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**Ninth Meeting of National Coordinators for Continuous Supervision (NCMC/9)
for NAM/CAR Regions**

Santo Domingo, Dominican Republic, September 14-18, 2026

Agenda item: **Status of Effective Implementation (EI) and activities of the Universal Safety Oversight Audit Programme (USOAP) Continuous Observation Approach (CMA) in the NAM/CAR Regions**

**DATA INTELLIGENCE FOR COMPREHENSIVE MONITORING OF CAPS IN THE
USOAP CMA: THE EXPERIENCE OF EL SALVADOR**

(Submitted by El Salvador)

EXECUTIVE SUMMARY

The effective management of the audit cycle under the Continuous Observation Approach of the USOAP (USOAP-CMA) represents a permanent challenge for the Civil Aeronautics Authorities, particularly in relation to the coordination and timely monitoring of the Corrective Action Plans (CAPs). ICAO's USOAP CMA (OLF) online platform is the official source for the submission, updating and validation of each State's information and provides functionalities to visualize the overall status of compliance.

However, as part of the experience acquired by El Salvador during the recent activity of the USOAP CMA and the follow-up carried out in the post-audit phase, the State has implemented complementary tools for dynamic visualization, which are freely accessible or low-cost (such as Data Studio, dynamic spreadsheets, or integrated analytics platforms). These tools are applied to the internal control, monitoring and follow-up of the CAPs, and have contributed to optimizing their management, anticipating possible expirations, identifying bottlenecks and generating visual alerts that support data-based decision-making.

Action:	The Meeting is invited to take the actions proposed in regulation 3.2.
Strategic goals:	• All flights are safe and secure • No country is left behind
References:	• Convention on International Civil Aviation (Chicago Convention), Article 37. • Doc 9735, USOAP Operational Safety Surveillance Manual. • Memorandum of Understanding (MoU) between the Republic of El Salvador and ICAO Regarding the USOAP-CMA

1. Introduction

1.1 The ability of States to maintain effective and sustainable safety monitoring systems requires that the gaps identified through the activities of the CMA USOAP be addressed through relevant, comprehensive, specific, realistic and consistent CAPs.

1.2 The USOAP CMA (OLF) Online Framework is the official means used by States and ICAO to manage self-assessments, Protocol Questions (PQ) results, KAP and related evidence. However, the implementation of corrective measures involves different technical and administrative units, so it may be necessary to complement the OLF with more detailed internal planning, coordination, monitoring and warning mechanisms.

1.3 The NCMC, within its functions, coordinates, facilitates and maintains communication between ICAO, the Civil Aviation Authority and the areas responsible for implementing and documenting corrective action plans. To facilitate this work and optimize the available resources, it is advisable to have internal tools that allow the consolidation of information, clearly identify responsibilities, monitor the progress of activities and timely detect possible delays, bottlenecks or expirations in the CAPs corresponding to the LEG, ORG, PEL, PAHO, AIR, AIG, ANS and AGA areas.

1.4 Based on the experience gained during the recent activity of the USOAP CMA and its subsequent follow-up, El Salvador designed and implemented a complementary methodology for consolidation, analysis and visualization of data, using freely accessible or low-cost tools, such as Data Studio. The methodology uses the exportable information from the OLF and applies rules for validation and consolidation of dates, responsible, progress and evidence, including the revised implementation dates registered by the State. This information is transformed into internal control panels and early warnings that strengthen coordination and facilitate the continuous monitoring of the CAPs, without replacing the functions of the OLF.

2. Analysis

2.1 The absence of regular monitoring and follow-up may lead to the management of Corrective Action Plans (CAPs) focusing mainly on the proximity of the planned implementation dates or on the preparation for a future activity of the USOAP CMA. This reactive approach can make it difficult to identify delays in a timely manner, dependencies between activities, resource needs and measures that, although implemented, have not yet been documented or updated in the USOAP CMA (OLF) Online Framework.

2.2 El Salvador's experience shows that the OLF's exportable information can be consolidated and organized through internal data analysis and visualization tools, which are freely accessible, low-cost or institutionally available. These tools do not replace the OLF, but complement its functionalities and allow monitoring to be adapted to the organisational structure, internal processes and information needs of each Civil Aeronautics Authority.

2.3 By structuring the CAPs in dynamic visualization boards, the following benefits are achieved:

- **Early warnings:** Automatic identification by criticality levels (Red for overdue activities, Yellow for short-term alerts and Green for medium-term preventive control), allowing risks to be mitigated in advance before maturities.
- **Monitoring the progress of activities by area:** Qualitative and quantitative monitoring of the progress of activities by each technical area (from 0% to 100% compliance), facilitating the timely detection of institutional bottlenecks.
- **Update of the CAPs with the OLF:** If an activity has already been executed but not reported in the OLF, it allows the areas to be notified of the need for updating on the platform.

2.4 The value of data visualization and analysis tools is not limited to post-audit follow-up. Their regular use can help to maintain continuous monitoring of the State safety monitoring system, avoiding the focus of the review of deficiencies, CAPs and protocol questions only in the periods leading up to an ICAO activity.

2.5 Once implemented and consolidated, these methodologies could be progressively scaled up to support other USOAP CMA processes, including the regular review and updating of self-assessments of protocol questions, the monitoring of safety monitoring indicators, and the preparation of evidence demonstrating the effective implementation of applicable provisions.

2.6 Each State can select the technological tools that best suit its resources and institutional capacities. Consequently, El Salvador's experience does not seek to establish a single technological solution, but to promote a flexible and technologically viable methodological approach based on data consolidation, clear assignment of responsibilities, early warnings, and decision-making based on up-to-date information.

2.7 The regional exchange of experiences, methodological criteria and reference models could contribute to strengthening the capacities of NCMCs and technical areas. This exchange could take place through NCMC/WG activities, ad hoc groups or workshops facilitated by ICAO Regional Offices, ensuring that the resulting products are voluntary, adaptable and compatible with the OLF's exportable information.

2.8 The adoption of this approach would contribute to the USOAP CMA follow-up being understood as an ongoing process and not just as a post-audit response. In this way, States could continuously strengthen their surveillance systems, implement their CAPs in a timely manner, and keep the corresponding information updated in the OLF.

3. Conclusions and Proposed Action

3.1 El Salvador's experience shows that the use of data consolidation, analysis and visualization methodologies can constitute a practical, adaptable and low-cost alternative to complement the functionalities of the OLF and strengthen the internal monitoring of the Corrective Action Plans (CAPs).

3.2 In view of the above, the Ninth Meeting of National Coordinators for Continuous Supervision (NCMC/9) is invited to:

- a) To take note of the experience presented by El Salvador and to recognize the use of data consolidation, analysis and visualization tools as a complementary good practice to support the management and continuous monitoring of CAPs;
- b) To urge the ICAO NACC Regional Office to facilitate, within existing working mechanisms and subject to the availability of resources, the exchange among States of experiences, methodologies and good practices related to the internal monitoring of CAPs and the timely updating of the OLF;
- c) To encourage the development of specialized training workshops aimed at data analysis and visualization tools, monitoring of the CAPs and continuous management of the OLF, aimed at the NCMCs and the technical teams of the Civil Aeronautics Authorities; and
- d) To consider, as a later stage, the application of these methodologies to support the periodic review of self-assessments of protocol questions and the maintenance of updated State information in the OLF.

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