



**AIG REGIONAL
COOPERATION MECHANISM OF
SOUTH AMERICA**



**INTERNATIONAL CIVIL
AVIATION ORGANIZATION**

ACCIDENT INVESTIGATORS SEMINAR

FINAL REPORT

LIMA, PERU, 3 TO 7 SEPTEMBER 2018

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HISTORY

ii. 1 Place and duration of the Seminar

The Accident Investigators Seminar was held on 3 to 7 September 2018, at the premises of the South American Regional Office of the International Civil Aviation Organization, in Lima, Peru.

ii.2 Opening Ceremony

Mr. **Fabio Faizi Rahnemay Rabbani**, Director of the ICAO South American Regional Office delivered the opening speech and officially inaugurated the Seminar.

ii.3 Organisation of the Meeting

The Seminar was attended by investigators of the South American Region, and was coordinated by Mr. **Alexandre Lima Prado**, Regional AIG Officer of the ICAO South American Office, and Mr. **Arturo Martinez**, Information Technology Assistant of the ICAO South American Office.

EMBRAER was also invited, and was represented by Mr. **Paulo Soares Oliveira Filho**.

Manufacturing companies BOEING and AIRBUS were invited by JIAAC but could not attend the event.

ii.4 Working languages

The working language of the seminar was Spanish, and simultaneous interpretation services were provided into English.

ii.5 Schedule and working method

The Seminar was conducted in daily sessions from 09:00 to 15:50, with the required breaks.

ii.6 Agenda

Item 1: Introduction of the proposed format

- a) Before starting the generation of knowledge in a new format, the attendants were invited to actively participate in the discussions. The assumption was that all the participants were experts in their respective areas. The ICAO Lima Office assigned all the participants the responsibility of sharing their knowledge and experience in order to create an opportunity for joint development.

Item 2: Presentations by States

- a) Get to know everybody! How can we help each other if we do not know

the reality of the States? In this regard, the participants were invited to describe the work done by investigators in the field and their operational intelligence generation activities. Knowing the specific strengths, difficulties and needs might be the key to interaction amongst all.

- b) The manufacturer EMBRAER described the activities that followed an occurrence involving Embraer aircraft and how the States can obtain assistance from the manufacturer.

Item 3: The accident – A management overview

- a) There has been an occurrence, so what do we do now? Do investigators have a group of experts available to provide them with information and materials at the accident site? At present, with *smartphones*, social networks, and multinational companies, managing an aircraft accident entails more than just investigating the accident. Society requires a prompt response from the State.
- b) Approach of the manufacturer to the aircraft accident.
How does the manufacturer see the accident?

Item 4: Use of experts. Skills required

- a) States are responsible for producing documentation and having standards in place, but how is that possible if we have different requirements? Is it possible to determine what skills are required from investigators? How to use the experts? Are State funds required for conducting courses in all specialties? The use of experts can be the answer.

Item 5: Accident response plan

- a) Analysis of occurrences of significant impact on the Region, in which, in addition to the investigation itself, the State was called upon to assist on issues unrelated to the investigation (baggage claim, press briefings, international relations, etc.).
Do we have the possibility of learning and being prepared for an occurrence? Or do we have to wait for each State to face a crisis? The best solution is to share lessons learned.

Item 6: International airports – Collecting information

- a) Would it be necessary to have information available about all the international airports of each State? In this regard, the participants were invited to share their views about existing and required information in case of using multinational investigators. Within the ARCM structure, States started to consider the development of a database containing information about their international airports.

Item 7: Fatigue – Can it be measured?

- a) Presentation of the work model developed by Brazil, with the participation of CENIPA, universities, airlines, representative associations, etc. Considering that many of the participants were from the air traffic area, Mr. Roberto Sosa (ICAO) was invited to describe the steps required to develop an assessment methodology for air traffic controllers.

Item 8: ECCAIRS – Standardising information

- a) Presentation of the manuals developed by the ICAO Lima Office to serve as a basis for standardising the data entered in the ARCM SDCPS system.

ii.7 Attendance

The Seminar was attended by 6 SAM States and one industry representative, making a total of 18 participants, as shown in the list of participants.

ii.8 Material shared by the speakers and other guidance material

Refer to:

<https://www.icao.int/SAM/Pages/MeetingsDocumentation.aspx?m=2018-INVESTIGARCM>

LIST OF PARTICIPANTS

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1. Claudio Lavirgen
2. Regina Concepción Subia
3. Carlos Raúl Aguirre

BRAZIL

4. Andre Luiz Mota
5. Marcello Borges da Costa

COLOMBIA

6. Julián Eduardo Echeverry Valencia
7. Andrés Lozano Campos
8. Javier Perdomo Ramírez

GUYANA

9. Paula McAdam

PERU

10. Jaime Villanueva Collazos
11. Jaime Renzo Gallegos Begazo
12. Patricia Indacochea Velazco
13. Norma Nava Hernández
14. Paola Urquiaga Primo
15. José Zarabia Salas

VENEZUELA

16. Cesar Enrique Landaeta Madrid
17. Jesús Alberto Parra Escalona

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18. Alexandre Lima Prado
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Item 1 Introduction to the seminar

1.1 The Coordinators presented the agenda of the Seminar and the format to be used to derive more benefits from discussions.

1.2 Based on an active learning format, using modern training techniques for professionals, the participants were actively presented with the information. This setting facilitated mutual collaboration.

1.3 Seminars combine teaching and investigation. They clearly differ from a master lecture, where the activity focuses on teaching and learning. The Regional Office receives recurrent training on these techniques, which have proven effective.

1.4 Taking into account that some participants had common interests and a similar degree of knowledge, the seminar sought to promote research or specific search in various sources. The results or conclusions were the responsibility of the entire group. The moderator coordinated the work of all the States, without assuming the responsibility for solving the issues on his own. The seminar concluded with a wrap-up and evaluation session. The structure of this workshop encouraged the exchange of knowledge amongst all the participants. They were all teachers and students.

1.5 All discussions started with a case presented by the ICAO Regional Office, and ended with some conclusions and information to be used by the ARCM Technical Committee as a basis for annual work proposals.

1.6 Following each presentation, States were invited to participate in a more realistic manner, explaining the status of their investigation activities.

1.7 The seminar addressed the information to be produced by States in order to create an environment conducive to the use of international investigators. For example, what support (for investigation activities) is available in each State?

Item 2 Presentations by States

2.1 Starting in this Seminar, the participating States were invited to explain how they carried out their investigation activities, and what type of training was provided.

2.2 Following each presentation, the participants were able to clarify ideas, generating case-specific discussions in a group dynamic.

2.3 The EMBRAER representative made a presentation on the facilities and services the company has available at their factory that can be requested by AIG bodies when conducting an investigation.

2.4 Relevant issues:

- a) States face the issue of **personnel training**, even if the required courses are offered in the Region. The problem is that courses are offered in a face-to-face format, and States find it too expensive to send one or more participants to attend.
- b) EMBRAER offered to conduct a course on “*EJet Aircraft Systems Familiarization for Investigators*” to be conducted next year (2019) at its facilities in Sao Jose dos Campos – SP, Brazil. The participants agreed to provide the names of those designated to attend this course as soon as possible and no later than **31 October**. The course shall be carried out during the first semester of 2019.
- c) States find it difficult to use the knowledge provided in the final reports of the other States. In this regard, States were requested to send to the ICAO Lima Office the direct link to access the published final reports (send to sam_aig@icao.int). These links shall be posted on the ARCM page.
- d) Consideration was given to the possibility of **creating a course**, which could be conducted at the ICAO Lima premises. Since a variety of instructors would be required, it was suggested to use instructors from States that had already developed training courses.

Item 3 **The accident – A management overview**

The AIG expert of the ICAO Lima Office presented an analysis of the work done by CENIPA during major accident investigations, focusing on the management of human and material resources available in Brazil. In this regard, note was taken of certain issues that, although not covered by Annex 13, were assigned to the investigation body.

- a) In case of an occurrence, how should the State/AIG authority respond?
- The first step to be taken by stakeholders in case of a major occurrence is to establish an effective communication channel with all the parties involved and to know the action expected from each State entity.
 - Once coordination channels have been established, the State should offer legal and technical support to the experts involved in the investigation so as to ensure that staff requirements at the accident site are promptly and efficiently met (crisis room).
 - An important issue mentioned by the participants was that, although part of the responsibility in case of an occurrence corresponds to the aircraft operator, in the case of small or charter companies, the responsibility many times falls upon the AIG bodies.
 - Since no provisions are made for this possibility, action is not taken with the necessary safety and legal support (for example, in many States of the Region, the accident site is under the responsibility of the accident investigators. Is passenger baggage the responsibility of the investigators? Do we have specific forms for transferring the responsibility of keeping in custody the baggage for the operator? Do we keep record of all the material that must be turned over to the operator?).
 - What experts are available in each State? What experts are not available in the States and which could be requested from other States?
 - Do we have an updated list of AIG contacts in the other States? Or do we only have the office phone numbers? Could the AIG body prepare a list of mobile phones of focal points?

Under this item, the participants took note of the complex coordination arrangements required when handling major accident investigations.

3.1 **Relevant points on this issue:**

- a) Need to develop an Emergency Response Plan that involves all State bodies (AIG, CAA, police, prosecutor's office, hospitals, etc.) to ensure an efficient and coordinated response.

Item 4 Use of experts – Skills required

- a) The generation of documentation and standards is the task of the States, but how can we do this if we have different requirements? Is it possible to define what are the skills required of investigators? How to use the experts? Are State funds required for the conduction of courses in all specialties? The solution could be to use different experts.
- The coordinator of the seminar presented a table listing the experts generally used in an investigation. The participants made comments based on this table.
 - The participants identified the specialties that would not require a specific course, but required a familiarisation course.
 - The participants noted the importance of having a legal expert who is familiar with accident investigation rules and standards, and agreed that better use should be made of such an expert in all circumstances.
 - Upon completion of the work, a manual on specialties suggested for the conduction of aircraft accident investigations was presented. This material is posted on the seminar website.

Item 5**Accident response plan****Item 5: Accident response plan**

- a) Analysis of major occurrences in the Region, in which, in addition to the investigation itself, the State was called upon to assist on issues unrelated to the investigation (baggage claim, press briefings, international relations, etc.).

Do we have the possibility of learning and being prepared for an occurrence? Or do we have to wait for each State to face a crisis? The best solution is to share lessons learned.

- b) The expert of Colombia made a brief presentation of the work done by the accident investigation team in the case of an accident involving an aircraft of another State carrying passengers of a third State: coordination among three States of the Region.

- In the end, a model emergency response plan was presented, which can be used by the States:
 - ✓ this plan **is not mandatory** and lacks the material to be used by the State to develop a plan tailored to its own structures and reality;
 - ✓ it is suggested that stakeholders start discussing the arrangements and coordination procedures required for a State response to a major accident; and
 - ✓ the ICAO Lima Office could assist States in the development of their plans, regulations and policies, as applicable.

Item 6: International airports – Collecting information

- a) Would it be necessary to have information available about all the international airports of each State? In this regard, the participants were invited to share their views about existing and required information in case of using multinational investigators. Within the ARCM structure, States started to consider the development of a database containing information about their international airports.

Conclusions

- The participants addressed the issue and considered it of vital importance to have more information about their airports, with contact points of all those involved in aircraft activities, information about the equipment available to investigators, runway charts, manoeuvring and taxiing areas, etc.
- A model airport information form was sent by mail to all the participants to help standardise data.
- The participants agreed that this issue should be first addressed by AIG bodies in order to generate data for internal use, and then by the ARCM in order to share information at a regional level.

Item 7: Fatigue – Can it be measured?

a) Presentation of the work model developed by Brazil, with the participation of CENIPA, universities, airlines, representative associations, etc. Considering that many of the participants were from the air traffic area, Mr. Roberto Sosa, Regional Air Navigation and Safety Officer (ICAO, Lima) was invited to describe the steps required to develop an assessment methodology for air traffic controllers.

Conclusions

- The material developed by the team of Brazil is available on the seminar website (in Portuguese only), for use by all States.
- States shall keep an eye on the work carried out in the air traffic area y have a more active participation in the development of other fatigue measuring tools.

Item 8: ECCAIRS – Standardising information

a) Presentation of the manuals developed by the ICAO Lima Office to serve as a basis for standardising the data entered in the ARCM SDCPS system.

Conclusions

- The material developed by the ICAO Lima Office is available on the seminar website (in Spanish only) for use by all States. Translation into English is underway;
- A working paper will be presented by the ICAO Lima Office at the Fifth meeting of ARCM AIG authorities (SAM ARCM AIG-5);
- The ICAO Lima Office will be delivering a new distance-learning course on the system (initially in Spanish and subsequently in English). This course will be addressed to all those involved in safety management, but for monitoring purposes, indications must come from the AIG body or the civil aviation authority.