Regional Seminar/Workshop on USOAP Continuous Monitoring Approach (CMA) and State Aviation Safety Tools (SAST)

Name
Title, Section, Bureau
Date

Overview of the USOAP Continuous Monitoring Approach

Module 2

Module Objective

At the end of this module, the participants will be able to:

a) describe the background, objective, management, principles and activities of the ICAO USOAP Continuous Monitoring Approach (CMA), and

b) outline the means used to collect and process relevant safety information.

Outline

❑ Background

❑ Evolution and objective of USOAP CMA

❑ Management of CMA – CMO Quality Management System

❑ USOAP CMA and auditing principles

❑ CMA stakeholders, staffing, activities and information

❑ USOAP CMA audit areas

❑ Transition to CMA

What is Safety Oversight?

Safety oversight is a function by which ICAO Member States ensure the effective implementation of:

- ICAO Standards and Recommended Practices (SARPs);

- the critical elements of a safety oversight system; and

- relevant safety practices and procedures.

Safety oversight is a State's responsibility.

Two Complementary Roles

ICAO

- ❑ Develops principles and techniques to be adopted in the Annexes.
- ❑ Approves regional air navigation plans.

STATES

- ❑ Implement Annex SARPs.
- ❑ Carry out their safety oversight responsibilities by implementing the eight critical elements.
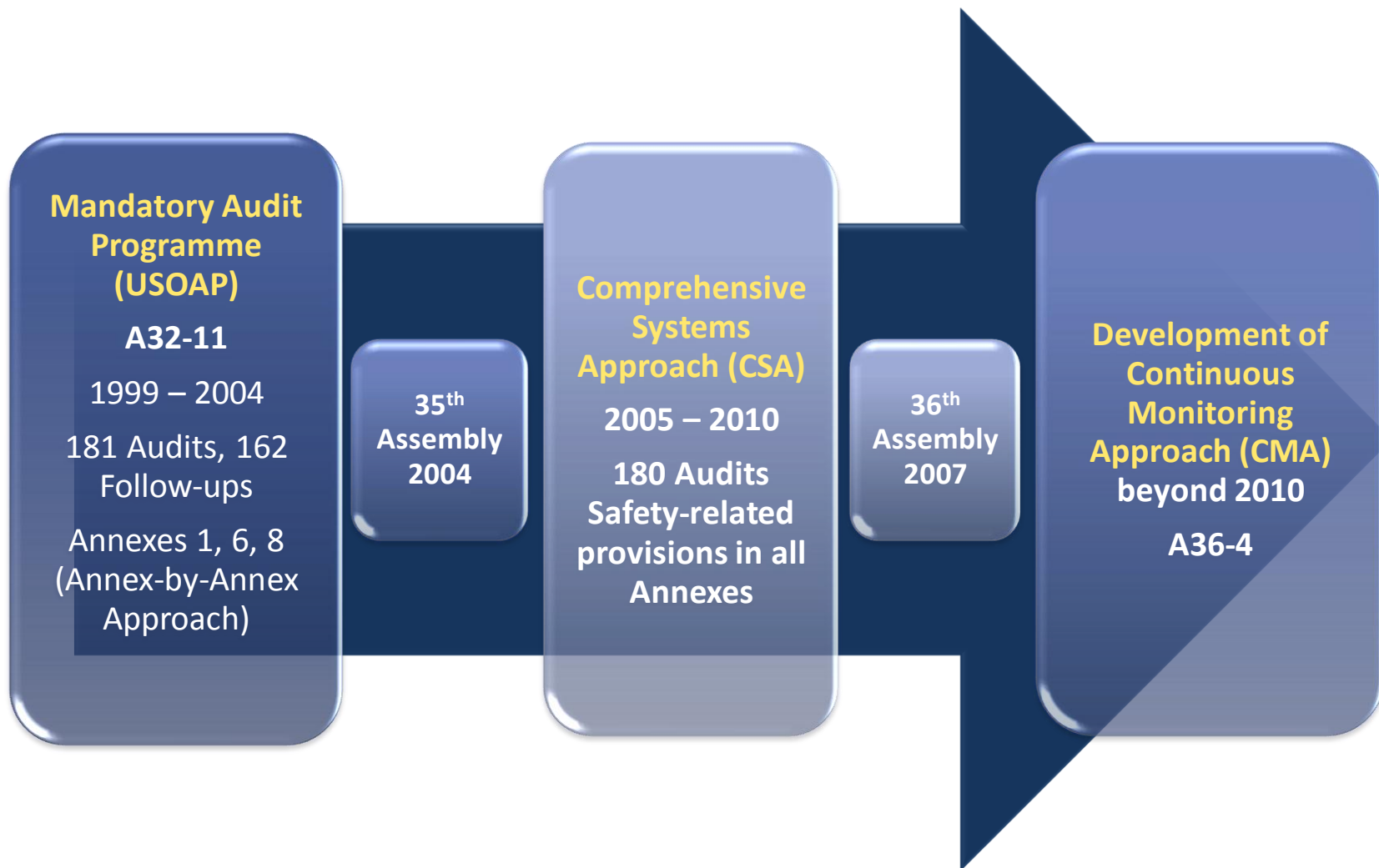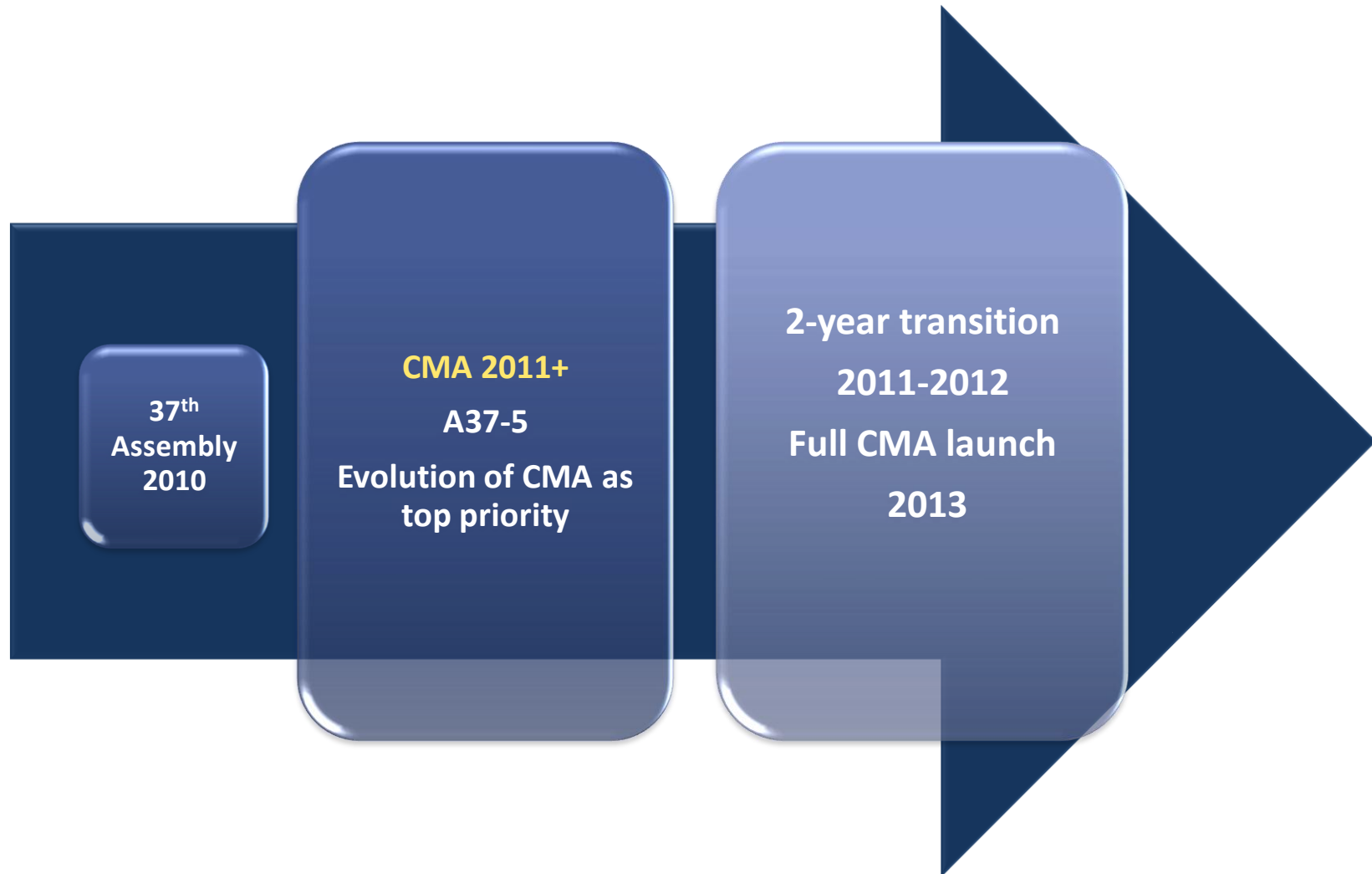- ❑ Establish aviation infrastructure according to regional plans.

Why an ICAO Programme?

❑ Various reports in the early 1990s on the lack of implementation by States of ICAO SARPs.

❑ Accidents indicating insufficient safety oversight by States.

❑ Increased concern over the level of aviation safety worldwide.

❑ Need to reduce accident rates to offset the rapid increase in traffic.

Evolution of USOAP

Mandatory Audit Programme (USOAP)

A32-11

1999 – 2004

181 Audits, 162 Follow-ups

Annexes 1, 6, 8 (Annex-by-Annex Approach)

35th Assembly 2004

Comprehensive Systems Approach (CSA)

2005 – 2010

180 Audits Safety-related provisions in all Annexes

36th Assembly 2007

Development of Continuous Monitoring Approach (CMA) beyond 2010

A36-4

Evolution of USOAP (cont'd)

37th Assembly 2010

CMA 2011+
A37-5
Evolution of CMA as top priority

2-year transition
2011-2012
Full CMA launch
2013

Comprehensive Systems Approach (CSA)

Initiated in 2005 as a six-year cycle, the CSA has been successfully implemented and has achieved its stated purpose.
In particular, it has been instrumental in:

Establishing the baseline for the level of worldwide implementation of the 8 critical elements of a safety oversight system.

Increasing States' awareness of their safety oversight responsibilities.

Assessing the status of States' compliance with SARPs in all safety-related Annexes.

CSA (cont'd)

Overall, the CSA has contributed significantly to the safety and efficiency of the international air transport system.

Enabling the identification of safety concerns pertaining to all safety-related Annexes and providing recommendations for their resolution.

Promoting the uniform implementation of international safety Standards.

Enhancing confidence among States by making each State aware of the other States' capability for safety oversight.

CSA (cont'd)

However, the CSA also presented challenges.

The six-year cycle was too long.

Although the CSA audit drew a picture of the overall health of an aviation system, the end result was still only a snapshot of the State's safety oversight system.

Continuous Monitoring Approach (CMA)

September 2007 — The 36th Assembly adopted A36-4, directing the Council to make appropriate changes to USOAP to:

Include the analysis of risk factors	Assess, on an ongoing basis, States' compliance with their safety oversight obligations and adapt the audit planning and scope accordingly	Consider a new approach based on the concept of CMA, to be implemented at the end of the CSA cycle	Maintain, as core elements, the key safety provisions contained in Annexes 1, 6, 8, 11, 13 and 14 to the Chicago Convention

CMA (cont'd)

March 2010 — The High Level Safety Conference (HLSC 2010) agreed that:

States should commit to supporting USOAP CMA by providing ICAO with relevant safety information	ICAO Council should monitor progress during the transition period to CMA and, if required, adjust its duration

CMA (cont'd)

October 2010 — CMA endorsed by Assembly Resolution A37-5:

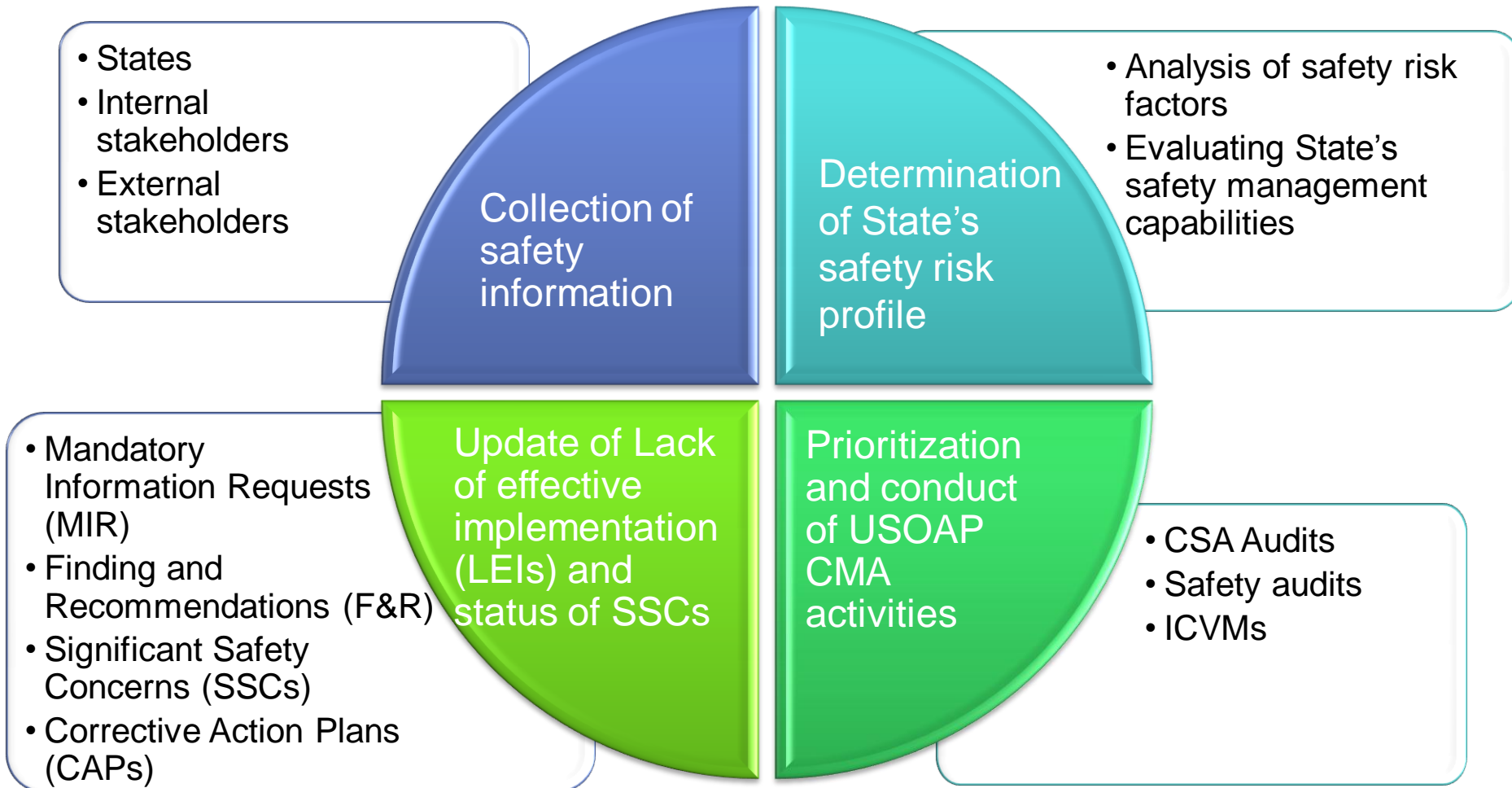| Evolution of USOAP to CMA to be a top priority	Information on safety performance of Member States to be provided to other Member States and to the travelling public on an ongoing basis	Foster coordination and cooperation between USOAP and other audit/inspection programmes for the sharing of safety information

Objective of the Programme

The objective of USOAP under the CMA is:

- to promote global aviation safety through continuous monitoring of the Member States' safety oversight capabilities.

The USOAP CMA provides a mechanism for ICAO:

- to collect safety information from Member States and other stakeholders, and
- to analyze this information using a risk-based approach to identify and prioritize appropriate activities to be carried out by ICAO.

CMA Components

• States
• Internal stakeholders
• External stakeholders

Collection of safety information

Determination of State's safety risk profile

• Analysis of safety risk factors
• Evaluating State's safety management capabilities

• Mandatory Information Requests (MIR)
• Finding and Recommendations (F&R)
• Significant Safety Concerns (SSCs)
• Corrective Action Plans (CAPs)

Update of Lack of effective implementation (LEIs) and status of SSCs

Prioritization and conduct of USOAP CMA activities
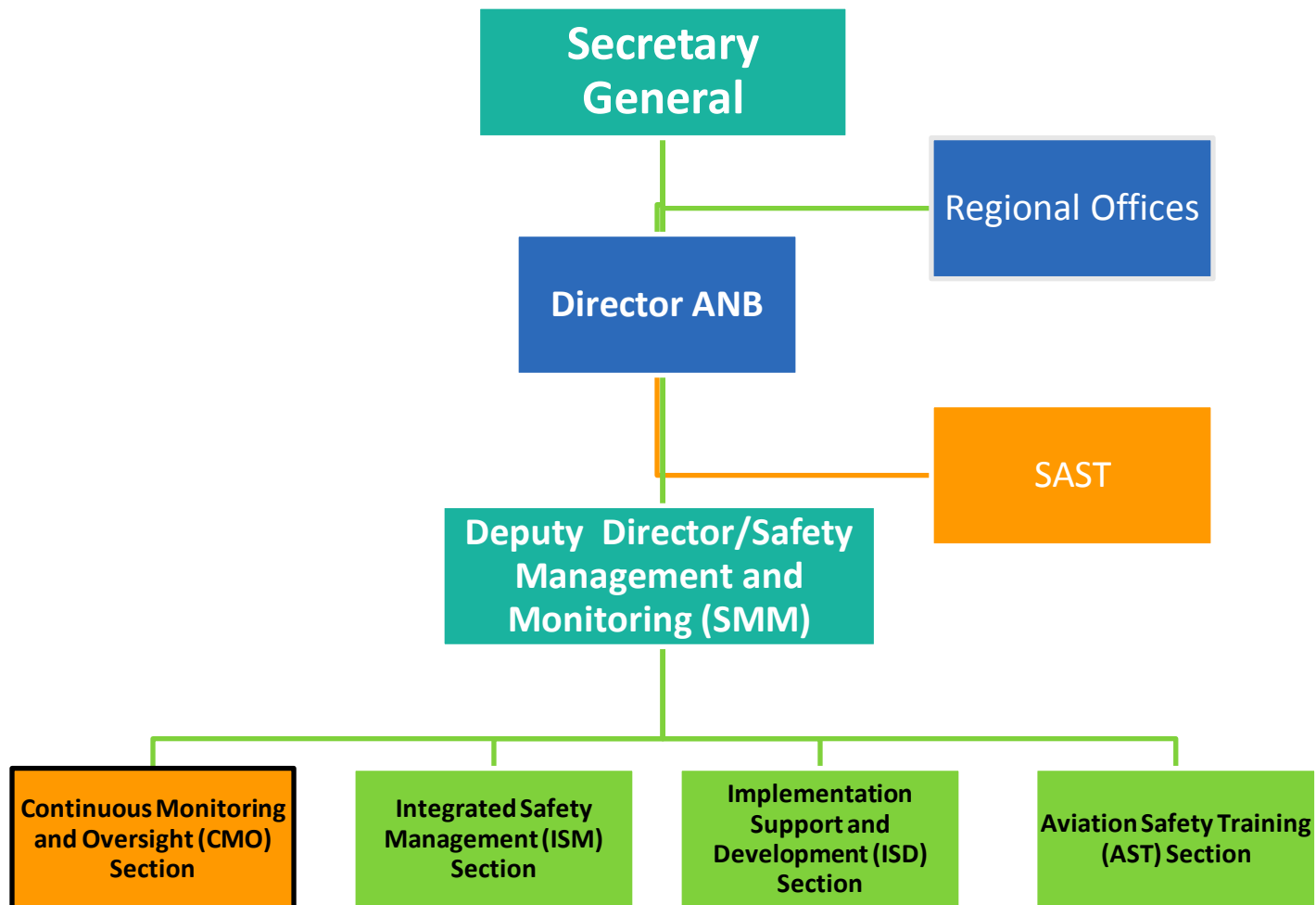
• CSA Audits
• Safety audits
• ICVMs

Management of USOAP CMA

The Continuous Monitoring and Oversight (CMO) Section is responsible for the management of the overall development, transition, implementation, and quality of the CMA.

The effective implementation of the USOAP CMA depends on the partnerships, communication and exchange of information between the CMO Section and other ICAO Bureaus, Air Navigation Bureau (ANB) Sections, Regional Offices (ROs), Member States, international, regional and supranational organizations.

Management of the CMA


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CMO Quality Management System (QMS)

The ICAO Council requested the Secretary General to establish an independent quality assurance mechanism:

- to monitor and assess the quality of USOAP (Assembly Resolution A33-8), and

- to increase the confidence of Member States and other stakeholders in the management of USOAP.

CMO QMS (cont'd)

Overview of the QMS

- Controls and documents procedures;
- Establishes mechanism(s) to monitor and improve USOAP CMA processes;
- Monitors and measures processes and activities;
- Adopts proactive approach to prevent nonconformities;
- Based on the requirements of ISO 9001:2008; and
- Registered to ISO 9001 since 2002 (with annual surveillance audits and re-registration audits every 3 years).

CMO QMS (cont'd)

Benefits of the QMS

- Ensures that USOAP CMA activities are carried out according to defined provisions;

- Identifies, manages and measures interactions among processes to ensure that desired outcomes are achieved;

- Uses facts and data for continuous improvement of processes and their effectiveness;

- Meets the requirements of all stakeholders; and

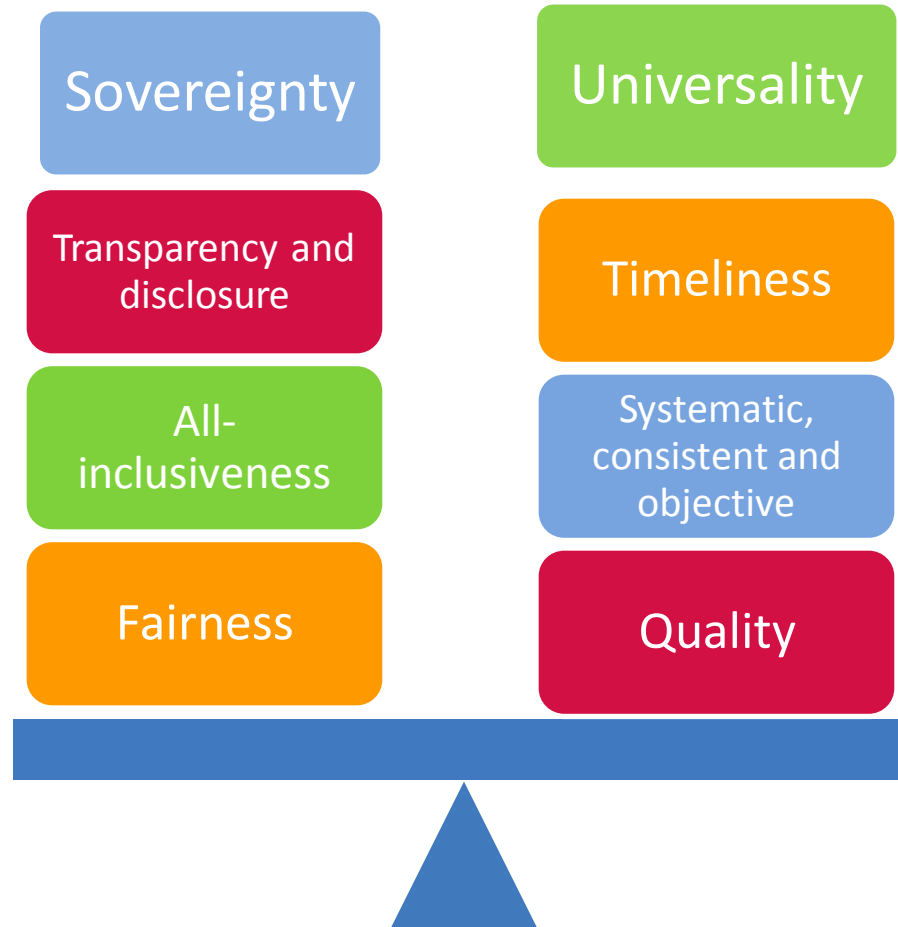- Ensures the satisfaction of stakeholders, particularly Member States, with USOAP CMA processes and activities.

CMO QMS (cont'd)

Documentation System

Quality Manual

QMS Procedures

| Process Flowcharts | Work Instructions | Quality Records |

USOAP Principles

Sovereignty

Universality

Transparency and disclosure

Timeliness

All-inclusiveness

Systematic, consistent and objective

Fairness
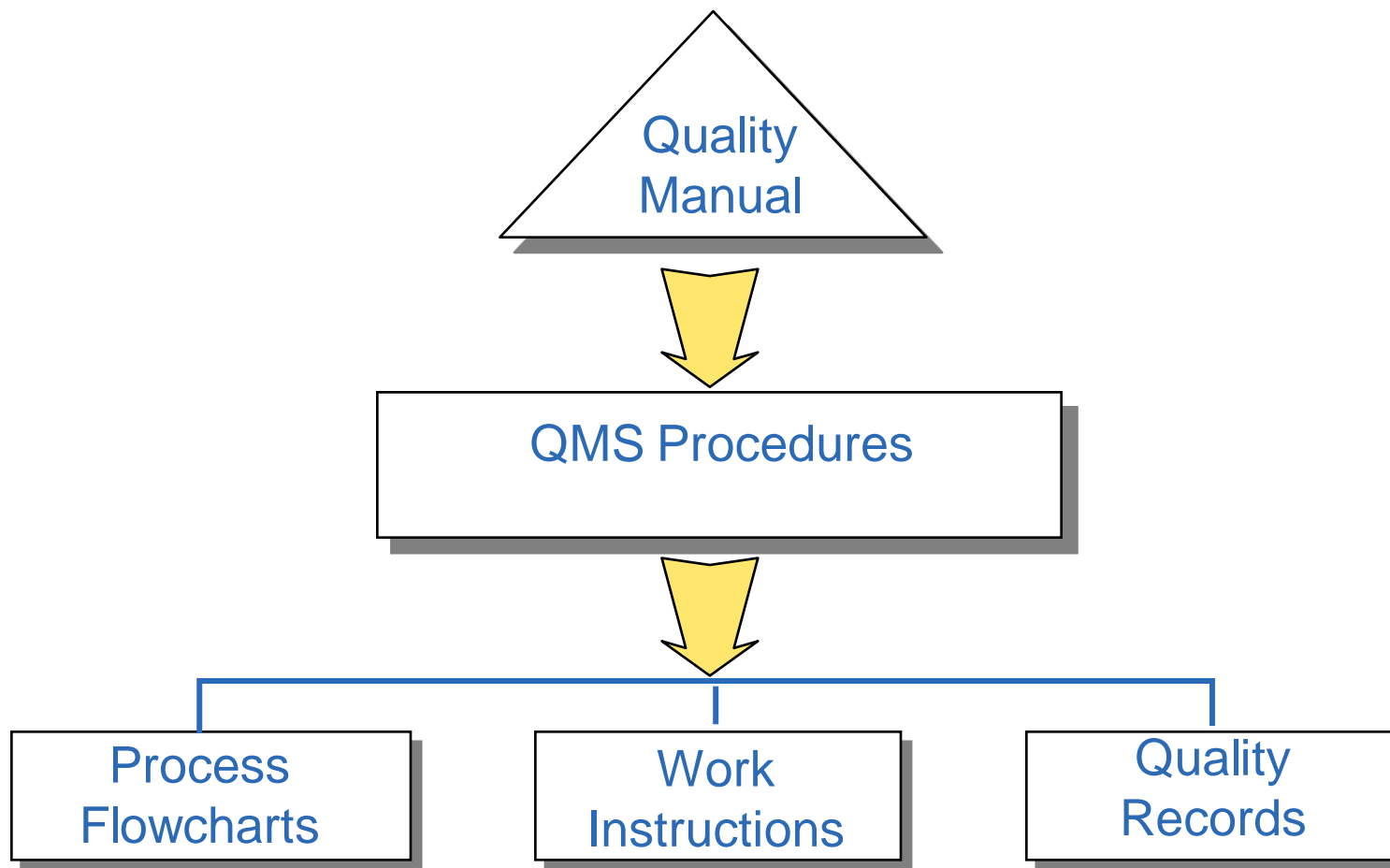
Quality

Auditing Principles

The ISO 19011 International Standard provides guidance on the management of audit programmes, the conduct of internal or external audits of quality and/or environmental management systems, as well as on the competence and evaluation of auditors.

Five of the most important ISO 19011 auditing principles have been selected for USOAP CMA purposes.

Auditing Principles (cont'd)

Ethical Conduct

The foundation of professionalism.

Trust, integrity, confidentiality and *discretion* are essential to the conduct of USOAP CMA activities.

Auditing Principles (cont'd)

ISO 19011 auditing principles applied for USOAP CMA activities

Fair Presentation

The obligation to report *truthfully* and *accurately*.

ISO 19011 auditing principles applied for USOAP CMA activities

Due Professional Care

The application of *diligence* and *judgement* in the conduct of USOAP CMA activities.

Auditing Principles (cont'd)

Independence

The basis for *impartiality* of USOAP CMA activities and *objectivity* of the conclusions.

Auuditing Principles (cont'd)

ISO 19011 auditing principles applied for USOAP CMA activities

Evidence-based Approach

The rational method for reaching *reliable* and *reproducable* conclusions in a systematic process.

CMA Stakeholders

ICAO REGIONAL OFFICES

ANB AND OTHER ICAO BUREAUX (HQs)

CMO

ICAO MEMBER STATES

RECOGNIZED ORGANIZATIONS

Staff Engaged in CMA Activities:

CMO staff

Subject matter experts in ANB and ROs

Team members (short-term/long-term seconded)

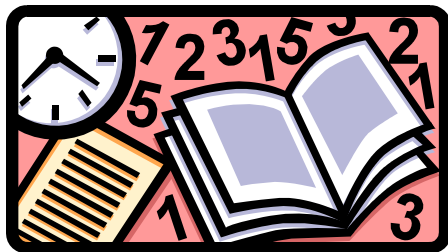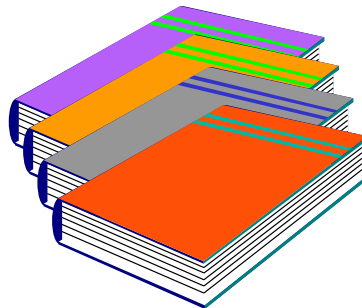# Programme Components

STATES' MONITORING

PLANNING & SCHEDULING

CMA ACTIVITIES

ONLINE FRAMEWORK

REPORTS, ANALYSES & WORKING PAPERS
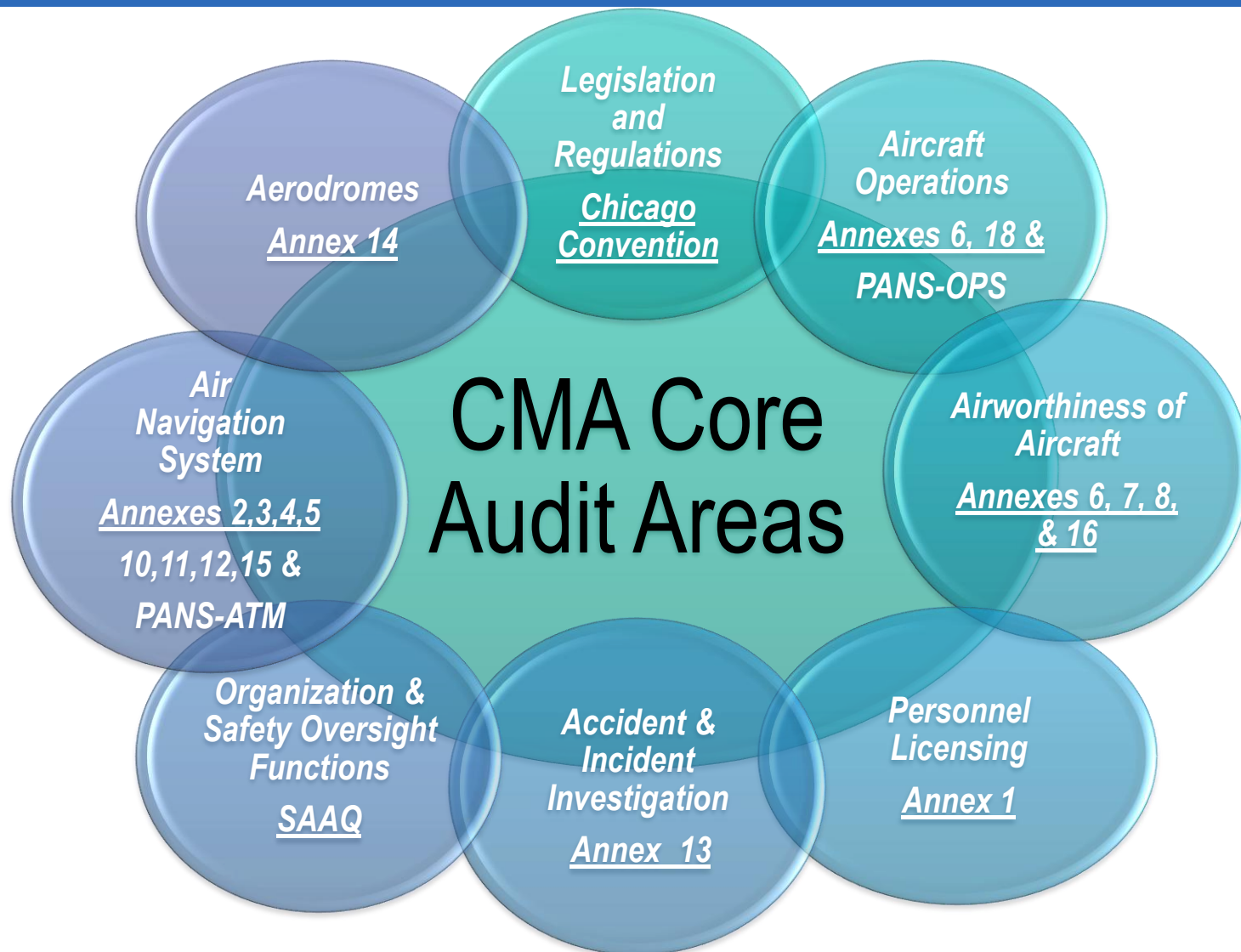
TRAINING & SEMINARS/ WORKSHOPS

CMA Information

Collected by means of:	Processed by means of:
• States Aviation Activities Questionnaires (SAAQs) • Compliance Checklists (CCs) • Electronic Filing of Differences (EFODs) • Protocol Questions (PQs) • Mandatory Information Requests (MIRs)	• Findings and Recommendations (F&Rs) • Significant Safety Concerns (SSCs) • Corrective Action Plans (CAPs)

USOAP CMA Audit Areas

CMA Core Audit Areas

- Legislation and Regulations — Chicago Convention
- Aircraft Operations — Annexes 6, 18 & PANS-OPS
- Airworthiness of Aircraft — Annexes 6, 7, 8, & 16
- Personnel Licensing — Annex 1
- Accident & Incident Investigation — Annex 13
- Organization & Safety Oversight Functions — SAAQ
- Air Navigation System — Annexes 2,3,4,5 10,11,12,15 & PANS-ATM
- Aerodromes — Annex 14

Transition Plan

Task	Start	End	Q1 - 2011	Q2 - 2011	Q3 - 2011	Q4 - 2011	Q1 - 2012	Q2 - 2012	Q3 - 2012	Q4 - 20
MEMBER STATES TRANSITION TO CMA										
Member States to sign newMoU	1/6/2011	31/8/2011								
Member States to assign National Continuous Monitoring Coordinator (NCMC)	1/6/2011	31/8/2011								
NCMC to complete Computer Based Training (CBT) on CMA	1/9/2011	1/3/2012								
States to update Corrective action plan (CAP) from the CSA audit cycle using the on-line framework	1/9/2011	1/7/2012								
States to develop a plan for the completio of their CMA protocols and communicate to ICAO	1/9/2011	1/7/2012								
States to update State Aviation Activity Questionnaire (SAAQ) using the on line framework	1/9/2011	1/9/2012								
States to completeUSOAP CMA protocols using the on-line framework according to established CMP	2/1/2012	31/12/2012								
Full CMA Launched	1/1/2013	1/1/2013								
ICAO TRANSITION TO CMA										
Publish new edition Doc 9735	1/6/2011	1/6/2011		◆						
Develop and expand agreements with International Entities	1/1/2011	31/12/2011								
Conduct CMA testing of the on-line framework with some member States	1/1/2011	30/9/2012								
Conduct Regional CMA Workshops	1/8/2011	29/12/2011								
Secretariat launchCBT Auditor training	1/6/2011	31/12/2012								
Conduct ICAO Coordinated Validation Missions (ICVMs) (10 ICVMs in 2011) (20 ICVMs in 2012)	1/1/2011	31/12/2012								
Conduct Safety Audits at the request of member States	1/10/2011	31/12/2012								
Full CMA Launched	1/1/2013	1/1/2013								

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Transition Plan (cont'd)

Tasks in the CMA Transition Plan (A37-WP/37)	2011			2012				2013			
	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q
States to sign the **CMA MOU**		1/7/11 ~ 30/9/11									
States to assign **NCMC(s)**		1/7/11 ~ 30/9/11									
States to update action plans **(CAPs)** from the CSA Audit cycle		1/9/11 ~ 1/9/12						**Full CMA launched**			
States to complete **SAAQ**		1/9/11 ~ 1/9/12									
States to complete **PQs**				1/1/12 ~ 31/12/12							

Once full CMA is launched, States are required to:
- Keep up-to-date State profile, SAAQ, CCs, and PQs;
- Respond to MIRs in a timely manner; and
- Provide updates on progress made to CAPs.

Transition Plan (cont'd)

2011

State

Update CAP
Complete SAAQ
Sign new MOU

ICAO

- Doc 9735
- Seminars/ Workshops
- CBT/OJT
- Expand agreements
- Conduct ICVMs

2012

State

Update CAP
Complete SAAQ
CMA Online protocols

ICAO

- CBT/OJT
- Prioritize CMA activities
- Conduct ICVMs
- Conduct Safety audits

2013

State

Update CAP
Update SAAQ
CMA Online protocols

ICAO

- CBT/OJT
- Prioritize CMA activities
- Conduct ICVMs
- Conduct Safety audits
- Conduct CSA audits

Transition Plan (cont'd)

ICVMs (10 in 2011and 20 in 2012)

Seminar/workshop (8 in 2011 and 2 in 2012)

Safety audits (as of 2012)

CMA in 2013 and beyond

An average of 30 ICVMs per year

An average of 15 CSA audits per year

2 seminars per year

Expansion of the ISO 9001-certified QMS

Review

- Background
- Evolution and objective of USOAP CMA
- Management of CMA — CMO Quality Management System
- USOAP CMA and auditing principles
- CMA stakeholders, staffing, activities and information
- USOAP CMA audit areas
- Transition to CMA

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