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Agenda Item 4: Relevant Safety, Security and Air Navigation Implementation Matters

**ASSISTANCE IN THE AREA OF ACCIDENT AND INCIDENT INVESTIGATION (AIG) FOR CENTRAL
AMERICAN AND CARIBBEAN STATES**

(Presented by the Secretariat)

EXECUTIVE SUMMARY

This paper presents the proposed strategy for the implementation in the area of accident and incident investigation (AIG) for Central American and Caribbean States.

Action:

The suggested actions are presented in Section 7.

Strategic Objectives:

- Safety

References:

- Doc 7300, Convention on International Civil Aviation
- Annex 13, Aircraft Accident and Incident Investigation
- Annex 19, Safety Management
- Doc 9734, Safety Oversight Manual — Part A — The Establishment and Management of a State Safety Oversight System
- Doc 9734, Safety Oversight Manual, Part B — The Establishment and Management of a Regional Safety Oversight Organization
- Doc 9756, Manual of Aircraft Accident and Incident Investigation, Part I — Organization and Planning
- Doc 9756, Manual of Aircraft Accident and Incident Investigation, Part II — Procedures and Checklists
- Doc 9756, Manual of Aircraft Accident and Incident Investigation, Part IV — Reporting
- Doc 9859, Safety Management Manual
- Doc 9946, Manual on Regional Accident and Incident Investigation Organization
- Doc 9962, Manual on Accident and Incident Investigation Policies and Procedures
- Doc 10053, Manual on Protection of Safety Information, Part I — Protection of Accident and Incident Investigation Records

1. Introduction

1.1 Undeniably, the activity of investigation of aviation accidents is one of the oldest actions focused on the management of safety. Nevertheless, over the last few years, it has become increasingly apparent that many States have not given adequate priority to this activity, which increases the risk.

1.2 Through the USOAP auditing programme, ICAO has sought to identify the strength of States' aviation systems in assessing their ability to honour the commitments under the Chicago Convention and its technical annexes regarding the implementation of SARPs. Since that programme started with the main focus in the areas of OPS and AIR, these areas, of course, ended up receiving more attention and, consequently, they achieved a higher level of compliance in the general context of international aviation. As the USOAP programme progressed to include other areas, including Accident and Incident Investigation (AIG), their shortcomings were highlighted.

1.3 The present scenario reveals the need to pay more attention to accident investigation, not only for its direct contribution to accident prevention, but also for its participation in the States' Safety Programmes, where it is an important supplier of data for analysis.

2. The AIG Panorama in the NAM/CAR Regions

2.1 In the context of the NAM/CAR Regions, available data indicate some important deficiencies in the AIG area, notably in Central America and the Caribbean (CAR). The first concerns the lack of independence. Only five States in the NACC regions have an independent authority and are in a position to institute investigations without interference.

2.2 Currently, we have nineteen States whose civil aviation authority (CAA) holds the responsibility for investigating accidents and incidents. This type of structure ends up prejudicing the investigation activity, affecting significantly its efficiency, which is not always perceived. In addition to generating potential conflicts of interest, it leads to a gradual demobilization of the AIG sector, since the CAA tends to prioritize regulatory and supervisory activities, to the detriment of investigation tasks that are considered "subsidiary".

2.3 Another concern is closely related to the previous one and refers to the organization and staffing. Unfortunately, only a few States in the region allocate adequate staff (in quantity and quality) to meet AIG requirements. In the majority of the cases, being under the CAA is a great contributor, since the investigation activity is usually not seen as a CAA priority for allocation of resources when disputing to other areas of the authority. The third major concern is related to the conduction of the investigation and is mostly based on the lack of appropriate implemented documentation (e.g. procedures, guidance material, policies, etc.). As a result, the CAR region presents a medium to low level of EI in AIG.

3. The AIG Assistance Framework

3.1 In order to address States deficiencies and improve their level of implementation in AIG, the NACC Regional Office developed a framework (Appendix 1) to be applied to candidate States that meet some pre requisites. The objective of the framework is to provide States, in the mid-term, with a functional accident and incident investigation structure to enable a minimum level of compliance, while establishing long-term actions to fully address States' responsibilities in AIG as an ICAO member State.

3.2 Pre requisites for the adoption of the Framework

3.2.1 Although for a State to volunteer for the application of the framework the designation of an AIG focal point is sufficient, in order for the accident and incident investigation activity to be established with a minimum of efficiency, some additional preconditions need to be met.

3.2.2 First, it is necessary to have the commitment from the part of the State, since we will inevitably discuss allocation of resources and prioritization in a heavy demanded environment like aviation. That commitment gains an increasingly importance if we are dealing with the AIG lying under the State's CAA, due to the potential competition for resources in addition to the potential conflicts of interests.

3.2.3 The other condition essential for the success of the assistance is the allocation of permanent full-time minimum staffing, regardless of the size and complexity of the State's civil aviation system.

3.2.4 It is important to clarify that the structure of an AIG sector will depend on the characteristics of that system, but this should be determined throughout the assistance, being part of the proposed framework.

3.3 The Option to Adhere to a RAIO Model

3.3.1 It is also important for the State to know that the adoption of a Regional Organization model can represent great savings in terms of resources, but it will only be perceived in the mid-term and long-term, while the initial allocation is still necessary.

3.3.2 In this case, the independent accident investigation authority (which is still a requirement) may have a very simple structure, as it will probably deal only with administrative tasks. Usually, what is expected from that type of authority will be: receiving notifications, delegating investigations, approving reports, controlling recommendations, and gathering safety data, and (really important) dealing with the internal approval of annual financial contribution correspondent to the State for the operation of the RAIO.

4. Criteria for Selection of States to the AIG Assistance Framework

4.1 While the model being presented is designed to assist States with a higher level of deficiencies, it can be applied indistinctly to any State wishing to advance at its EI level, increasing the efficiency of the accident and incident investigation activity and contributing to the improvement of safety levels.

4.2 With that being said, since the application of this framework will be heavily time consuming for the AIG expert of the NACC Regional Office, there may be established a priority in terms of States to receive the assistance.

4.3 The priorities will be based on the following criteria:

- a) States with an assigned full time AIG focal point (preferably a permanent qualified investigator);
- b) States with lowest EI in AIG;
- c) States that volunteer;
- d) States logistic support to the mission, with access to documents and facilities.

5. AIG Improvement Strategy

5.1 The strategy has been designed in a three-phase approach:

- **Phase 1** – Building national capacity. Consists in the provision of tailored assistance to individual States in order to improve and maintain a minimum level of efficiency in the activities related to accident and incident investigation. The assistance provided here will support the NACC SAP for the States considered.
- **Phase 2** – Building regional cooperation. The strategy will assist States in the establishment of mechanisms of cooperation in the AIG domain.
- **Phase 3** – Establishing a Regional Accident Investigation Organization. In the long term, after all the previous conditions are implemented, this initiative will assist in the evolution of the MoC to a RAIO.

5.2 The low level of implementation in AIG reflects a complex scenario, especially in the Caribbean, thus the strategy proposed may require several years to be effectively carried out. In addition, since it is aimed at volunteer States, it can only be effectively put in place if States have, as a minimum point of start:

- Continuous commitment to AIG
- At least 1 permanent full time investigator as a counterpart for the strategy

Note 1: The assignment of 1 full time investigator refers to the counterpart required on the side of the State to plan and implement the strategy in coordination with the NACC RO, and does not preclude the State to have other staff (including other investigators) to fulfil its obligations in the field of AIG.

6. Final Considerations

6.1 It is important to mention that this framework represents a generic view of the approach that will certainly require customization to address the needs and characteristics of each State appropriately, and it is aimed at providing a roadmap to facilitate the implementation of the AIG related SARPs.

6.2 Any questions or improvement suggestions may be directed to Mr. Fernando Camargo, Regional Officer, Technical Assistance and the focal point for AIG in the NACC Regional Office at fcamargo@icao.int.

7. Recommended actions

7.1 Central American and Caribbean States are invited to take into consideration the following recommended actions:

That States should,

- have, at a minimum, one assigned full time AIG focal point (preferably a permanent qualified investigator);
- endeavour to identify gaps in their primary aviation legislation with regard to AIG requirements;
- foster the establishment of an independent accident investigation authority, commensurate with the complexity of their aviation system; and
- foster regional cooperation to take advantage of synergy, aiming initially at addressing their needs related to training, rulemaking, notification and data recollection and analysis.

APPENDIX

DETAILED STRATEGY FOR AIG IMPLEMENTATION

Phase 1 - Building national capacity

Activities

Step 1.1: Off-site familiarization and gap analysis

- Identification of the State's civil aviation system complexity
- Identification of legal framework
- Preliminary assessment of relevant documentation (e.g. regulations, procedures, policies, etc.)
- Identification of areas to improve/develop

Step 1.2: On-site assistance mission

- Identification of available infrastructure and resources
- Establishment of priorities
- Initial assistance in the correction of main issues
- Guidance on the development of a Corrective Action Plan (CAP)

Step 1.3: Development of the CAP

- State to develop CAP according to priorities agreed on STEP 2
- Use of Teleconference to support/guide State on the development
- States approval of the CAP

Step 1.4: Implementation of the corrective actions

- Use of Teleconference to support implementation
- Mid-term follow up on site mission (depending on the complexity of CAP)

Step 1.5: On-site verification

- On site final verification mission (to support validation mission request)
- Amendment of CAP if necessary, with subsequent follow up and new verification

Goals and Targets

Goal 1.1: Achieve an acceptable level of infrastructure in each of the Central American and Caribbean States to appropriately in support to all AIG related activities:

- Target 1.1.1: Have a clear and well documented structure for the States' AIG unit established and approved at the appropriate level
- Target 1.1.2: Have an effective mechanism to identify the minimum needs of human resources for the AIG unit implemented in each State
- Target 1.1.3: Achieve an acceptable level of appropriate qualified human resources in the AIG unit in each State
- Target 1.1.4: Achieve an acceptable level of equipment, means of transportation and communication available to the AIG unit in each State
- Target 1.1.5: Achieve an acceptable level of permanent funding to the AIG unit in each State

Goal 1.2: Achieve an acceptable level of proficiency in the qualification of investigators in Central America and Caribbean:

- Target 1.2.1: Establish a regional accident investigators database in the NACC RO for Central America and Caribbean
- Target 1.2.2: Have an adequate accident investigation training policy established at the appropriate level in each State
- Target 1.2.3: Have an appropriate accident investigation training programme implemented in each State
- Target 1.2.4: Have a tailored accident investigation periodic (3 to 5 years) training plan implemented in each State

Goal 1.3: Achieve an acceptable level of consistency in the performance of AIG related activities in Central America and Caribbean:

- Target 1.3.1: Have all AIG related regulations compliant with requirements of Annex 13 in each State
- Target 1.3.2: Have all required AIG related procedures implemented in each State
- Target 1.3.3: Have all required AIG related guidance material implemented in each State
- Target 1.3.4: Have all necessary coordination and arrangement mechanisms (e.g. MOUs) implemented in each State

Goal 1.4: Achieve a continuous improvement in the level of independence of the accident investigation processes:

- Target 1.4.1: Have all the gaps in the primary aviation legislation related to the independence of the accident investigation authority and the investigation process identified in each State
- Target 1.4.2: Have all the necessary amendments of the primary aviation legislation drafted for each State
- Target 1.4.3: Maintain an increasing trend of improvement in the level of implementation of measures to avoid potential conflicts of interest in the investigation processes

Phase 2 - Building regional cooperation**Activities****Step 2.1: Studying the concepts of Mechanisms of Cooperation (MoC) and Regional Accident Investigation Organization (RAIO)**

- Presentation and discussions on the concept of Mechanisms of Cooperation
- Presentation and discussions on the concept and models of RAIO
- The regional scenario (GRIAA and Caribbean) and the potential benefits of the MoC
- Identification of potential members for Caribbean MoC

Step 2.2: Building the Terms of Reference

- Establishing the main elements of the cooperation for Caribbean MoC
- Drafting the Terms of Reference for Caribbean MoC
- Revision of the Terms of Reference for GRIAA (if deemed necessary by GRIAA)
- Submission to States

Step 2.3: Development of work plans

- Work plan for consolidation/improvement of GRIAA
- Work plan for establishment of the Caribbean MoC

Step 2.4: Implementation of the work plans

- Use of Teleconference to support implementation
- Assistance/follow up on site missions (as necessary)

Goals and Targets

Goal 2.1: Have a Mechanism of Cooperation in AIG established for the Caribbean States:

- Target 2.1.1: Achieve the commitment of all potential member States
- Target 2.1.2: Have the main structural elements and functionalities of the mechanism well defined
- Target 2.1.3: Have the Terms of Reference drafted
- Target 2.1.4: Have the Terms of Reference approved by all interested States
- Target 2.1.5: Have an implementation work plan developed and approved by States
- Target 2.1.6: Have the work plan implemented

Goal 6: Have the GRIAA consolidated as a Mechanism of Cooperation in AIG for the Central American States:

- Target 2.2.1: Achieve the commitment of member States
- Target 2.2.2: Have the gaps in the GRIAA framework identified
- Target 2.2.3: Have an implementation work plan developed and approved by States
- Target 2.2.4: Have the work plan implemented