requirements



Section I : General
Section II: Management System



Authority Requirements



Section I : General
Section II: Management System
Section III: Oversight, certification and enforcement



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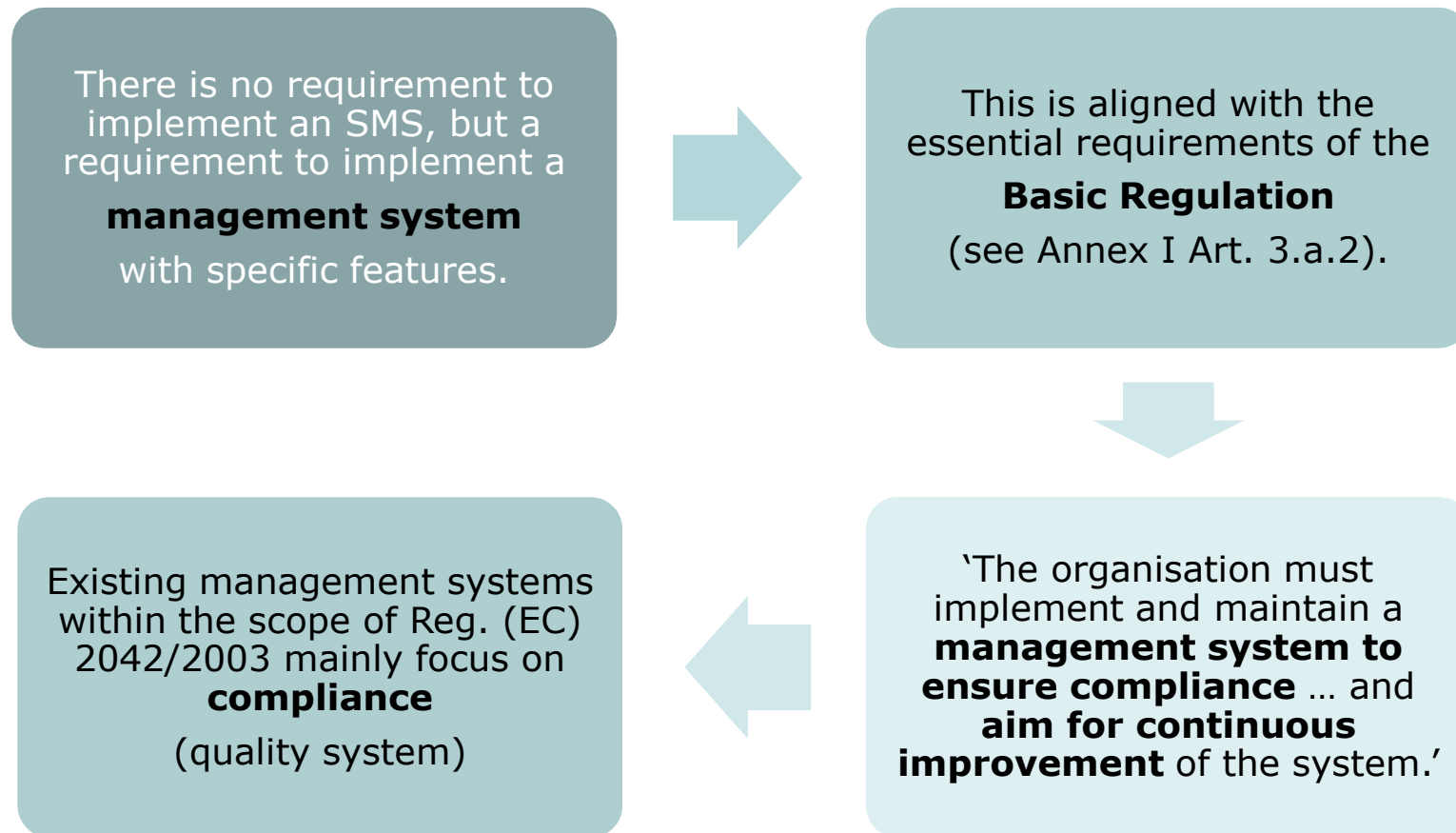


Link with ICAO SMS framework





SMS ./ Management system





SMS - What is it all about?

Definitions



- **SMS:** A systematic approach to managing safety, including the necessary organizational structures, accountabilities, policies and procedures.
- **Safety.** The state in which risks associated with aviation activities are reduced and controlled to an acceptable level.
- **Safety risk.** The predicted likelihood and severity of the consequences or outcomes of a hazard.
- **[Hazard.** A condition that could cause or contribute to an aircraft incident or accident.]

SMS focuses on maximizing opportunities to continuously improve the overall safety of the aviation system. *The complexity of that system requires systematic, proactive, performance based management of safety that should be fully integrated with operations.*

Compliance with regulations alone does not ensure safety.



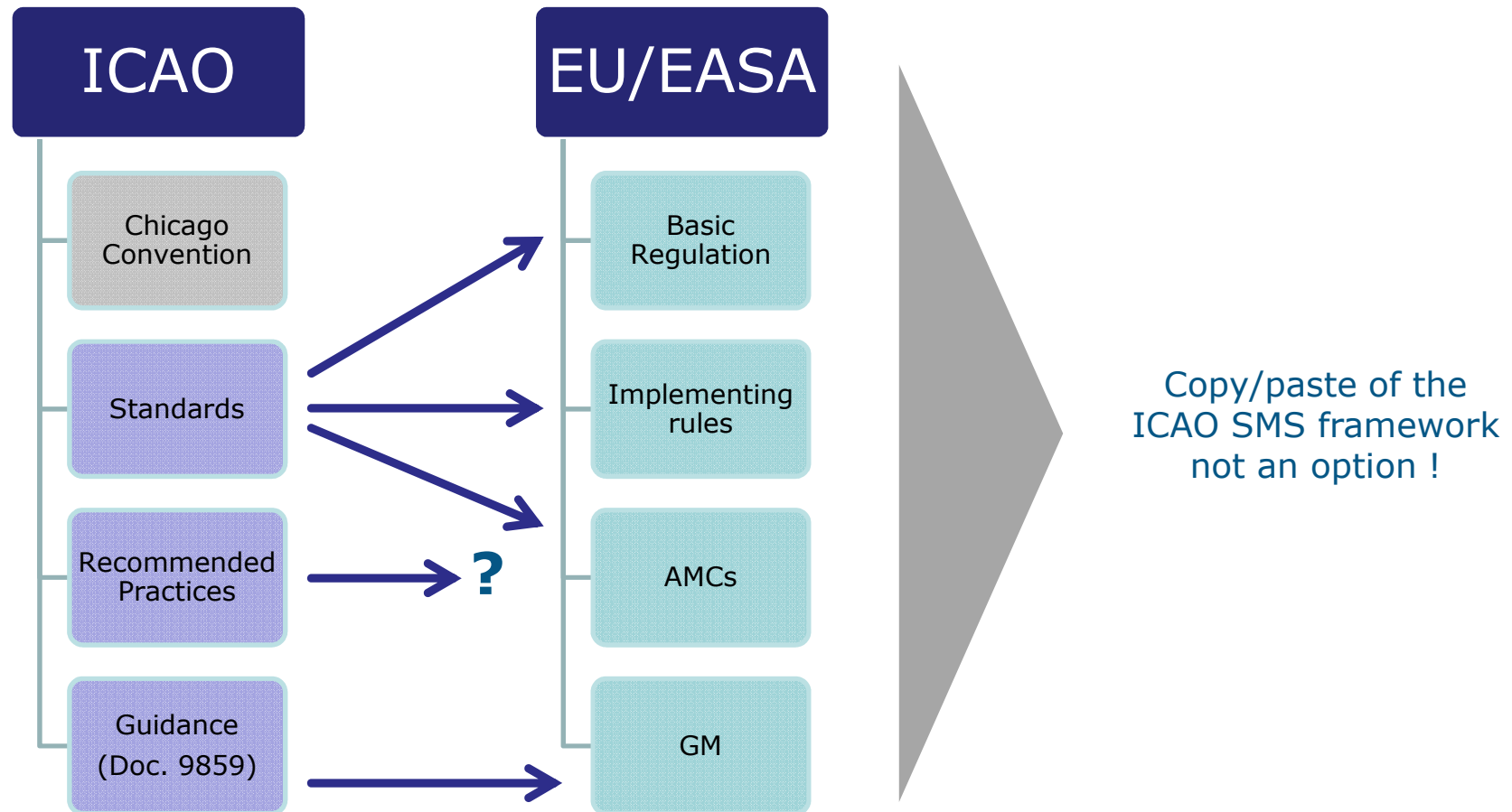
promote a common understanding of Safety Management System and State Safety Programme principles and requirements

harmonise SMS efforts, collaborate on common topics of interest, share lessons learned, and ensure the progression of a harmonised SMS.

More information can be found on Skybrary (search for 'SM-ICG')



ICAO SARPS versus EU/EASA rules





ICAO SARPS versus EU/EASA rules

Component/element (status = Standard)		BR	IR	AMC
Safety policy and objectives				
1.1	Management commitment and responsibility		■	■
1.2	Safety accountabilities		■	■
1.3	Appointment of key safety personnel		■	■
1.4	Coordination of emergency response planning			■
1.5	SMS documentation		■	■
Safety risk management				
2.1	Hazard identification		■	■
2.2	Safety risk assessment and mitigation		■	■
Safety assurance				
3.1	Safety performance monitoring and measurement		□	■
3.2	The management of change			■
3.3	Continuous improvement of the SMS	■		■
Safety promotion				
4.1	Training and education		■	
4.2	Safety communication			■



Applicability of the EASA 'framework'

Based on Regulations (EU) No. 290/2012 and 965/2012

- Approved Training Organisations (ATOs) – all organisations providing pilot training for all professional and private pilot licences
- Holders of an FSTD qualification certificate
- Aero-medical Centres (AeMCs)
- CAT operators aeroplanes and helicopters (OPS I)

To be extended to:

- Non-commercial operators of CMPA (OPS II)
- Commercial aerial work (OPS III)

Based on RMT MDM.055:

- Part-M Subpart F organisations
- Part-M Subpart G organisations
- Part-145 organisations
- Part-147 organisations

Based on RMT MDM.060:

- Approved design organisations
- Approved production organisations



Other differences

EASA framework does not refer to **SMS**, but to management system and safety management processes.

EASA framework does not use the term '**Safety Assurance**', it does address all elements included for this component.

Hazard identification : no reference to '**predictive**' methods (considered a subset of 'proactive' methods).

EASA framework does not refer to '**SMS implementation plan**' (because this is a 'transitory' measure that cannot be addressed in the rule text itself).

EASA framework does not require a separate **Safety Management System Manual** (can be integrated with the other management system documentation, MOE, CAME etc..).



Integrated approach to management





New rule 'Management System' (cf. ORA/ORO.GEN.200)

(a) An organisation shall establish, implement and maintain a management system that includes:

- (1) clearly defined lines of **responsibility and accountability** throughout the organisation, including a direct safety accountability of the accountable manager;
- (2) a description of the overall philosophies and principles of the organisation with regard to safety, referred to as the **safety policy**;
- (3) the **identification of aviation safety hazards** entailed by the activities of the organisation, their **evaluation and the management of associated risks**, including taking actions to mitigate the risk and verify their effectiveness;
- (4) maintaining **personnel trained and competent** to perform their tasks;
- (5) **documentation** of all management system key processes, including a process for making personnel aware of their responsibilities, and its amendment procedure;
- (6) a function to **monitor compliance of the organisation** with the relevant requirements. Compliance monitoring shall include a feedback system of findings to the accountable manager to **ensure effective implementation of corrective actions** as necessary.



New rule 'Management System' (cf. ORA/ORO.GEN.200)

- (b)** The management system shall correspond to the size of the organisation and the nature and complexity of its activities, taking into account the hazards and associated risks inherent in these activities.

AMCs to § (b) provide criteria for assessing organisational complexity:

- Number of staff (Full Time Equivalents / FTEs) actively involved in maintenance/continuing airworthiness management
- Below the FTE « threshold »: organisations may still qualify as complex depending on specific « risk criteria »:
 - *the extent and scope of subcontracted activities*
 - *the number and variety of aircraft (A), engine (B), component (C) type ratings and specialised services (D) ratings.*
- Some types of organisations will be defined as “non-complex” by default.



The implementing rules on 'Management system' come with a series of AMCs and GM addressing the following elements:

<input type="checkbox"/>	Management Structure	<input type="checkbox"/>
<input type="checkbox"/>	Safety Policy	<input type="checkbox"/>
<input type="checkbox"/>	Internal Reporting	<input type="checkbox"/>
<input type="checkbox"/>	Management of Change	<input type="checkbox"/>
<input type="checkbox"/>	Safety Risk Management	<input type="checkbox"/>
<input type="checkbox"/>	Safety Performance Monitoring	<input type="checkbox"/>
<input type="checkbox"/>	Emergency Response Planning	<input type="checkbox"/>
<input type="checkbox"/>	Training and Communication on Safety	<input type="checkbox"/>
<input type="checkbox"/>	Management System Documentation	<input type="checkbox"/>
<input type="checkbox"/>	Compliance Monitoring	<input type="checkbox"/>



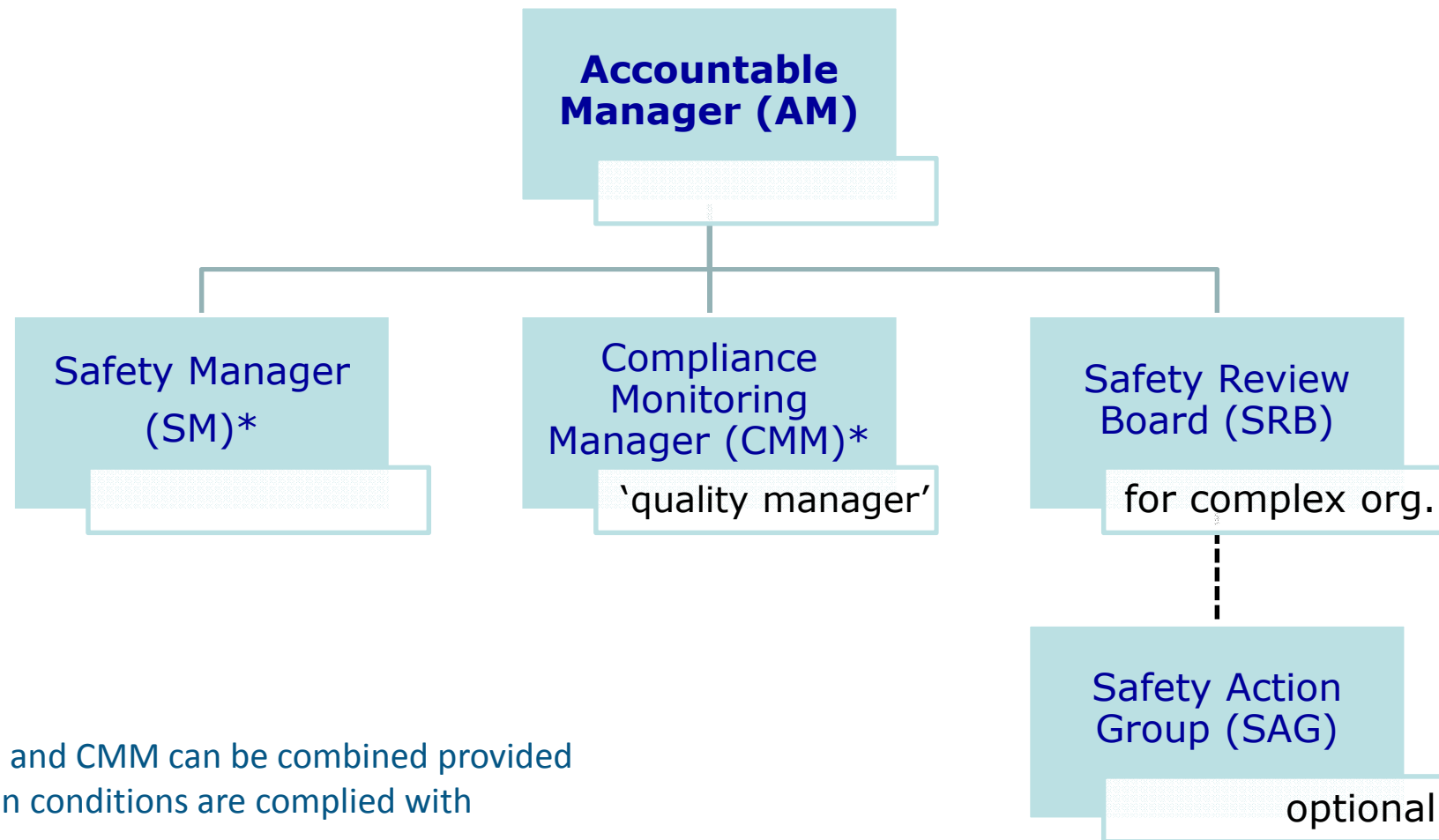
From 'Quality system' to 'Management system':

Some new obligations for the organisation:

- (1) Review the safety policy to ensure it addresses all new elements related to safety management.
- (2) Identify a person who will fulfil the role of safety manager
- (3) Establish a Safety Review Board
- (4) Implement the new safety management processes:
 - *hazard identification,*
 - *risk assessment and mitigation,*
 - *performance monitoring, etc....*
- (5) Document the new safety management processes.
- (6) Extend the scope of internal auditing to the new processes.
- (7) Keep records of the output of those new processes.
- (8) Plan for emergencies « Emergency Response Planning ».



Typical organisational set-up





Role of the Safety Manager

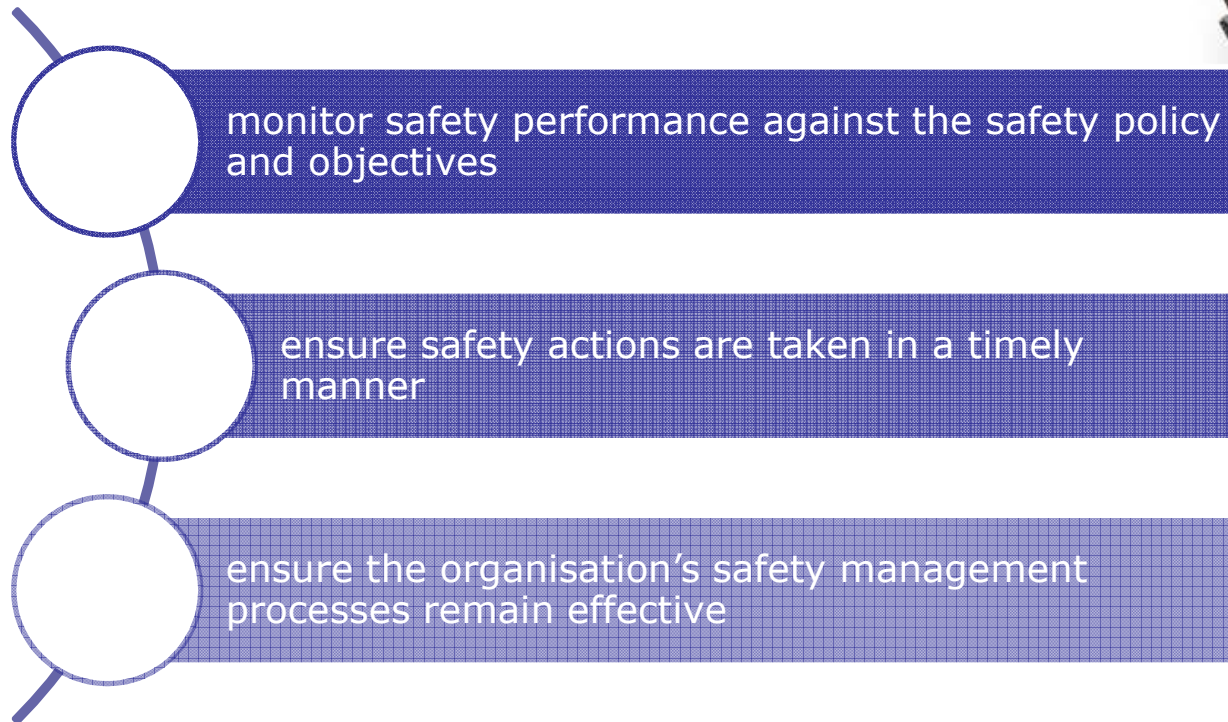




Safety Review Board

It is a “high level” committee, chaired by the Accountable Manager.

FUNCTIONS:





Safety Action Group

optional

- May be established as a standing group or as an ad-hoc group to assist or act on behalf of the Safety Review Board.
- More than one safety action group may be established depending on the scope of the task and specific expertise required.
- A safety action group should report to and take strategic direction from the Safety Review Board and should be comprised of managers, supervisors and personnel from operational areas.

e.g. to assess impact on safety of changes, such as:

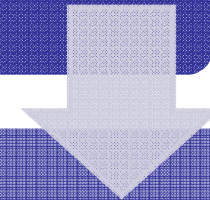
- *introduction of new equipment / tooling*
- *use of a new contractor*
- *implementation of new software for component tracking*



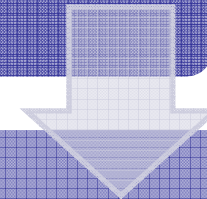


Specific provisions for 'non-complex' organisations:

The organisation may use simple procedures and tools for its safety risk management process and safety performance monitoring and measurement



The accountable manager or a person with an operational role in the organisation may fulfil the role of safety manager.



The organisation does not need to have a Safety Review Board.



Key points

SMS is addressed as part of the Section A Organisation Requirements in a dedicated rule § 'Management System' and related AMCs/GM.

These organisation requirements:

- build upon the existing quality system provisions
- cover all components/elements of the ICAO SMS framework
- are compatible with existing management systems
- encourage integrated management
- provide flexibility & proportionality



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Thank you for your attention!

Questions?



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