



**SOUTH AMERICAN AIG REGIONAL  
COOPERATION MECHANISM**



**INTERNATIONAL CIVIL AVIATION  
ORGANIZATION**

**FOURTH SOUTH AMERICAN AIG AUTHORITIES  
MEETING  
(AIG-SAM/04)**

**FINAL REPORT**

**BRASILIA, BRAZIL, FROM 23 TO 25 MAY 2017**

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c) <i>Assistance to victims of aircraft accidents and support to their families by the AIG authority.</i>	
d) <i>Presentation of the activities being carried out by the Regional Aviation Safety Group – Pan America (RASG-PA), the Regional Aviation Safety Team – Pan America (PA-RAST) and the Mid-air collision (MAC) team</i>	
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f) <i>Funds for the sustenance of the Regional cooperation mechanism (ARCM);</i>	
g) <i>3D aviation accident reconstruction and analysis system;</i>	
h) <i>Proposal for the incorporation of the Air Crash Victims’ Families’ Federation International (FIVA AF) as a member of the ARCM with the status of special observer.</i>	

## **HISTORY OF THE MEETING**

### **ii. 1 Venue and duration of the Meeting**

The Fourth South American AIG Authorities Meeting (AIG-SAM/4) was held at the facilities of the Aircraft Accident Investigation and Prevention Centre - CENIPA, in the city of Brasilia, Brazil, on 23 to 25 May 2017.

### **ii.2 Inaugural ceremony**

Mr. Franklin Hoyer, Director of the ICAO South American Regional Office and Mrs. Ana Pamela Suárez, Chairperson of the Executive Committee of the South American AIG Regional Cooperation Mechanism (ARCM) and of the Civil Aviation Accident Investigation Board (*Junta de Investigación de Accidentes de Aviación Civil - JIAAC*) of Argentina, welcomed the participants. Mr. Roberto Fernandez Alves, Deputy-Chief of the Aircraft Accident Investigation and Prevention Centre (CENIPA), delivered the opening speech and officially inaugurated the Meeting.

### **ii.3 Organisation of the Meeting**

The AIG-SAM/4 Meeting reckoned with the participation of Mr. Franklin Hoyer, Director of the ICAO South American Regional Office, Mrs. Ana Pamela Suárez, Chairperson of the Executive Committee of the South American ARCM, and Mr. Roberto Fernandez Alves, Deputy-Chief of the Aircraft Accident Investigation and Prevention Centre (CENIPA). Mr. Marcelo Ureña, Safety Officer of the ICAO South American Regional Office, Mr. Alexandre Lima Prado, AIG expert of the ICAO South American Regional Office, and Mr. Daniel Barafani, Head of the Operational Investigation Department of the Civil Aviation Accident Investigation Board (*Junta de Investigación de Accidentes de Aviación Civil - JIAAC*) of Argentina, acted as co-secretaries of the Meeting. Mrs. Ana Pamela Suárez was elected Chairperson of the Meeting.

### **ii.4 Work languages**

The work languages of the Meeting were Portuguese, Spanish and English, and simultaneous interpretation services were provided. The working papers, information papers, and the preliminary report of the Meeting were available to the delegates in English and in Spanish.

### **ii.5 Schedule and work modality**

The Meeting agreed to hold its sessions from 09:00 to 17:00 hours, with the required breaks. The Meeting was held in plenary sessions. At the end of the Meeting, the Secretariat prepared a preliminary report for consideration by the Meeting, containing the measures to be taken and the agreements reached.

**ii.6            Agenda**

**Agenda Item 1:            Tentative agenda and explanatory notes**

**Agenda Item 2:            AIG cooperation agreement among ARCM States**  
a) AIG cooperation agreement among ARCM States

**Agenda Item 3:            Revision of AIG regulations**  
  
a) Proposal of amendment of AIG State regulation, in accordance with Amendment 15 to Annex 13

**Agenda Item 4:            Progress made in the implementation of the ARCM Safety data collection and processing system (SDCPS)**  
  
a) Progress made in the implementation of the ARCM Safety data collection and processing system (SDCPS)

**Agenda Item 5:            Investigation of non-serious incidents**  
  
a) Non-serious incident investigation alternatives

**Agenda Item 6:            Report on compliance with the 2016 ARCM activity programme**  
  
a) 2016 ARCM activity programme

**Agenda Item 7:            Status of the ARCM activity programme approved for 2017**

**Agenda Item 8:            South American ARCM multinational investigator certification**  
  
a) South American ARCM multinational investigator certification process and current status

**Agenda Item 9:            Results of the assessment carried out by the ARCM runway excursion (RE) task force regarding REs occurred in the SAM Region in 2016**

**Agenda Item 10:           2016 ARCM safety report**

**Agenda Item 11: Case studies: analysis of the accidents involving the following aircraft: EMBRAER 190 of TAME, AVRO of LAMIA, and BOEING 727 of AEROSUCRE**

**Agenda Item 12: Other matters**

- a) Proposal of venue for the Fifth South American AIG Authorities Meeting (AIG-SAM/5).
- b) Contribution to the environment during aircraft accident investigations.
- c) Assistance to victims of aircraft accidents and support to their families by the AIG authority.
- d) Presentation of the activities being carried out by the Regional Aviation Safety Group – Pan America (RASG-PA), the Regional Aviation Safety Team – Pan America (PA-RAST) and the Mid-air collision (MAC) team.
- e) Second Global Runway Safety Symposium (GRSS).
- f) Funds for the sustenance of the Regional cooperation mechanism (ARCM).
- g) 3D aviation accident reconstruction and analysis system.
- h) Proposal for the incorporation of the Air Crash Victims’ Families’ Federation International (FIVA AF) as member of the RCM with the status of special observer.

**ii.7 Attendance**

The Meeting was attended by 11 States of the SAM Region, one observer State, and four industry representatives, totalling 29 delegates, as shown in the list of participants.

**ii.8 List of conclusions**

Number	Title	Page
AIG-SAM/4-01	Signing of the Multinational technical cooperation agreement among Aircraft accident and incident investigation authorities of the South American ARCM member States	2-1
AIG-SAM/4-02	Approval of Amendment 2 to the First edition of the (ARCM) AIG State Regulation to incorporate Amendment 15 to Annex 13, and development of a pilot project for its implementation	3-2
AIG-SAM/4-03	Complete the implementation of ADREP/ECCAIRS systems in all ARCM States and support States in the surveying and entry of safety data into their ADREP/ECCAIRS and SDCPS platforms	4-1
AIG-SAM/4-04	Establishment of a working group consisting of AIG and SSP experts of the States to analyse and develop a process for identifying types of incident (serious/non-serious) subject to investigation and assignment	5-2
AIG-SAM/4-05	Approval of Revision 1 of the 2017 ARCM activity programme	7-1
AIG-SAM/4-06	Designation of investigators to be considered as ARCM multinational investigators in AIG cooperation activities	8-2
AIG-SAM/4-07	Deepen the analysis of runway excursions (REs) in order to propose further mitigation measures to the States	9-2

AIG-SAM/4-08	Completion of data, implementation of quality procedures, and development of reliable safety reports	10-2
AIG-SAM/4-09	Incorporation of an environmental protection protocol in investigation procedures at the site of the accident	12-1
AIG-SAM/4-10	Development of coordination procedures to assist the families of victims of an aircraft accident	12-1
AIG-SAM/4-11	Circulation of WP/18 – Funding to support the South America AIG Regional Cooperation Mechanism (ARCM), for analysis by ARCM AIG Authorities	12-2

**ii.9 List of recommendations**

Number	Title	Page
AIG-SAM/4-01	Generate and/or strengthen proper training activities	9-2

**ii.10 List of working papers and information papers**

N°	Item	Title	Presented by
<b>Working Paper</b>			
WP/01	1	Draft agenda, explanatory notes and working schedule	Chairperson of the ARCM
WP/02	2	Status of the AIG cooperation agreement among ARCM states	It will not be presented, only uploaded at webpage
WP/03	3	AIG regulations revision a) Proposals for amendment of AIG state regulation in accordance with Amendment 15 of Annex 13	Secretariat Alexandre Prado
WP/04	-	Cancelled	
WP/05	4	Progress made in the safety data collection and processing system (SDCPS)	Secretariat Víctor Godoy
WP/06	4	SDCPS data quality	Secretariat Víctor Godoy
WP/07	5	Investigation of non-serious incidents a) Investigation of non-serious incidents alternatives	Working Group Daniel Barafani
WP/08	6	Compliance with the 2016 ARCM Programme of activities	It will not be presented, only uploaded at webpage
WP/09	7	Review and approval of the 2017 ARCM activity programme	It will not be presented, only uploaded at webpage
WP/10	8	Certification of South America ARCM multinational investigators a) Certification process of ARCM multinational investigator certification and present status	Secretariat Alexandre Prado
WP/11	9	Results of the analysis conducted by the runway excursions (RE) working group	Working Group Daniel Barafani / Julián Echeverri
WP/12	10	ARCM flight safety reports	Working Group Victor Godoy Daniel Barafani
WP/13	12	Other matters a) Venue for the Fifth Meeting of AIG Authorities (AIG-SAM/5)	Chairperson of the ARCM
WP/14	12	Other matters b) Contribution to the environment during the aircrafts accidents investigation	Argentina Daniel Barafani

N°	Item	Title	Presented by
WP/15	12	Other matters c) Assistance to victims of aeronautical accidents and support to their families from the AIG Authority	Argentina Daniel Barafani
WP/16	12	Other matters d) Presentation of the activities being developed by the Regional Aviation Safety Group – Panamerica (RASG-PA), Pan America — Regional Aviation Safety Team (PA-RAST) and near miss collisions (MAC) team	RASG-PA Adriano Monteiro
WP/17	12	Other matters e) Second Global Runway Safety Symposium (GRSS/2), Lima, Peru, from 20 to 22 November 2017	Secretariat
WP/18	12	Other matters f) Funds for sustaining the AIG Regional Cooperation Mechanism (ARCM)	Argentina
WP/19	12	Other matters g) 3D aviation accidents reconstruction and analysis system	Brazil Cesar Medeiros
WP/20	12	Other matters h) Proposed incorporation of the Air Crash Victims' Families' Federation International (ACVFFI) as member of the ARCM as special observer	Chairperson of the ARCM
<b>Information Papers</b>			
IP/01	--	General information	Secretariat
IP/02	--	List of working papers and information papers	Secretariat
IP/03	12	ARCM web page enhancement	Secretariat V́ctor Godoy
IP/04	12	Migration from SDCPS to SAM Regional Office	Secretariat Arturo Martinez

***Working papers and information papers can be found at the Meeting website:***

<http://www2010.icao.int/SAM/Pages/MeetingsDocumentation.aspx?m=2017-AIGSAM04>

and/or

[http://www2010.icao.int/SAM/Pages/ES/MeetingsDocumentation\\_ES.aspx?m=2017-AIGSAM04](http://www2010.icao.int/SAM/Pages/ES/MeetingsDocumentation_ES.aspx?m=2017-AIGSAM04)



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**LIST OF PARTICIPANTS**

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2. Oscar Daniel Barafani
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4. Ernesto Saavedra Suarez

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6. Marcelo Moreno
7. Frederico Alberto Marcondes Felipe
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9. Jorge Henrique Continho de Castro
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24. Alexandre Prado

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27. Paul Jouas (ATR Aircraft)
28. Paulo Soares (EMBRAER)
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**Agenda Item 1:           Approval of the Agenda and schedule of the Meeting**

1.1           The Secretariat presented WP/01 and invited the participants of the Meeting to approve the agenda and the provisional schedule of the Fourth South American AIG Authorities Meeting (AIG-SAM/4). The participants of the Meeting approved the work programme, as shown in the history of the Meeting, and the schedule, as shown in **Appendix B** to WP/01.

WP/01 is available at:  
[http://www2010.icao.int/SAM/Documents/2017-AIGSAM04/AIGSAM4\\_WP01.pdf](http://www2010.icao.int/SAM/Documents/2017-AIGSAM04/AIGSAM4_WP01.pdf)

**Agenda Item 2: AIG cooperation agreement among ARCM States**

2.1 On this agenda item, the Meeting took note that Brazil and Chile had not yet signed the AIG Cooperation Agreement among ARCM States.

2.2 In this regard, the representative of Brazil informed the Meeting that he had been authorised to sign the Agreement, and so he proceeded to sign it.

2.3 In this sense, the Meeting requested Chile to sign the Agreement as soon as possible and adopted the following conclusion:

**CONCLUSION AIG-SAM/4-01      Signing of the Multinational technical cooperation agreement among Aircraft accident and incident investigation authorities of the South American ARCM member States**

- a) Deposit the Agreement signed by CENIPA of Brazil with the ARCM Technical Committee.
- b) Urge the AIG Authority of Chile to sign the Agreement as soon as possible.
- c) **Appendix A** to this agenda item contains the Agreement signed by CENIPA of Brazil.

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**MULTINATIONAL TECHNICAL COOPERATION AGREEMENT AMONG  
AIRCRAFT ACCIDENT AND INCIDENT INVESTIGATION AUTHORITIES OF  
MEMBER STATES OF THE AIG REGIONAL COOPERATION MECHANISM  
(ARCM) OF SOUTH AMERICA**

**PREAMBLE**

The parties to this Agreement are the aircraft accident and incident investigation authorities of the South American States.

**Whereas** the International Civil Aviation Organization (ICAO) is the international body created by the 1944 Convention on International Civil Aviation (Chicago Convention) having as its main objectives the safe and orderly development of international civil aviation, the implementation and adoption of the principles and provisions of the Chicago Convention, including standards and recommended practices concerning accident and incident investigation and other matters connected with the safety and efficiency of air navigation;

**Whereas** Article 26 of the Convention provides that a State in which an accident occurs “will institute an inquiry into the circumstances of the accident in accordance, so far as its laws permit, with the procedure which may be recommended by the International Civil Aviation Organization”;

**Whereas** Annex 13 to the Convention specifies standards and recommended practices (SARPs) for the conduct of aircraft accident and incident investigations on the part of States to meet their obligations under Article 26 of the Convention;

**Recognising** that ICAO audits and coordinated validation missions (ICVM) conducted within the framework of the Universal safety oversight audit programme continuous monitoring approach (USOAP-CMA) have shown that many Contracting States have not established and/or managed effective accident and incident investigation organisations, primarily because of difficulties in the allocation of more resources to their organisations to meet their obligations under the Convention and Annex 13 to the Convention;

**Taking into account** the recommendations of the Accident Investigation and Prevention (AIG) Divisional Meeting (2008) (AIG/08) held in Montreal, Canada, from 13 to 18 October 2008, and in particular Recommendation 6/3 a), urging Contracting States to conduct safety investigations pursuant to Article 26 of the Chicago Convention and Annex 13 when an accident occurs in their territory, and to obtain regional support if the required capabilities or resources are not available;

**Taking into account** that Chapter 5 of Annex 13 includes the possibility for the State of occurrence to delegate the whole or any part of the conducting of an investigation in another State to a regional accident and incident investigation organisation by mutual arrangement and consent;

**Considering** that the 38<sup>th</sup> Session of the ICAO Assembly resolved, in Appendix N – Cooperation among member States concerning aircraft accident investigations, to recommend member States to cooperate in the investigation of aircraft accidents, especially accidents in which the investigation requires highly-specialised experts and facilities, and that to this end, Member States and regional accident and incident investigation organisations (RAIOs), to the extent possible, *inter alia*:

- a) provide, on request by other Member States, expert assistance and facilities for the investigation of major aircraft accidents; and

- b) afford opportunity to Member States seeking investigation experience to attend the investigation of aircraft accidents, in the interest of developing and furthering investigation expertise.

**Recalling** that the First AIG Meeting of the SAM Region (AIG/SAM-1), held from 18 to 20 March 2014 at the ICAO South American Regional Office, agreed on the strategy for moving towards the creation of a Regional AIG Cooperation Mechanism (ARCM) in the SAM Region, as one of the forms of a RAIO, that would allow Member States facing difficulties to meet their international obligations in terms of accident investigation, to meet those obligations by pooling efforts and sharing resources that they would otherwise not be able to obtain.

**Considering** that AIG authorities of the South American States agreed at the Second AIG Meeting of the SAM Region (AIG/SAM-2), held in Buenos Aires, Argentina, from 9 to 11 June 2015, to establish a Regional AIG Cooperation Mechanism (ARCM) and approved its regulations, procedural handbooks, training programme, and the regional database.

**Considering** the need to further an agreement among AIG authorities of the South American ARCM Member States with a view to formalising and increasing cooperation and collaboration in accident and incident investigation.

**Considering** that one of the objectives of the ARCM is to support and assist the AIG authorities of the States that so request it in aspects related to aircraft accident and incident investigation within a context of regional cooperation that contributes to improve effective implementation in the AIG area.

**Considering** that an aspiration of the States is to ensure that AIG authorities of the South American Region apply the highest standards in aircraft accident and incident investigation processes.

**Therefore**, the AIG authorities of the States of Argentina, Bolivia, Brazil, Chile, Colombia, Ecuador, Guyana, Panama, Paraguay, Peru, Suriname, Uruguay, and Venezuela.

**HAVE AGREED TO THE FOLLOWING:**

## **ARTICLE 1**

### **Application of the Agreement**

The Agreement will govern cooperation in aircraft accident and incident investigation among aircraft accident and incident investigation authorities of States that are party to the Regional AIG Cooperation Mechanism (ARCM) of South America.

## **ARTICLE 2**

### **Objective**

The objective of this Agreement is to facilitate multinational technical cooperation in aircraft accident and incident investigation, including technical assistance by investigators in the investigation of aircraft accidents and serious incidents, training of investigation personnel, and

mainly material and equipment testing, whenever requested by an AIG authority of a member State, the required means are available, and the other AIG authorities of the other ARCM Member States agree to facilitate the requested cooperation. Resources to be provided under this agreement include:

- a) investigators or other specialists related to the AIG field, for example, experts in the ADREP/ECCAIRS system;
- b) technical facilities;
- c) equipment related to the investigation of accidents and serious incidents;
- d) training, including on-the-job training (OJT) opportunities, either observing or participating in an investigation, and availability of instructors and/or training materials;
- e) flight data recorder and cockpit voice recorder readings, excluding the analysis of recovered data and noise, for the purpose of investigating accidents and serious incidents;
- f) material and fluid testing; and
- g) drafting of documents and other publications, such as final reports, bulletins, manuals, provisional statements, and other public documents.

### **ARTICLE 3**

#### **Cooperation among AIG authorities of ARCM States**

1. Under this Agreement, AIG authorities of ARCM Member States may provide technical assistance in the resources mentioned in Article 2 of this Agreement, when so requested by an AIG authority of another Member State, and the terms of the required cooperation are agreed upon, and they have the capacity to do so.
2. The AIG authorities in charge of the investigation may request technical assistance from other AIG authorities of ARCM States to cooperate in the investigation of accidents and serious incidents. However, the AIG authorities in charge of the investigation will be responsible for the investigation as a whole, in accordance with the provisions of Annex 13 to the Chicago Convention.
3. The AIG authority of the State providing the required services will determine if the circumstances allow for assistance to be provided to the petitioner, in which case the terms governing such assistance will be determined by common agreement among the Parties.
4. The request for cooperation will be submitted to the Chairperson of the Executive Committee of the ARCM.
5. The assistance provided under this agreement will be offered in accordance with national AIG documentation harmonised with ARCM AIG documentation.

### **ARTICLE 4**

#### **Training cooperation methods**

When an investigation in one of the ARCM States is in a particular area of interest of the AIG authority of another State, or in an area in which the latter does not have resources or technical expertise, said authority may request that an AIG specialist participate in the investigation as an observer, who will be under the control and direction of the investigator in charge, for purposes of on-the-job training (OJT). Participation as an observer will imply compliance with all

information protection measures resulting from the application of applicable regulations of the State conducting the investigation, as well as signing current confidentiality agreements to preserve the confidential nature of the information.

## **ARTICLE 5**

### **Methods for participating as investigator or specialist in an investigation**

When an AIG authority of the ARCM States requests the participation of an investigator or specialist in the investigation of an accident or serious incident as an investigator or advisor, the latter will be under the control and direction of the investigator in charge of the investigation. Participation as an investigator or advisor implies compliance with all information protection measures derived from the applicable regulations of the State conducting the investigation, as well as signing current confidentiality agreements to preserve the confidential nature of the information.

## **ARTICLE 6**

### **Method of operation for testing materials**

When an AIG authority of the ARCM States requests from another AIG authority the conduction of a material test of a part corresponding to an aircraft involved in an accident, the former will be responsible for delivering the element to the laboratory where such testing will take place, and also for its retrieval. It will also be responsible for all administrative and export formalities required for the delivery of the element.

## **ARTICLE 7**

### **Method for reading the FDR or CVR**

When an AIG authority of the ARCM States requests another AIG authority to obtain data from an FDR or CVR corresponding to an aircraft involved in an accident, it will be responsible for the delivery of the element to the laboratory where such testing will take place, as well as of its retrieval. It will also be responsible for all administrative and export formalities required for the delivery of the element.

## **ARTICLE 8**

### **Confidentiality and information protection**

The data, records, recordings, statements, communications, and reports to which one of the parties might have access as a result of its collaboration with the other will be subject to the confidentiality and information protection measures of the State of the party that provides them, and their dissemination or assignment to third parties will be subject to the conditions and obligations contained in such regulatory provisions.

## **ARTICLE 9**

### **Financial aspects**

The AIG authority of the State requesting the cooperation of another AIG authority of another ARCM State will cover air travel expenses and *per diems* resulting from such cooperation, in accordance with ICAO *per diem* rates.

## ARTICLE 10

### Entry into force, duration, and withdrawal

1. This Agreement shall be signed and deposited by the AIG authorities of the respective States with the ARCM Technical Committee, through the Chairperson of the Executive Committee.
2. This Agreement will enter into force immediately upon signature by at least three AIG authorities of ARCM States. Thereafter, it will come into force for the other AIG authorities of ARCM States immediately after at least three AIG authorities of ARCM States have signed this Agreement.
3. The AIG authorities of the States agree that the Chairperson of the ARCM Executive Committee shall notify the entry into force of this Agreement to them, as well as the signatures and deposits received after the entry into force of this Agreement.
4. Any Party that elects to withdraw from this Agreement will forward an official notification of its intent to withdraw to the Chairperson of the ARCM Executive Committee. The withdrawal will take effect one year after the date of the receipt by the Chairperson. The withdrawal will be without prejudice to any obligation incurred by the withdrawing party under this Agreement prior to such withdrawal. This Agreement will continue to be in force thereafter with respect to the other Parties.

## ARTICLE 11

### Accession

1. This Agreement, once in force, will remain open to accession by other AIG authorities of other Contracting States of the Convention on International Civil Aviation that are not ARCM members, upon approval by the ARCM Executive Committee. The ARCM Technical Committee will be the depository of the Agreement and accession requests will be submitted to the Chairperson of the ARCM Executive Committee.
2. Requests by entities or other bodies interested in becoming a party to the ARCM as special observers shall be submitted to the Chairperson of the ARCM Executive Committee, who will initiate the corresponding administrative process. Accession will be granted to entities or other interested bodies upon approval by the ARCM Executive Committee.
3. Any other AIG authority of another State that wishes to become a party to this Agreement shall submit an accession request to the Chairperson of the ARCM Executive Committee, and may do so upon approval by the other AIG authorities of ARCM Member States and upon signature of the Agreement.
4. In case of accession, this Agreement will enter into force for the party acceding, thirty days after the date of signature.

## ARTICLE 12

## **Dissolution**

The Agreement may be dissolved by the AIG Authorities of Member States.

## **ARTICLE 13 Amendment of the Agreement**

1. This Agreement may be amended by the agreement of the AIG authorities of the ARCM member States.
2. The AIG authorities of the member States may submit proposals for the amendment of this Agreement.
3. Any proposal for amendment will be submitted in writing to the Chairperson of the ARCM Executive Committee who will, within thirty (30) days of its receipt, communicate the proposed amendment to the AIG authorities of ARCM member States.
4. The AIG authorities of ARCM member States that wish to make comments concerning the proposal may do so within ninety (90) days from the date of its delivery by the Chairperson of the ARCM Executive Committee.
5. Proposals and comments received in this regard from AIG authorities of the ARCM Member States will be submitted at the following meeting of the ARCM Executive Committee for approval.
6. Any amendment to this Agreement will be valid only when adopted by the AIG authorities of the ARCM member States, and will enter into force once approved by all the AIG authorities of ARCM member States.

IN WITNESS WHEREOF, the AIG authorities sign this Agreement on this seventh day of March in the year two thousand and sixteen

**ACUERDO DE COOPERACIÓN TÉCNICA MULTINACIONAL ENTRE LAS  
AUTORIDADES DE INVESTIGACIÓN DE ACCIDENTES E INCIDENTES DE  
AVIACIÓN DE LOS ESTADOS MIEMBROS DEL MECANISMO REGIONAL DE  
COOPERACIÓN AIG (ARCM) DE SUDAMÉRICA**

**PREÁMBULO**

Las partes en el presente Acuerdo son las autoridades de investigación de accidentes e incidentes de aviación de los Estados de Sudamérica.

**Considerando** que la Organización de Aviación Civil Internacional (OACI) es el organismo internacional creado por el Convenio sobre Aviación Civil Internacional de 1944 (el Convenio de Chicago) que tiene como sus principales objetivos el desarrollo seguro y ordenado de la aviación civil internacional, la aplicación y adopción de los principios y disposiciones del Convenio de Chicago, incluyendo las normas y métodos recomendados relativos a la investigación de accidentes e incidentes y otros asuntos relacionados con la seguridad operacional y la eficiencia de la navegación aérea;

**Considerando** que el Artículo 26 del Convenio dispone que todo Estado en donde ocurra un accidente “abrirá una encuesta sobre las circunstancias del mismo, ajustándose, en la medida que lo permitan sus leyes a los procedimientos que pueda recomendar la Organización de Aviación Civil Internacional”;

**Considerando** que el Anexo 13 al Convenio especifica las normas y métodos recomendados (SARPS) para la realización de investigaciones de accidentes e incidentes de aviación que han de seguir los Estados para cumplir con sus obligaciones en virtud del Artículo 26 del Convenio;

**Reconociendo** que los resultados de las auditorías y de las misiones de validación coordinadas de la OACI (ICVM) realizadas en el marco del enfoque de observación continua del Programa universal de auditoría de la vigilancia de la seguridad operacional (USOAP-CMA) indican que muchos Estados contratantes no han establecido y/o gestionado organizaciones eficaces de investigación de accidentes e incidentes, debido principalmente a las dificultades que tienen para asignar mayores recursos a sus organizaciones y cumplir sus obligaciones en virtud del Convenio y del Anexo 13 al Convenio;

**Teniendo en cuenta** las recomendaciones formuladas por la Reunión departamental de investigación y prevención de accidentes (AIG) (2008) (AIG/08) celebrada en Montreal, Canadá, del 13 al 18 de octubre de 2008, y en particular la Recomendación 6/3 a), en la que se insta a los Estados contratantes a que realicen investigaciones de seguridad operacional con arreglo al Artículo 26 del Convenio de Chicago y el Anexo 13 cuando ocurra un accidente en su territorio y a que procuren apoyo regional si no se dispone de capacidades o recursos;

**Teniendo en cuenta** que el Capítulo 5 del Anexo 13 incluye la posibilidad que el Estado del suceso pueda delegar total o parcialmente, la realización de la investigación en otro Estado u organización regional de investigación de accidentes e incidentes, por acuerdo y consentimiento mutuos;

**Considerando** que el 38º período de sesiones de la Asamblea de la OACI resolvió, mediante el Apéndice N - Cooperación entre los Estados miembros en las investigaciones de accidentes de aviación, recomendar a los Estados miembros que cooperen en la investigación de accidentes de aviación, especialmente accidentes en los que la investigación requiere expertos e instalaciones altamente especializados, y que para este fin los Estados miembros y las organizaciones regionales de investigación de accidentes e incidentes (RAIO), en la medida de lo posible, entre otras cosas:

- a) proporcionen, a solicitud de otros Estados miembros, ayuda e instalaciones especializadas para la investigación de accidentes de aviación de gran magnitud; y
- b) brinden la oportunidad a los Estados miembros que desean adquirir experiencia en investigaciones, para que asistan a las investigaciones de accidentes de aviación, en interés del desarrollo y fomento de la investigación especializada.

**Recordando** que en la Primera Reunión AIG de la Región SAM (AIG/SAM-1), celebrada del 18 al 20 de marzo de 2014 en la Oficina Regional Sudamericana de la OACI, en Lima, Perú, se acordó la estrategia para avanzar hacia la formación de un Mecanismo Regional de Cooperación AIG (ARCM) en la Región SAM, como una de las formas de una RAIO, que permita que sus Estados miembros que tengan dificultades en atender sus obligaciones internacionales en materia de investigación de accidentes puedan cumplir dichas obligaciones uniendo esfuerzos y compartiendo recursos que de otra manera no podrían obtener.

**Considerando** que en la Segunda Reunión AIG de la Región SAM (AIG/SAM-2), celebrada en Buenos Aires, Argentina, del 09 al 11 de junio de 2015, las autoridades AIG de los Estados de Sudamérica, acordaron el establecimiento del Mecanismo Regional de Cooperación AIG (ARCM) y la aprobación de sus reglamentos, manuales de procedimientos, programa de instrucción y de la base de datos regional.

**Considerando** que es necesario propiciar un Acuerdo entre las autoridades AIG de los Estados miembros del ARCM de Sudamérica, con el objeto de formalizar y acrecentar la cooperación y colaboración respecto a la investigación de accidentes e incidentes.

**Considerando** que entre los objetivos del ARCM se encuentra el apoyar y asistir a las autoridades AIG de los Estados que lo soliciten en los aspectos relacionados con la investigación de accidentes e incidentes de aviación en un ambiente de cooperación regional que permita mejorar la aplicación eficaz en el área AIG.

**Considerando** que es una aspiración de los Estados asegurar los más altos estándares en los procesos de investigación de accidentes e incidentes de aviación de las autoridades AIG de la Región Sudamericana.

**Por consiguiente**, las autoridades AIG de los Estados de Argentina, Estado Plurinacional de Bolivia, Brasil, Chile, Colombia, Ecuador, Guyana, Panamá, Paraguay, Perú, Surinam, Uruguay y República Bolivariana de Venezuela.

**HAN ACORDADO LO SIGUIENTE:**

## **ARTÍCULO 1**

### **Aplicación del Acuerdo**

El Acuerdo regirá la cooperación entre las autoridades de investigación de accidentes e incidentes de aviación de los Estados miembros del Mecanismo Regional de Cooperación AIG (ARCM) de Sudamérica en el marco de la investigación de accidentes e incidentes de aviación.

## **ARTÍCULO 2**

### **Objetivo**

El objetivo de este Acuerdo es facilitar la cooperación técnica multinacional en el ámbito de la investigación de accidentes e incidentes de aviación que incluirá asistencia técnica con investigadores en la investigación de accidentes e incidentes graves de aviación, en la formación del personal de investigadores y en los ensayos de materiales y equipos principalmente, siempre que una autoridad AIG de un Estado miembro lo solicite y existan los medios necesarios y la aceptación por parte de las otras autoridades AIG de los otros Estados miembros del ARCM para facilitar la cooperación solicitada. Los recursos a ser cubiertos por este acuerdo incluyen:

- a) investigadores u otros especialistas afines al campo AIG, por ejemplo, especialistas en el sistema ADREP/ECCAIRS;
- b) instalaciones técnicas;
- c) equipos relacionados con la investigación de accidentes e incidentes graves;
- d) instrucción, incluyendo oportunidades para instrucción práctica en el puesto de trabajo (OJT), ya sea observando o participando en una investigación, y la disponibilidad de instructores y/o de materiales de instrucción;
- e) lecturas de registradores de datos de vuelo y registradores de voz de cabina, excluyendo el análisis de los datos y sonidos recuperados, con fines de investigación de accidentes e incidentes graves;
- f) ensayos de material y fluidos; y
- g) elaboración de documentos y otras publicaciones, tales como informes finales, boletines, manuales, declaraciones provisionales y otros documentos públicos.

## **ARTÍCULO 3**

### **Cooperación entre las autoridades AIG de los Estados del ARCM**

1. Las autoridades AIG de los Estados miembros del ARCM, al amparo de este Acuerdo, podrán proveer asistencia técnica en los recursos mencionados en el Artículo 2 de esta Acuerdo, cuando una autoridad AIG de otro Estado miembro lo solicite y estén de acuerdo con los términos de la cooperación requerida y tengan capacidad para ello.
2. Las autoridades AIG encargadas de la investigación podrán solicitar asistencia técnica de otras autoridades AIG de los Estados del ARCM para que colaboren en la investigación de accidentes e incidentes graves, no obstante, las autoridades AIG encargadas de la investigación serán responsables de la investigación en su totalidad, de acuerdo con las disposiciones del Anexo 13 al Convenio de Chicago.
3. La Autoridad AIG del Estado prestador de los servicios requeridos determinará si las circunstancias hacen posible que se preste la asistencia al solicitante, en cuyo caso se establecerán los términos por los cuales se regirá la misma, de común acuerdo entre las Partes.
4. La solicitud de cooperación será tramitada a través del/la Presidente del Comité Ejecutivo del ARCM.
5. La asistencia brindada conforme a este acuerdo será ofrecida en base a la documentación nacional AIG, armonizada con la documentación AIG del ARCM.

## **ARTÍCULO 4**

### **Métodos de cooperación en cuanto a capacitación**

Cuando una investigación en uno de los Estados del ARCM es en un área de particular interés de una autoridad AIG de otro Estado, o en un área donde este último no cuenta con recursos o experiencia técnica especializada, dicha autoridad podrá solicitar la participación de un especialista AIG en la investigación, en calidad de observador, quien estará bajo el control y dirección del investigador encargado para los fines de instrucción práctica en el puesto de trabajo (OJT). La participación como observador implicará el cumplimiento de toda medida de protección de la información que resultase de la aplicación de la reglamentación aplicable del Estado que realiza la investigación, así como la firma de compromisos de confidencialidad vigentes que preserven el carácter reservado de la información.

## **ARTÍCULO 5**

### **Métodos para participar como investigador o especialista en una investigación**

Cuando una autoridad AIG de los Estados del ARCM solicite la participación de un investigador o especialista en la investigación de un accidente o incidente grave, en calidad de investigador o asesor, éste estará bajo el control y dirección del investigador encargado de la investigación. La participación como investigador o asesor implica la observación de toda medida de protección de la información que resultase de la aplicación de la reglamentación aplicable del Estado que realiza la investigación, así como la firma de compromisos de confidencialidad vigentes que preserven el carácter reservado de la información.

## **ARTÍCULO 6**

### **Método de actuación para realizar un ensayo de material**

Cuando una autoridad AIG de los Estados del ARCM solicite a otra, la realización de un ensayo de material a una parte correspondiente a una aeronave accidentada, esta se hará cargo del envío del elemento hasta el laboratorio donde se realizará dicho ensayo, como así también de su recuperación. Además se encargará de realizar todos los trámites administrativos y de exportación necesarios para el envío del elemento.

## **ARTÍCULO 7**

### **Método de actuación para realizar la lectura de FDR o CVR**

Cuando una Autoridad AIG de los Estados del ARCM solicite a otra Autoridad AIG, la obtención de datos de un equipo FDR o CVR correspondiente a una aeronave accidentada, ésta se hará cargo del envío del elemento hasta el laboratorio donde se realizará dicho ensayo, como así también de su recuperación. Además se encargará de realizar todos los trámites administrativos y de exportación necesarios para el envío del elemento.

## **ARTÍCULO 8**

### **Confidencialidad y protección de la información**

Los datos, registros, grabaciones, declaraciones, comunicaciones, e informes a los que pudiera tener acceso una de las partes como consecuencia de su colaboración con la otra estarán sujetas a las medidas de confidencialidad y protección de la información del Estado de la parte que los proporciona y su divulgación o cesión a terceros estará sujeta a los condicionantes y obligaciones contenidas en dichas disposiciones reglamentarias.

## **ARTÍCULO 9**

### **Aspectos financieros**

La autoridad AIG del Estado que solicite la cooperación de otra autoridad AIG de otro Estado del ARCM, sufragará los gastos de pasajes aéreos y viáticos que dicha cooperación ocasione, de acuerdo con el régimen de viáticos de OACI.

## **ARTÍCULO 10**

### **Entrada en vigor, duración y retiro**

1. El presente Acuerdo deberá ser firmado y depositado por las autoridades AIG de los Estados respectivos en el Comité Técnico del ARCM a través del/la Presidente del Comité Ejecutivo.
2. El presente Acuerdo entrará en vigor inmediatamente después que al menos tres autoridades AIG de los Estados del ARCM hayan firmado y depositado el presente Acuerdo. De allí en adelante, entrará en vigor para las otras autoridades AIG de los Estados del ARCM que firmen posteriormente el presente Acuerdo.
3. Las autoridades AIG de los Estados acuerdan que el/la Presidente del Comité Ejecutivo del ARCM, les notifique la entrada en vigor del presente Acuerdo, así como las firmas y depósitos que se reciban con posterioridad a la entrada en vigor del presente Acuerdo.
4. Toda Parte que opte por retirarse del presente Acuerdo enviará una notificación oficial de su intención de retirarse al Presidente del Comité Ejecutivo del ARCM. Tal retiro surtirá efecto un año después de la fecha en que el/la Presidente del Comité Ejecutivo del ARCM reciba la mencionada notificación. El retiro será sin perjuicio de las obligaciones contraídas por la Parte que se retira en virtud de este Acuerdo antes de retirarse. El presente Acuerdo continuará en vigor de allí en adelante con respecto a las demás Partes.

## **ARTÍCULO 11**

### **Adhesión**

1. El presente Acuerdo, una vez vigente, quedará abierto a la adhesión de otras autoridades AIG de otros Estados contratantes del Convenio sobre Aviación Civil Internacional que no sean miembros del ARCM, previa aprobación del Comité Ejecutivo del ARCM. El Comité Técnico del ARCM será la depositaria del Acuerdo y las solicitudes de adhesión serán cursadas al Presidente del Comité Ejecutivo del ARCM.
2. Las solicitudes de entidades u otros organismos interesados en ser admitidos en el ARCM en la condición de observadores especiales, deberán ser cursadas al Presidente del Comité Ejecutivo del ARCM, para que dé inicio al proceso administrativo correspondiente. La

adhesión de entidades u otros organismos interesados será otorgada previa aprobación del Comité Ejecutivo del ARCM.

3. Toda otra autoridad AIG de otro Estado que desee ser Parte del presente Acuerdo deberá presentar al Presidente del Comité Ejecutivo del ARCM una solicitud de adhesión, dicha autoridad AIG podrá serla tras la aprobación de las otras autoridades AIG de los Estados miembros del ARCM y la firma del Acuerdo.
4. En caso de adhesión, este Acuerdo entrará en vigor para la Parte que se adhiere al mismo, treinta días después de la fecha de la firma.

## **ARTÍCULO 12**

### **Disolución**

El Acuerdo puede ser disuelto por las Autoridades AIG de los Estados miembros.

## **ARTÍCULO 13**

### **Enmienda del Acuerdo**

1. El presente Acuerdo puede ser enmendado por acuerdo de las autoridades AIG de los Estados miembros del ARCM.
2. Las autoridades AIG de los Estados miembros pueden presentar propuestas de enmienda al presente Acuerdo.
3. Toda propuesta de enmienda se presentará por escrito al Presidente del Comité Ejecutivo del ARCM, quien en el plazo de treinta (30) días de su recepción, comunicará la enmienda propuesta a las autoridades AIG de los Estados miembros del ARCM.
4. Las autoridades AIG de los Estados miembros del ARCM que deseen formular comentarios con respecto a la propuesta, pueden hacerlo dentro de un plazo de noventa (90) días a partir de la fecha de envío de la propuesta por el/la Presidente del Comité Ejecutivo del ARCM.
5. Las propuestas y comentarios que se reciban al respecto de las autoridades AIG de los Estados miembros del ARCM, serán presentados en la próxima reunión del Comité Ejecutivo del ARCM para aprobación.
6. Toda enmienda al presente Acuerdo será válida únicamente cuando las autoridades AIG de los Estados miembros del ARCM la hayan adoptado y entrará en vigor cuando haya sido aprobada por todas las autoridades AIG de los Estados miembros del ARCM.

EN FE DE LO CUAL, las autoridades AIG que suscriben firman el presente Acuerdo el día séptimo del mes de marzo en el año dos mil dieciséis.

*Autoridad AIG del Estado miembro del ARCM*

*Nombre y título del representante*

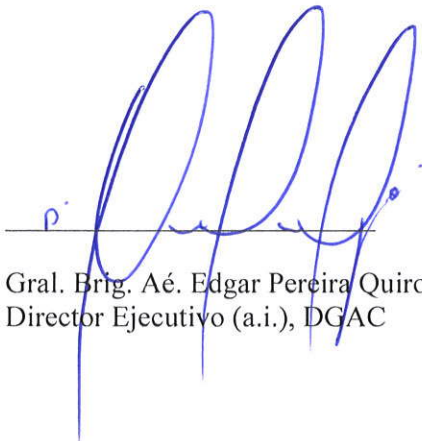
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JIAAC, Argentina



Sra. Ana Pamela Suárez  
Presidenta de la JIAAC

DGAC, Estado Plurinacional de Bolivia



Gral. Brig. Aé. Edgar Pereira Quiroga  
Director Ejecutivo (a.i.), DGAC

CENIPA, Brasil

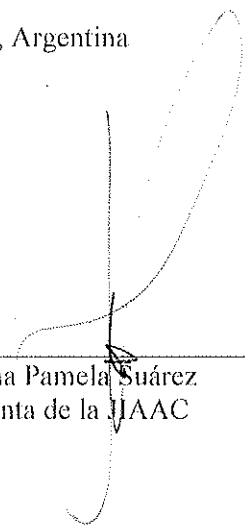
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Brig. Dilton José Schuck  
Jefe de CENIPA

EN FE DE LO CUAL, las autoridades AIG que suscriben firman el presente Acuerdo el día séptimo del mes de marzo en el año dos mil dieciséis.

*Autoridad AIG del Estado miembro del ARCM*  
*Nombre y título del representante*  
*firma/fecha*

JIAAC, Argentina



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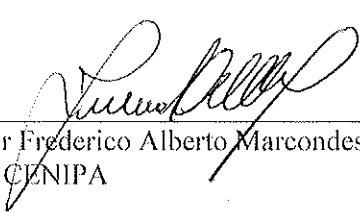
Sra. Ana Pamela Suárez  
Presidenta de la JIAAC

DGAC, Estado Plurinacional de Bolivia

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Gral. Brig. Aé. Edgar Pereira Quiroga  
Director Ejecutivo (a.i.), DGAC

CENIPA, Brasil



24/05/2017

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Brig. Ar Frederico Alberto Marcondes Felipe  
Jefe de CENIPA

DGAC, Chile

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General de Brigada Aérea (A) Víctor O. Villalobos,  
Director General, DGAC

UAEAC, Colombia

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Dr. Gustavo Alberto Lenis Steffens  
Director General UAEAC

DGAC, Ecuador

A handwritten signature in blue ink, appearing to be "Roberto Yero", written over a horizontal line.

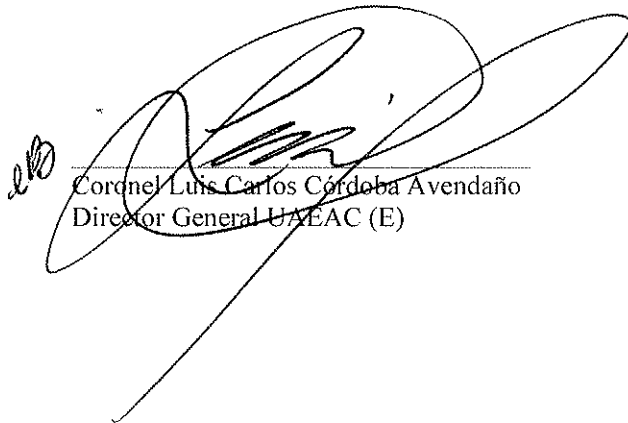
Capt. Roberto Yerovi de la Calle  
Director General, DGAC

DGAC, Chile

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General de Brigada Aérea (A) Víctor O. Villalobos,  
Director General, DGAC

UAEAC, Colombia



Cordnel Luis Carlos Córdoba Avendaño  
Director General UAEAC (E)

DGAC, Ecuador

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Capt. Roberto Yerovi de la Calle  
Director General, DGAC

Aircraft Accident and Incident Investigation Authority of Guyana

*Paula McAdam*

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Mrs. Paula McAdam  
Aircraft Accident Investigator

AAC, Panamá

*70R*  
*Alfredo Fonseca Mora*

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Ing. Alfredo Fonseca Mora  
Director General, AAC

DINAC, Paraguay

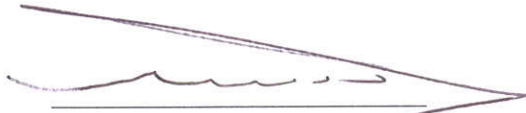
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Dr. Luis Manuel Aguirre  
Presidente de la DINAC

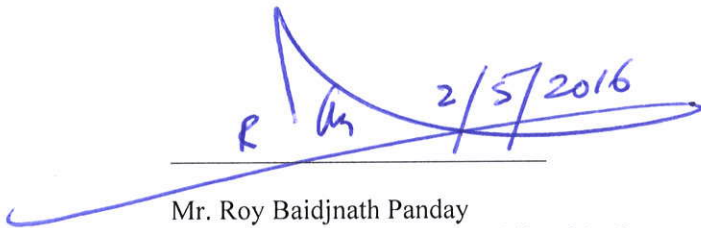


CIAA, Perú



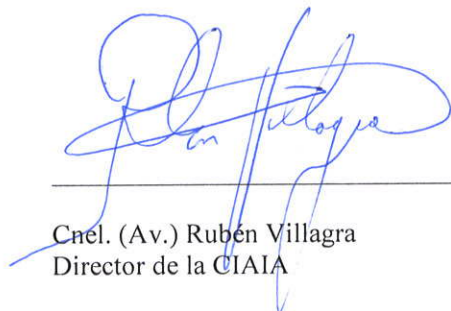
Sr. Fernando Melgar, Presidente  
CIAA, MTC

The Aircraft Accident and Incident Investigation Authorities of Suriname



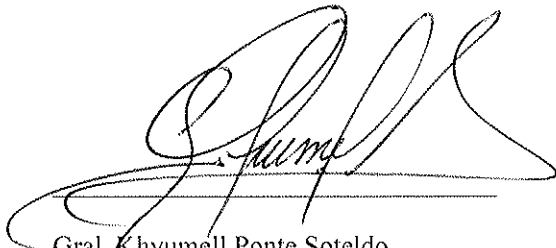
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Bureau d'Enquêtes et d'Analyses (BEA)  
Special observer of ARCM

*On behalf of BEA*



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Thierry Loo  
Senior Safety Investigator

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**Agenda Item 3: Revision of AIG regulations**

4.1 Under this agenda item, the Fourth AIG Authorities Meeting (AIG-SAM/4) took note of the proposals of amendment to the AIG State Regulation within the framework of the South American AIG Regional Cooperation Mechanism (ARCM), in accordance with Amendment 15 to Annex 13.

4.2 The Meeting took note that Amendment 15 was derived from the recommendations of the Safety Management Panel (SMP), the Safety Information Protection Task Force (SIP TF) and the Group of Experts on Protection of Accident and Incident Records (GEPAIR).

4.3 Amendment 15 to Annex 13 seeks to:

- a) improve protection of accident and incident investigation records;
- b) provide a means of protecting investigation records under custody or control of the accident investigation authority;
- c) prioritise the protection of records that are, by nature, more sensitive, that is, CVR and AIR;
- d) assist the States in the designation of the “appropriate authority” and in the application of the balancing test for conflicting interests; and
- e) assist the States in the incorporation of the protective measures mentioned in paragraph 5.12 into national laws and regulations.

4.4 Then, the Meeting discussed the need to create a pilot project to develop model documents addressing the provisions contained in Amendment 15 to Annex 13.

4.5 In this regard, the Meeting felt the need to know the differences that the States would have. However, it was noted that the ARCM model documents would have to meet all the provisions contained in Amendment 15 so that they could serve as a guide for the States that had not yet incorporated such amendment in their legislation, regulations and procedures.

4.6 After an interesting debate, the Meeting agreed to create a working group for the development of a pilot project to address Amendment 15 to Annex 13. In this regard, the following States agreed to participate in the pilot project: Argentina, Colombia, Panama, Paraguay, and Venezuela. For their part, Chile and Ecuador indicated that they would consult with their States if they would participate in the pilot project.

4.7 As to the establishment of an independent accident investigation authority, the Meeting took note that, within the framework of the pilot project for SSP implementation in SAM States, a working group consisting of legal experts had been established for the development of primary legislation that would serve as a model for States that wished to separate their AIG organisation from their Civil Aviation Authority. Accordingly, the performance of this task would need to be coordinated with said group.

4.8 Once completing the analysis of the proposal of amendment to the AIG State regulation, the Meeting adopted the following conclusion:

**CONCLUSION AIG-SAM/04-02      Approval of Amendment 2 to the First edition of the (ARCM) AIG State Regulation to incorporate Amendment 15 to Annex 13, and development of a pilot project for its implementation**

- a) Approve Amendment 2 to the First Edition of the AIG State Regulation developed by the ARCM, which incorporates Amendment 15 to Annex 13;
- b) Authorise the creation of a pilot project with the following States: Argentina, Colombia, Panama, Paraguay, and Venezuela, for the development of model documents that will allow States:

**For the establishment of an independent accident investigation authority (for those States that do not have an independent authority)**

1. to develop or modify the legislation or regulations concerning the functions of the accident investigation authority, as appropriate;
2. in the case of States that lacked the necessary resources, to consider the implementation of a Regional Accident and Incident Investigation Organisation (RAIO); and
3. to officially adopt the legislation or regulations thus developed or modified, as applicable.

**For the protection of accident and incident investigation records**

1. to develop or modify the legislation in order to incorporate the protection of investigation records listed in Paragraph 5.12 of Annex 13, as applicable;
  2. to develop or modify regulations and policies in order to incorporate the designation of the “appropriate authority” and concepts related to the “balancing test for conflicting interests”; and
  3. to officially adopt the legislation, regulations and policies, as applicable.
- c) Charge the ICAO SAM Office with requesting Headquarters to arrange for the participation of a legislation expert to support the working group responsible for the pilot project.
  - d) Amendment 2 to the Second Edition of the AIG State Regulation is presented in **Appendices A and B** to WP/03.

WP/03 is available at:  
[http://www2010.icao.int/SAM/Documents/2017-AIGSAM04/AIGSAM4\\_WP03.pdf](http://www2010.icao.int/SAM/Documents/2017-AIGSAM04/AIGSAM4_WP03.pdf)

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**Agenda Item 4: Progress made in the implementation of the ARCM Safety data collection and processing system (SDCPS)**

**Status of implementation of the SDCPS and report data quality control**

4.1 Under this agenda item, the Meeting took note of the status of implementation of the SDCPS in SAM States. In this regard, the Meeting noted that the SDCPS had reached 83% implementation and had 3614 reports, and that the 27% still pending implementation affected information analysis and system integrity.

4.2 The Meeting noted that the SDCPS was the ARCM safety data collection and processing system and that it was fed by the safety information sent by the States through their ADREP/ECCAIRS systems.

4.2 Within the framework of the ARCM, AIG organisations were urged to adopt the established occurrence reporting procedures, assign the necessary resources for the operation of their ADREP/ECCAIRS systems, and report their occurrences to the ARCM SDCPS.

4.3 The Meeting agreed to the implementation of mechanisms for monitoring reporting procedures and the quality of safety data of the State.

4.4 Regarding data quality, the Meeting took note that the entry of free-value data should have no spelling errors, the calculated numerical values had to be validated, and data relationships had to be consistent.

4.5 **Appendix A** to WP/05 explains the status of implementation of SDCPS, and **Appendix A** to WP/06 contains information on data quality implementation procedures.

4.5 In view of the foregoing, the Meeting adopted the following conclusion:

**CONCLUSION AIG-SAM/4-03 Complete the implementation of ADREP/ECCAIRS systems in all ARCM States and support States in the surveying and entry of safety data into their ADREP/ECCAIRS and SDCPS platforms**

- a) That the ARCM request Bolivia, Guyana, Suriname, and Uruguay to finalise the implementation of their ADREP/ECCAIRS systems and their connection to the ARCM SDCPS;
- b) Support the aforementioned States in the surveying and entry of safety data into their ADREP/ECCAIRS and SDCPS platforms. This support can be provided within the framework of a technical assistance project; and
- c) That all States implement the Data Quality tool for safety data validation, in accordance with the procedures established in Appendix A to **WP/06**.

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**Agenda Item 5: Investigation of non-serious incidents**

**Role of the organisations involved in non-serious incident investigation**

5.1 Following on with the agenda items, the Meeting took note of the role of the organisations involved in non-serious incident investigations.

5.2 Within the framework of the ARCM, one of the objectives is to collaborate and assist the States in terms of aircraft accident and incident investigation. Therefore, the Regional Mechanism must:

- ✓ contribute to the adoption of best practices in accident and incident investigation;
- ✓ analyse and clarify those concepts that might hinder the application of standards and recommended practices; and
- ✓ monitor continuous compliance with, and evolution of, documents containing accident and incident investigation requirements and procedures, in order to make the proposals of amendment that might be required to keep documents up to date.

5.3 The Meeting stated that, based on the results of the AIG-SAM/3 meeting, this matter had been addressed from a legislative and regulatory standpoint, and the conclusion had been reached that all incidents classified as non-serious should be investigated in accordance with the primary aviation legislation and regulations of the State. Alternatives to the investigation of this type of occurrences had to be submitted at this meeting.

5.4 In this regard, mention was made of the importance of having information derived from the investigation of this type of occurrences to feed the State SDCPS, so that, in addition to proactive and predictive information, safety intelligence could be produced and safety strategies developed for the State. It was also noted that the number of this type of occurrences that was subject to investigation would require a structure and resources for AIG authorities that the States could not always afford.

5.5 As an alternative, it was suggested that the investigation authority, as the engine of aircraft accident and incident investigations, should coordinate and establish active links with the CAAs and other stakeholders of the aeronautical system for the use of the resources available in the system, such as specialised personnel, technologies, software, etc. This would allow AIG authorities to reach the desired level of efficiency.

5.6 Mention was also made of the difficulties that Brazil had faced and which should be taken into account in order to promote alternatives to non-serious incident investigation. The investigation of a significant number of these occurrences, as required to feed the SDCPS, generally requires a structure and resources that not all the authorities can afford. Therefore, they are urged to make arrangements with the various actors in the system in order to obtain training, experts in areas of expertise not covered by the organisation, equipment and software.

5.7 Emphasis was placed on the need to see accidents as events produced by the aeronautical system, thus the need for the AIG authority (responsible for the investigation) to articulate and coordinate all measures related to an investigation with the rest of the aeronautical system.

5.8 In view of the foregoing, the Meeting adopted the following conclusion:

**CONCLUSION AIG-SAM/4-04**

**Establishment of a working group consisting of AIG and SSP experts of the States to analyse and develop a process for identifying types of incident (serious/non-serious) subject to investigation and assignment.**

That the ARCM TC coordinate with AIG organisations and civil aviation authorities of SAM States for the establishment of a working group consisting of AIG and SSP experts to analyse and develop a process for identifying types of incidents (serious/non-serious) that are subject to investigation, and the authority that would conduct such investigation.

WP/07 is available at:  
[http://www2010.icao.int/SAM/Documents/2017-AIGSAM04/AIGSAM4\\_WP03.pdf](http://www2010.icao.int/SAM/Documents/2017-AIGSAM04/AIGSAM4_WP03.pdf)

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**Agenda Item 6: Report on compliance with the 2016 ARCM activity programme**

6.1 Under this agenda item, the Meeting took note of the status of compliance with the 2016 activity programme that had been approved at the Third AIG Authorities Meeting (Lima, Peru, 7-9 March 2016) through Conclusion AIG-SAM/3-07 – Approval of the ARCM activity programme for 2016.

6.2 It should be noted that all the activities scheduled by the ARCM for 2016 were accomplished through the contributions made by JIAAC of Argentina, CENIPA of Brazil, and the ICAO South American Regional Office. These activities were carried out at no cost for ARCM member States.

6.3 **Appendix A** to WP/08 contains the activity programme that was completed in 2016.

WP/08 is available at:  
[http://www2010.icao.int/SAM/Documents/2017-AIGSAM04/AIGSAM4\\_WP08.pdf](http://www2010.icao.int/SAM/Documents/2017-AIGSAM04/AIGSAM4_WP08.pdf)

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**Agenda Item 7: Review of the ARCM activity programme approved for 2017**

7.1 Regarding agenda item 7, the Meeting took note that the activity programme for 2017 had been prepared taking into account the following work areas:

- ✓ harmonisation of regulations;
- ✓ activities with multinational teams;
- ✓ training activities and seminars;
- ✓ meetings; and
- ✓ implementation of the safety data collection and processing system (SDCPS).

7.2 The Meeting also mentioned that the 2017 activity programme had been designed taking into account the following objectives:

- a) continue implementing the South American ARCM;
- b) continue harmonising regulations, investigation procedures, checklists, training programmes, and procedures for reporting, collecting, processing, and exchanging ARCM safety data;
- c) continue training investigators of the Region in ARCM regulations, procedures, and the SDCPS;
- d) continue with the establishment of an ARCM bank of investigators to handle cooperation among the States; and
- e) continue providing, upon request, technical assistance to the States in order to improve AIG effective implementation (EI), reviewing together the progress made in unsatisfactory protocol questions (PQs).

7.3 **Appendix A to WP/09** contains **Revision 1** of the 2017 ARCM activity programme.

7.4 After reviewing the activities in each work area, the Meeting adopted the following conclusion:

**CONCLUSION AIG-SAM/4-05 Approval of Revision 1 of the 2017 ARCM activity programme**

- a) Approve Revision 1 of the 2017 ARCM activity programme.
- b) Urge ARCM member States to participate in all the activities scheduled for 2017, which will permit continued implementation of the ARCM.
- c) **Appendix A to WP/09** contains the ARCM activity programme approved for 2017.

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**Agenda Item 8: South American ARCM multinational investigator certification**

8.1 Under this item, the Meeting noted that the South American AIG Regional Cooperation Mechanism (ARCM) had been established at the Second South American AIG Authorities Meeting (Buenos Aires, Argentina, March 2015) to support the States that so requested on aspects related to aircraft accident and incident investigation, in an environment of regional cooperation that would permit improved effective implementation in the AIG area and contribute to reduce the aircraft accident and incident rate in the SAM Region below the global rate in all segments of aviation.

8.2 However, many States do not have personnel exclusively devoted to accident investigation. In such cases, it is convenient to use the multinational investigators available at the ARCM, in an environment of collaboration and at the request of the State concerned and upon acceptance of the State providing the personnel.

8.3 To that end, the ARCM must establish and monitor the minimum professional competencies required from its investigators, so that the investigators representing the ARCM may fulfil their functions within a regional environment.

8.4 Certification as multinational accident and incident investigator means that the ARCM acknowledges the investigator's competence.

8.5 The South American ARCM investigator certification manual establishes the profiles and competencies to be achieved by aircraft accident and incident investigators within the framework of the ARCM.

8.6 In this regard, the Meeting requested the SAM Office to send to ARCM States an official letter requesting the designation of investigators to be considered as ARCM multinational investigators in AIG cooperation activities. To this end, the Meeting agreed to modify WP/10 in terms of the action suggested in item b).

8.7 After analysing the ARCM accident and incident investigator certification manual, the Meeting adopted the following conclusion:

**CONCLUSION AIG-SAM/04-06 Designation of investigators to be considered as ARCM multinational investigators in AIG cooperation activities**

- a) Request the SAM Office to send an official letter to ARCM States requesting the designation of investigators to be considered as ARCM multinational investigators in AIG cooperation activities.

<p>WP/10 is available at: <a href="http://www2010.icao.int/SAM/Documents/2017-AIGSAM04/AIGSAM4_WP10.pdf">http://www2010.icao.int/SAM/Documents/2017-AIGSAM04/AIGSAM4_WP10.pdf</a></p>
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**Agenda Item 9: Results of the assessment carried out by the ARCM runway excursions (RE) task force regarding runway excursions (REs) occurred in the SAM Region in 2016**

9.1 Under this agenda item, the Meeting took note of the results of the assessment carried out by the ARCM runway excursions (RE) working group regarding the contributing factors or deficiencies of the system that are present in accidents or incidents related to runway excursions (REs), and the preventive measures that need to be promptly implemented in order to enhance safety in the Region, based on the preliminary reports on RE accidents and incidents occurred in the SAM Region in 2016 involving aircraft of any weight.

9.2 Then, the Meeting noted that the First workshop for ARCM accident investigators, held in Lima, Peru, on 20-24 June 2016, addressed various issues, including RE-related events occurred in the SAM Region in 2016. This topic was discussed in view of the significant increase in the number of accidents in this category in the SAM Region in 2016. Likewise, ICAO has assigned higher priority to the treatment of these events, which occur when an aircraft veers off or overruns the designated runway either during landing or take-off, resulting in an accident or incident.

9.3 RE occurrences continue to be a high-risk trend in South America. Accordingly, it is necessary to address this issue based on the events occurred in 2016, taking into account all event categories and all aircraft types, so that the ARCM may establish preventive measures to enhance safety in its member States.

9.4 For this task, occurrences reported by all SAM States were investigated in order to identify the contributing factors, by RE, the location where the problem appears or manifests, in order to focus improvement efforts. Likewise, the study seeks to identify measurable and comparable indicators so as to determine the impact of mitigation action over time. To this end, and based on the information provided by ARCM members, the group identified and distributed the contributing factors detected in the occurrences under study, as well as the mitigation actions proposed for each case.

9.5 **Appendix A** to WP/11 contains a breakdown of observations for aircraft above 2250 Kg and for aircraft of 2250 kg or below, and defines an indicator that is presented in the cited WP.

9.6 The task force summarised the analysis in 4 groups of general factors: Human factors: that include everything related or affecting the proper behaviour of the crew; Technical factors: that include all mechanical failures that constrain the technological defensive barriers available on board the aircraft; Meteorological factors: that constrain the environment in which the RE occurs; and Infrastructure factors: that contribute directly to the cause of the RE or determine the severity of the damage caused in the RE.

9.7 In those case studies in which the RE occurred during the landing phase, it was noted that a repetitive or recurrent factor was the fact that the pilot failed to recognise being in an unstable approach or that he could have applied a missed approach, due to lack of experience, lack of training, or improper use of the CRM, possibly due to deficiencies with respect to these concepts.

9.8 In those cases in which a technical failure triggered the situation, such failure constrained the actions of the pilot.

9.9 The same concept applies to those case studies in which meteorology had previously affected the runway surface or was present at the time of the occurrence, adversely affecting landing

conditions. In both cases, the crew-in-command was not able to manoeuvre for normal accomplishment of landing procedures.

9.10 Regarding the proposed mitigation actions, the Meeting took note of the following:

- a) airline executives, especially those in charge of training, can take action to mitigate the issues observed in the cases under study, providing crews with more tools to address the factors that may trigger an RE.
- b) proper training should be provided during the initial or recurrent training stage so that the crews may identify and take action on the variables that make up the factors that trigger an RE. Training should take into account the specific analysis of the location where the flights took place, the types of aircraft and their power-units.
- c) For good training planning, it is necessary to know and weigh the variables that make up the factors in an RE, and assess crew preparedness to properly identify and manage them. Based on these concepts, the SMS will help to generate guidelines about the objectives and competencies to be achieved by the crew.

9.11 Regarding the information submitted, the Meeting discussed the factors that contributed to REs and noted that the ARCM should encourage States to establish programmes to raise the awareness of general aviation and aerial work aviation on RE accident rates and the mitigation measures to be implemented.

9.12 It was noted that it had not yet been possible to establish indices or rates because of lack of information on landings, take-offs, and number of movements in these aviation sectors.

9.13 The Meeting discussed the need to further study this issue in the States, in order to promote awareness programmes on REs and how to avoid them.

9.14 After analysing this issue, the Meeting adopted the following recommendation and conclusion:

## **RECOMMENDATION**

**AIG-SAM/04-01**

### **Generate and/or strengthen proper training activities**

That States foster mitigation measures to generate and/or strengthen proper training activities by their air service operators during the initial or recurrent training stage, so that the crews may identify and act upon the variables that make up the factors that trigger REs, highlighting that training should take into account the places where flights take place, the types of aircraft and their power-units.

**CONCLUSION AIG-SAM/04-07**

### **Deepen the analysis of runway excursions (REs) in order to propose further mitigation measures to the States**

That the ARCM RE task force deepen its RE analysis so that it may propose mitigation measures to the States, such as programmes for raising awareness on REs and how to

avoid them. The proposed mitigation measures will be sent to the States using the *fast-track* communication mechanism.

WP/11 is available at:  
[http://www2010.icao.int/SAM/Documents/2017-AIGSAM04/AIGSAM4\\_WP10.pdf](http://www2010.icao.int/SAM/Documents/2017-AIGSAM04/AIGSAM4_WP10.pdf)

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**Agenda Item 10: ARCM safety report - 2016**

10.1 When analysing this agenda item, the Meeting was informed that, with SDCPS implementation, accident investigations contribute to continuous improvement of the civil aviation system by providing the root causes of accidents/incidents and lessons learned from such events.

10.2 The Meeting also noted that, in the current proactive safety management environment, there is a need to integrate the accident and incident investigation process with the hazard identification and reporting process of an organisation.

10.3 For the development of the 2016 safety report, use was made of data on accidents and incidents, occurrences, non-compliance or deviations, and hazard reports.

10.4 The SAM Region was shown the important critical mass used for preparing the 2016 ARCM safety report.

10.5 The Meeting then took note that the objective of the safety report was to show AIG Authorities the true potential of the ARCM safety data collection and processing system (SDCPS) once validated data is available.

10.6 The ARCM safety report, which used 2010-2016 data, showed the main indicators and trends, as well as the different aspects related to the occurrences investigated at regional level.

10.7 However, the information showed some deficiencies in term of data quality, establishing a level of uncertainty in specific areas related to specific data on the aircraft.

10.8 In this regard, the Meeting discussed the importance of having data of proven quality in order to derive reliable statistics for purposes of analysis and decision-making.

10.9 As a source for the development of the report, use was made of the ADREP/ECCAIRS system of ARCM States that provided data collected in 2016 for the SDCPS.

10.10 The Meeting was presented with the following types of ARCM SDCPS data:

- a) accident investigation data;
- b) serious incident investigation data;
- c) incident report data; and
- d) other safety data, such as deficiencies, non-compliance with requirements, and irregularities, where available.

10.11 Furthermore, information was shown on the results of the analysis of aircraft in all weight groups, separating aircraft above 2250 kg from those of 2250 kg or below for the following operations:

- a) scheduled and non scheduled commercial air transport;
- b) general aviation;

- c) business aviation; and
- d) aerial work

10.12 It should be noted that the first 2016 ARCM safety report is based on preliminary safety data that had not been validated and had not been subject to a quality procedure. Accordingly, the purpose of this preliminary report is only to show what the system could offer when validated safety information is available. It should also be noted that some SAM States have not yet reported their safety data; therefore, the report does not cover the whole Region.

10.13 **Appendix A** to WP/12 contains the 2016 ARCM safety report.

10.14 In view of the foregoing, the Meeting adopted the following conclusion:

**CONCLUSION AIG-SAM/4-08                      Completion of data, implementation of quality procedures, and development of reliable safety reports**

- a) That all ARCM States complete their reports for the period 2010-2016;
- b) That AIG organisations implement quality procedures before reporting safety data to the ARCM SDCPS;
- c) That the ARCM Technical Committee update the operational report once reporting to SDCPS has been completed, and quality procedures have been implemented;
- d) That reports with validated data be shared with the team in charge of the RASG-PA annual safety report; and
- e) Publish the reports with validated data on the ARCM website.

WP/12 is available at:  
[http://www2010.icao.int/SAM/Documents/2017-AIGSAM04/AIGSAM4\\_WP09.pdf](http://www2010.icao.int/SAM/Documents/2017-AIGSAM04/AIGSAM4_WP09.pdf)

**Agenda Item 11: Case studies: Analysis of the accidents involving the following aircraft: EMBRAER 190 of TAME, AVRO of LAMIA, and BOEING 727 of AEROSUCRE**

11.1 Under this agenda item, power point presentations were made to the Meeting on the progress made in the investigation of accidents involving the following aircraft: EMBRAER 190 of TAME, AVRO of LAMIA, and BOEING 727 of AEROSUCRE.

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**Agenda Item 12: Other matters**

**Proposal of venue for the Fifth South American AIG Authorities Meeting (AIG-SAM/5)**

12.1 The Meeting took note of, and accepted, the offering of Colombia to host the Fifth South American AIG Authorities Meeting (AIG-SAM/5) in 2018.

**Contribution to the environment during aircraft accident investigations**

12.2 The Meeting took note of the proposal to include an environmental protection protocol in accident investigation procedures for activities carried out at the site of the accident.

12.3 In this regard, the Meeting repeatedly mentioned the importance of environmental management during investigation activities at the site of the accident, and agreed to adopt the following conclusion:

**CONCLUSION AIG-SAM/04-09 Incorporation of an environmental protection protocol in investigation procedures at the site of the accident**

That the ARCM Technical Committee (TC) develop a task for entrusting a working group the development of an environmental protection protocol within ARCM procedures concerning the investigation at the site of the accident, to serve as a model for ARCM States that wish to incorporate such protocol in their procedures.

**Assistance to victims of an aircraft accident and support to their families by the AIG Authority**

12.4 Regarding this agenda item, the Meeting took note of a proposal on a coordination procedure to be applied among the AIG Authority of the State, the civil aviation authority (CAA), and the other actors of the aviation system involved in an accident, for the provision of assistance to the families of victims of an aircraft accident.

12.5 The Meeting deemed it advisable to develop coordination procedures to assist the families of the victims of major aircraft accidents. Accordingly, it adopted the following conclusion:

**CONCLUSION AIG-SAM/04-10 Development of coordination procedures to assist the families of victims of an aircraft accident**

That the ARCM Technical Committee (TC) develop a task for entrusting a working group the development of procedures for coordination among the AIG Authority of the State, the civil aviation authority (CAA), and the other actors of the aviation system, so as to provide assistance to the families of the victims of an aircraft accident, considering those cases involving major accidents.

**Presentation of the activities being carried out by the Regional Aviation Safety Group – Pan America (RASG-PA), the Regional Aviation Safety Team – Pan America (PA-RAST), and the mid-air collision (MAC) team**

12.6 Under this agenda item, the Meeting took note of the activities being carried out by the RASG-PA PA-RAST through its MAC team. Likewise, it was presented with the work being done by Brazil through its BCAST (Brazilian Commercial Aviation Safety Team) MAC team to improve resolution advisory (RA) reports.

### **Second global runway safety symposium (GRSS)**

12.7 The Meeting was provided with details about the Second Global Runway Safety Symposium (GRSS) to be held in November 2017, in Lima, Peru.

### **Funds for the sustenance of the AIG Regional Cooperation Mechanism (ARCM)**

12.8 The Meeting took note of the activities carried out to obtain funds to make the South American AIG Regional Cooperation Mechanism (ARCM) sustainable over time and capable of conducting the scheduled activities and attain the objectives proposed since its inception.

12.9 The following alternatives were proposed to the Meeting:

- ✓ create an ICAO regional technical cooperation project through the Technical Cooperation Bureau (TCB), with all the requirements concerning administrative arrangements. This option has the advantage of offering greater independence. However, its implementation would require a memorandum of understanding (MOU) among its members and donors, and the signing of a project document, which generates an approval and signing process.
- ✓ request the support of the Regional Safety Oversight Cooperation System (SRVSOP) for use of the existing regional project (RLA/99/901), which would permit the mobilisation of all its resources.

12.10 In this regard, the Meeting noted that it was not in a position to decide on any alternative. Therefore, the request was made to circulate WP/18 among AIG authorities of ARCM States for their analysis and decision, or to create a working group to analyse the WP and to propose the best course of action to the ARCM Executive Committee.

12.11 Following an interesting debate, the Meeting adopted the following conclusion:

### **CONCLUSION AIG-SAM/04-11      Circulation of WP/18 – Funding to support the South America AIG Regional Cooperation Mechanism (ARCM), for analysis by ARCM AIG Authorities**

That the ARCM Technical Committee (TC) circulate WP/18 - Funding to support the South America AIG Regional Cooperation Mechanism (ARCM), for analysis by ARCM AIG Authorities, defining a deadline for the delivery of the corresponding responses and, based on the results, schedule future actions.

### **3D aircraft accident reconstruction and analysis**

12.12 A presentation was made to the Meeting on the Aircraft accident site analysis and reconstruction system, capable of producing a high-quality 3D digital model based on shootings and high-

resolution geo-referenced digital aerial photographs obtained through a small unmanned aerial vehicle (UAV/drone).

**Proposal for the incorporation of the Air Crash Victims' Families' Federation International (ACVFFI) as a member of ARCM with the status of special observer**

12.13 Following the agenda, the Meeting took note of the proposal to incorporate the Air Crash Victims' Families' Federation International (ACVFFI) as a member of ARCM with the status of special observer.

12.14 In this regard, the Meeting felt that it was not convenient to incorporate the ACVFFI because there might be a conflict of interests in the activities carried out by the ARCM. However, some States considered that its participation could be accepted with some limitations.

12.15 Finally, the Meeting agreed that, for the time being, it was not convenient to incorporate the ACVFFI and that more information was needed concerning its participation. Accordingly, the request was made to circulate WP/20 to the States for comments.

**Improvement of the ARCM web page and migration of the SDCPS to the SAM Regional Office**

12.16 The Meeting took note of the publication on the website of two information papers on the following topics:

- ✓ Improvement of the ARCM web page (IP/03); and
- ✓ Migration of the SDCPS to the SAM Regional Office (IP/04)

WP/13, WP/20, IP/03 and IP/04 are available at:  
[http://www2010.icao.int/SAM/Documents/2017-AIGSAM04/AIGSAM4\\_WP10.pdf](http://www2010.icao.int/SAM/Documents/2017-AIGSAM04/AIGSAM4_WP10.pdf)