
SOUTH AMERICAN AIG REGIONAL COOPERATION MECHANISM (ARCM)

**FOURTH AIG AUTHORITIES MEETING
(Brasilia, Brazil, 23 to 25 May 2017)**

Agenda Item 5: Investigation of non-serious incidents

ALTERNATIVES FOR THE INVESTIGATION OF NON-SERIOUS INCIDENTS

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Summary

This working paper (WP) is based on a previous one dealing with the same issue from a normative and regulatory point of view. In order to initiate, as appropriate, the investigation of an occurrence classified as a non-serious incident, AIG organisations have different options to conduct the investigation with the means available in the system, taking into account that the responsibility for the investigation cannot be *delegated*.

References

- Annex 13 – Aircraft accident and incident investigation
- Annex 19 – Safety management
- Amendment 15 to Annex 13
- Amendment 1 to Annex 19
- Doc 9859 – Safety management manual (SMM)
- Final report of the Third South American AIG Authorities Meeting (AIG-SAM/3)
- State AIG regulation, developed by the ARCM
- AIG regulations of SAM States
- LAR 113 – Latin American Aeronautical Regulation

1. Introduction

1.1 One of the objectives of the ARCM is to collaborate with, and assist, States in the investigation of aircraft accidents and incidents. Accordingly, the Regional Mechanism will:

- ✓ contribute to the adoption of the best practices in accident and incident investigation;
- ✓ analyse and clarify those concepts that pose a possible problem in the adoption of standards and recommended practices; and
- ✓ monitor compliance with, and evolution of, the documents that prescribe accident and incident investigation requirements and procedures, in order to propose amendments as needed to keep the documents up to date.

1.2 At the Third South American AIG Authorities Meeting (AIG-SAM/3) of the ARCM, held in Lima, Peru, on 7-9 March 2016, the participants addressed various issues, including the role of the organisations involved in the investigation of non-serious incidents.

1.3 The meeting considered that, when implementing the State safety programme (SSP) in ARCM member States, AIG organisations must take on a proactive role as custodians together with the other aeronautical authorities.

1.4 The participants explicitly stated that it was necessary and extremely important to investigate non-serious incidents in order to obtain information from this type of occurrences. It was also stated that every AIG organisation should intervene in case of an event of this nature in accordance with Annex 13 and the primary aviation legislation of its State.

1.5 Based on the progress made in SSP implementation in each State, it should be noted that, for State safety management purposes, there is a need to identify hazards and assess safety risks (A 19 – 3.3.4). To this end, the SSP must have a *safety data collection and processing system (SDCPS)*.

1.6 Taking into account that the State SDCPS may consist of one or several mandatory or voluntary reporting systems and/or by the collection systems of each aeronautical authority and AIG authority, which capture both reactive (AIG organisations) and proactive information (actual or probable safety deficiencies), coordination between the CAA and the AIG will be required to articulate the information, process the data, and obtain *safety intelligence*, an indispensable requirement for defining State safety policies.

2. Deficiencies

2.1 The definition of incident according to Annex 13, “*Incident*. An occurrence, other than an accident, associated with the operation of an aircraft which affects or could affect the safety of operation”, leaves it to the interpretation of:

- ✓ Investigation authorities and civil aviation authorities (CAAs) whether or not they should conduct the investigation thereof or whether it should be investigated internally by the service provider in accordance with its safety management system (SMS) (Doc 9859 – 4.4.12).
- ✓ Service providers and first line operators (pilots, mechanics, dispatchers, ATC controllers, etc.) as to whether the occurrence must be reported to AIG authorities or to the CAA, using different reporting systems.

2.2 Based on the information provided by the SAM/ARCM SDCPS, and taking into account the Heinrich pyramid (whereby for each accident there would be 29 serious incidents or 300 incidents), we may say with a certain degree of certainty that there is a significant number of occurrences (non-serious incidents) that are not reported to the AIG authority or, alternatively, are derived to the CAA (depending on the interpretation of the definition of incident) or are just not reported, and because of its own nature, the investigation authority should intervene.

2.3 If all occurrences subject to investigation by AIG organisations (non-serious incidents) were reported, each investigation organisation would need a structure, equipment, and resources that not all States can afford.

2.4 Based on the experience of some AIG organisations of the SAM Region that have applied different methods for intervening in this type of non-serious incidents, the results have not been as expected.

2.5 Furthermore, we cannot ignore the quick evolution of technology in the aviation industry, which represents a true challenge for investigation authorities, which must have at their disposal highly-qualified and duly trained personnel that is abreast in all areas of expertise as required by this evolution.

2.6 ICAO documents (Annex 13 and Doc 9756, P II-1.1.3) leave the scope of the investigation to the discretion of AIG organisations, based on the lessons to be obtained from the investigation, and specify the factors to be taken into account for instituting the investigation.

3. Conclusions

2.7 Based on the foregoing, a systemic approach should be applied when addressing the various issues, specifying measures that will contribute to the investigation of those occurrences classified as non-serious incidents. To this end, a series of measures are proposed to serve as the basis for the work to be performed by AIG organisations:

- ✓ The definition of incident (Annex 13) is so broad that the AIG organisations of each State should:
 - coordinate and agree with other SSP authorities on which occurrences should be reported to the investigation authority in case independent reporting systems are available, or specify actions for deciding which of the reported occurrences should be investigated by the AIG organisation.
 - establish an active link with the safety managers of the various service providers so that they will report the occurrences (those in which there is a doubt), in order to decide which occurrences should be investigated by the investigation organisation.
- ✓ With the implementation of the SMS by the various stakeholders of the system, once they are capable of conducting an internal investigation of an occurrence, it can be a valid tool for collaborating with AIG organisations in the investigation.
- ✓ Along the same lines, service providers have skilled personnel that are knowledgeable of the new technologies, the software and hardware they operate. Accordingly, they are a source that investigation organisations can tap on to request experts or tests in support of the investigation process. To this end, the AIG organisation:
 - must train its investigators in the required competencies so that they can manage investigations with multidisciplinary teams of their own or from third parties.
 - must make arrangements with the other aviation authorities and other investigation organisations for the provision of staff to assist in some investigations, always under the supervision of the AIG organisation and avoiding any conflicts of interest.
- ✓ The resources available to AIG organisations should be used efficiently, not for the investigation of occurrences whose lessons will not have an impact on the safety of the system. These resources can be used for safety studies in coordination with experts from other aeronautical authorities.

- develop the appropriate mechanisms for the conduction of full or partial investigations of non-serious incidents, and conduct investigations with other investigation authorities or service providers with a view to using AIG experts in safety studies.
- ✓ Agreed measures, recognising that every investigation of an aircraft accident or incident *is multidisciplinary*, cutting across the whole aviation system, and that the occurrence is not restricted to a single stakeholder of the system but rather affects the system as a whole.

4. Suggested action

2.8 The AIG authorities of the Region are invited to:

- a) take note and comment on the information provided in this working paper;
- b) consider, if appropriate, the establishment of a working group consisting of AIG experts to analyse the occurrences that may be classified as non-serious incidents that should be investigated in full, and those that could be subject to a shortened investigation;
- c) consider, if appropriate, the establishment of a working group consisting of SSP members to design forms of articulation and coordination among aeronautical authorities involved in the SSP to address issues concerning occurrence reporting and investigation competencies;
- d) develop and implement regional training to provide investigators with the competencies required for managing an investigation and leading multidisciplinary investigation teams; and
- e) work in an SSP coordination table with other aviation authorities for the exchange of information and the conduction of safety studies to improve safety in the State.