

**FINAL VERSION  
AIM/SG/11 REPORT**



**INTERNATIONAL CIVIL AVIATION ORGANIZATION  
CAR/SAM REGIONAL PLANNING AND IMPLEMENTATION GROUP  
(GREPECAS)**

**REPORT OF THE  
ELEVENTH MEETING OF THE AERONAUTICAL INFORMATION  
MANAGEMENT SUBGROUP**

**(AIM/SG/11)**

**(Bogota, Colombia, 16 – 20 June 2008)**

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- 3.1 Development of a CAR/SAM transition plan to AIM.
- 3.2 Proposal to CAR/SAM Region States regarding the identification and designation of current AIS, NOTAM and MAP (AIM) areas, such as restricted access areas, especially areas that manage aeronautical information/data from the WEB Server and NOTAM
- 3.3 Review of development of AIM human factors applications (AIS/MAP), relating to ICAO strategic objectives **A**: Safety and **D**: Efficiency in the ICAO operational safety areas.
- 3.4 Review of the survey for using the AIP Audits Assistant (AAA) and application in the quality process.

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- 4.1 Initiative for Spanish speaking States to comply with the requirement in Annex 15, Chap. 3, para. 3.6.1, regarding the publication of the Integrated Aeronautical Information Package in the English language, especially in digital formats.
- 4.2 Review of CAR/SAM State Action Plans regarding the resolution of existing deficiencies in AIM areas (AIS/MAP), and review of actions taken by the ASB/8 Meeting held in Lima, Peru, from 5-6 March 2008, in ICAO SAM Office regarding reclassification of “U” deficiencies using SMS methodology as a means for risk assessment.
- 4.3 Action proposal for the parity and application of the e-AIP in preparation for AIXM implementation.
- 4.4 Follow-up on e-TOD implementation (electronic terrain and obstacle data), actions taken by CAR/SAM States regarding Annex 15, Chap. 10, Appendix 8 SARPS and guidance from Doc. 9881 (Conclusions 9/7 and 9/9 of the AIS/MAP/SG/9 Meeting).

**Report on Agenda Item 5: Review of Administrative Aspects of AIM Subgroup.....5-1**

- 5.1 Review of the Terms of Reference and Work Programme of the AIM Subgroup and their task forces.
- 5.2 Consideration of restructuring the AIM Subgroup. Substitution of AUTO/TF with the creation of GIS/TF.

**Report on Agenda Item 6: Other issues according to the AIM/SG Terms of Reference.....6-1**

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## HISTORY OF THE MEETING

### ii.1 **Place and Duration of the Meeting**

The Eleventh Meeting of the GREPECAS Aeronautical Information Management Subgroup (AIM/SG/11) was held in Bogota, Colombia, from 16 to 20 June 2008.

### ii.2 **Opening Ceremony**

Mr. Alberto Orero, ATM/SAR/AIM Regional Officer of the ICAO SAM Office, welcomed the participants and thanked them for their attendance, on behalf of the Regional Director of the SAM Office and Secretary of GREPECAS, wishing them success in the meeting.

Col. Donall H. Tascon Cárdenas, General Vice-Director of the Unidad Administrativa Especial de Aeronautica Civil (UAEAC), opened officially the Eleventh Meeting of the GREPECAS Aeronautical Information Management Subgroup (AIM/SG/11), welcomed the participants and stressed the importance of Aeronautical Information Management and, on behalf of the Government of Colombia opened officially the Meeting.

Lastly, Mr. Raúl Martínez, AIM Regional Officer of the ICAO NACC Office and Secretary of the AIM Subgroup, welcomed the participants and gave the corresponding explanations regarding the Agenda and documentation for the meeting, as well as all the documentation that would be used during the development of same.

### ii.3 **Organization, Officers and Secretariat**

Mrs. Noemí Carta, Chairperson of the AIM Subgroup, presided over the meeting.

Mr. Raúl Martínez acted as a Secretary of the Subgroup, assisted by Mr. Alberto Orero.

### ii.4 **Working Languages**

The working languages of the meeting were English and Spanish. The documentation was presented in both languages.

### ii.5 **Agenda**

The following agenda was adopted:

#### **Agenda Item 1: Follow-up actions taken by the AIS/MAP/SG/10 Meeting**

- 1.1 Review of the actions adopted by the GREPECAS/14 Meeting in reference to the AIS/MAP/SG/10 Meeting report.
- 1.2 Actions adopted by the Air Navigation Commission in reference to the GREPECAS/14 Meeting report regarding actions of the AIS/MAP/SG/10.
- 1.3 Follow-up on implementation of actions adopted by the CAR/SAM 11<sup>th</sup> Air Navigation Conference regarding the new AIM concept.

**Agenda Item 2: Review of the AIM Subgroup Contributory Bodies Reports**

- 2.1 Report of the Third Meeting of the AIM Quality Management Task Force (AIM/QM/TF/3), and follow-up on the initiative to develop an implementation plan for AIM services quality systems.
- 2.2 Report of the Ninth Meeting of the Aeronautical Information Management Training Task Force (AIM/TRAIN/TF/9).
- 2.3 Report of the First Meeting of Aeronautical Information Management Electronic Aeronautical Charts Task Force (AIM/e-MAP/TF/1).

**Agenda Item 3: Review of AIM Planning and Transition issues**

- 3.1 Development of a CAR/SAM transition plan to AIM.
- 3.2 Proposal to CAR/SAM Region States regarding the identification and designation of current AIS, NOTAM and MAP (AIM) areas, such as restricted access areas, especially areas that manage aeronautical information/data from the WEB Server and NOTAM and
- 3.3 Review of development of AIM human factors applications (AIS/MAP), relating to ICAO strategic objectives **A**: Safety and **D**: Efficiency in the ICAO operational safety areas.
- 3.4 Review of the survey for using the AIP Audits Assistant (AAA) and application in the quality process.

**Agenda Item 4: Review of the Implementation Process**

- 4.1 Initiative for Spanish speaking States to comply with the requirement in Annex 15, Chap. 3, para. 3.6.1, regarding the publication of the Integrated Aeronautical Information Package in the English language, especially in digital formats.
- 4.2 Review of CAR/SAM State Action Plans regarding the resolution of existing deficiencies in AIM areas (AIS/MAP), and review of actions taken by the ASB/8 Meeting held in Lima, Peru, from 5-6 March 2008, in ICAO SAM Office regarding reclassification of “U” deficiencies using SMS methodology as a means for risk assessment.
- 4.3 Action proposal for the parity and application of the e-AIP in preparation for AIXM implementation.
- 4.4 Follow-up on e-TOD implementation (electronic terrain and obstacle data), actions taken by CAR/SAM States regarding Annex 15, Chap. 10, Appendix 8 SARPS and guidance from Doc. 9881 (Conclusions 9/7 and 9/9 of the AIS/MAP/SG/9 Meeting).

**Agenda Item 5: Review of Administrative Aspects of AIM Subgroup**

- 5.1 Review of the Terms of Reference and Work Programme of the AIM Subgroup and their task forces.
- 5.2 Consideration of restructuring the AIM Subgroup. Substitution of AUTO/TF with the creation of GIS/TF.

## Agenda Item 6: Other issues according to the AIM/SG Terms of Reference

### ii.6 Attendance

The Meeting was attended by 47 participants from 12 States members of the Subgroup, 4 Contracting States, located or having territories in the CAR/SAM Regions, as well as observers of 2 International Organizations and 2 service providers. A list of participants is shown in page iii-1.

### ii.7 List of Documentation

#### Working Papers

Number	Agenda Item	Title	Date	Presented by
WP/01	---	Review of the Meeting Agenda and Schedule.	18/04/08	Secretariat
WP/02	1.1	Review of the actions adopted by the GREPECAS/14 Meeting in reference to the AIS/MAP/SG/10 Meeting report.	18/04/08	Secretariat
WP/03	1.2	Actions adopted by the Air Navigation Commission in reference to the GREPECAS/14 Meeting report regarding actions of the AIS/MAP/SG/10.	18/04/08	Secretariat
WP/04	1.3	Follow-up on implementation of actions adopted by the CAR/SAM 11 <sup>th</sup> Air Navigation Conference regarding the new AIM concept.	12/05/08	Secretariat
WP/05	2.1	Report of the Third Meeting of the AIM Quality Management Task Force (AIM/QM/TF/3), and follow-up on the initiative to develop an implementation plan for AIM services quality systems.	15/05/08	Rapporteur QM/TF
WP/06	2.2	Report of the Ninth Meeting of the Aeronautical Information Management Training Task Force (AIM/TRAIN/TF/9).	30/05/08	Rapporteur
WP/07	2.3	Report of the First Meeting of Aeronautical Information Management Electronic Aeronautical Charts Task Force (AIM/e-MAP/TF/1). <b>(Only in Spanish)</b>	16/06/08	Rapporteur
WP/08	3.1	Development of a CAR/SAM transition plan to AIM	13/05/08	Secretariat
WP/09	3.2	Proposal to CAR/SAM Region States regarding the identification and designation of current AIS, NOTAM and MAP (AIM) areas, such as restricted access areas, especially areas that manage aeronautical information/data from the WEB Server and NOTAM and GIS databases.	13/05/08	Secretariat
WP/10	3.3	Review of development of AIM human factors applications (AIS/MAP), relating to ICAO strategic objectives <b>A</b> : Safety and <b>D</b> : Efficiency in the ICAO operational safety areas.	30/05/08	Secretariat
WP/11	3.4	Review of the survey in the use of the AIS audit process (AAA) and its application in the quality process	16/05/08	Secretariat
WP/12	4.1	Publication of integrated aeronautical information package in the English Language.	03/06/08	Secretariat
WP/13	4.2	Review of CAR/SAM State action plans regarding the resolution of existing deficiencies in AIM areas (AIS/MAP), and review of action taken by the ASB/8	03/06/08	Secretariat

Number	Agenda Item	Title	Date	Presented by
		Meeting held in Lima, Peru, from 5-6 March 2008, in ICAO SAM Office regarding reclassification of “U” deficiencies using SMS methodology as a means for risk assessment..		
WP/14	4.3	Action proposal for the endorsement and application of the e-AIP in preparation of the implementation of the AIXM	23/05/08	Secretariat
WP/15	4.4	Follow-up on e-TOD implementation (electronic terrain and obstacle data), action taken by CAR/SAM States regarding Annex 15, Chap. 10, Appendix 8 SARPS and guidance from Doc. 9881 (Conclusions 9/7 and 9/9 of the AIS/MAP/SG/9 Meeting)..	16/05/08	Secretariat
WP/16	2	Quality Management System in Paraguay AIS	27/05/08	Paraguay
WP/17	5.2	Consideration of restructuring the AIM Subgroup. Substitution of AUTO/TF with the creation of GIS/TF.	02/06/08	Secretariat
WP/18	5.1	Review of Terms of Reference and Work Programme of AIM Subgroup.	07/05/08	Secretariat
WP/19		Cancelled		
WP/20	4	AIS data base implemented in Paraguay	09/06/08	Paraguay
WP/21	4.3	Electronic AIP	09/06/08	Colombia
WP/22	4.4	Flight Procedures	11/06/08	Colombia
WP/23	4.4	Benefits of electronically sharing aeronautical information publication (AIP) among ICAO members States	11/06/08	Colombia

### Information Papers

Number	Agenda Item	Title	Date	Presented by
IP/01	--	General Information	16/04/08	Secretariat
IP/02	--	List of Working and Information Papers	13/06/08	Secretariat
NI/03	4.2	Revisión de los Planes de Acción de Estados CAR/SAM, con respecto a la solución de las Deficiencias existentes en las áreas AIM (AIS/MAP). <b>(Available in Spanish)</b>	27/05/08	Chile
IP/04	4.2	Overview of Regional Deficiencies	10/06/08	IATA
NI/05	4.3	AIP de Centroamérica <b>(Available in Spanish)</b>	12/06/08	COCESNA
NI/06	3	Aspectos fundamentales tratados en el simposio mundial sobre habilitación de entornos de información en red. <b>(Available in Spanish)</b>	13/06/08	Cuba

## ii.8 Draft Conclusions, Draft Decisions and Decisions

The AIM Subgroup records its action in the form of Draft Conclusions, Draft Decisions and Decisions as follows:

*Draft Conclusions:* Conclusions that require approval by GREPECAS prior to their implementation.

*Draft Decisions:* Decisions that require approval and adoption by GREPECAS prior to their implementation

*Decisions:* Decisions that deal with matters of concern to the Contributory Body.

### ii.8.1 List of Draft Conclusions

NUMBER	TITLE	PAGE
11/1	<b>PRIORITY IN THE APPLICATION OF MEASURES TOWARDS THE MIGRATION OF THE AIS/MAP SERVICE TO AIM</b>	1-3
11/2	<b>GUIDELINES TO AID STATES IN THE TRANSITION PROCESS TO AIM</b>	1-3
11/3	<b>IMPLEMENTATION OF THE AIRAC SYSTEM</b>	1-3
11/4	<b>TRAINING SEMINARS/WORKSHOPS IN SUPPORT OF AIS/MAP TRANSITION TO AIM</b>	2-4
11/5	<b>FOLLOW UP TO THE DEVELOPMENT OF MODELS FOR THE EXCHANGE OF INFORMATION/AERONAUTICAL DATA FOR AIM</b>	4-5
11/6	<b>APPLICATION GUIDANCE OF THE HUMAN FACTORS PRINCIPLES IN THE AIS/MAP</b>	2-1
11/7	<b>ADOPTION OF THE STRATEGIC PROJECT FOR THE AIM TRANSITION</b>	3-2
11/8	<b>RESTRICTED ACCESS IN AREAS IN WHICH AERONAUTICAL INFORMATION/DATA IS PROVIDED IN THE WEB SERVERS AND THE NOTAM AND GIS DATA BASE</b>	3-3
11/9	<b>ACTIONS BY STATES FOR THE INTRODUCTION OF THE e-AIP DIRECTED TO AIXM</b>	4-5



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**Agenda Item 1: Follow-up actions taken by the AIS/MAP/SG/10 Meeting**

**1.1 Review of the actions adopted by the GREPECAS/14 Meeting in reference to the AIS/MAP/SG/10 Meeting report**

**Review of the GREPECAS conclusions and decisions in the AIS/MAP field**

1.1.1 For the dealing of this part of the Agenda, and following procedures established for review of the relevant matters dealt with within the AIM Subgroup, which are then reviewed by the GREPECAS and the Air Navigation Commission Council, the Meeting examined a summary of the actions taken by this superior body for the purpose of follow-up by the Subgroup.

1.1.2 Furthermore, it was indicated that, in accordance with the GREPECAS Procedural Handbook, a uniform classification to reflect the situation of the conclusions and decisions was established. These conclusions and decisions shall be examined at each meeting in order to keep them up-to-date and reduced in number, based on the progress attained.

1.1.3 After reviewing and updating the list of valid conclusions for presentation to GREPECAS/15, the Meeting considered pertinent that they be updated according to the indications in **Appendix** to this part of the Report.

**1.2 Actions adopted by the Air Navigation Commission in reference to the GREPECAS/14 Meeting report regarding actions of the AIS/MAP/SG/10**

1.2.1 In adherence to the procedures established for the review of the pertinent items dealt with within the AIM Subgroup and hereafter reviewed by GREPECAS, the ICAO Air Navigation Commission (ANC) and the Council, the Meeting took note of a summary of actions taken by GREPECAS/14 meeting, and of the review of said report by the ANC, for its corresponding follow-up by the Subgroup.

1.2.2 In this sense, the ANC Working Group on Regional Plans (ANC WG / RPL) examined the GREPECAS/14 report and the conclusions and decisions that might require actions from the Commission and/or Council, including those that could bear repercussions in other regions.

1.2.3 The WG / RPL took note that GREPECAS, with the help of its contributory bodies, had examined Caribbean and South American (CAR and SAM) Regions' air navigation topics, with the aim of improving air navigation, facilities, services and procedures planning, as well as promoting their application, the Air Navigation Commission had not presented to Council the GREPECAS/14 report, since there was no action from GREPECAS/14 requiring a specific attention from the ICAO Council.

1.2.4 After the review, Brazil and Bolivia requested the Secretariat to clarify the term "take note" appearing in the revised form regarding actions adopted by the Air Navigation Commission. In this respect, the Secretariat explained the internal administrative process of the Council, which in this particular case, is indicating that it recognizes the actions adopted by GREPECAS but considers that no other measures are to be taken.

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**AIS/MAP transition to aeronautical information management**

1.2.5 The Meeting considered important to review the information on the AIM concept, which presents various stages for the control of information/aeronautical data since its origin, to the storing, recovery, exchange and delivery of digital aeronautical information (AIM) in the context of gate-to-gate flight operations, all this taken into consideration in pre- and post-flight planning.

1.2.6 Currently, the aeronautical information services in CAR/SAM States require long periods of time for the production and distribution of permanent information, which impedes their rapid distribution and, therefore, the degree of effectively. It also considered that all manual processes carried out in this manner represent a risk to data integrity, due to its vulnerability to possible human error.

1.2.7 In this regard, it was recalled that the AIS/MAP/SG/10 meeting agreed that the Quality Management Task Force include, within its terms of reference and work programme, the tasks necessary for the preparation of a CAR/SAM transition plan from AIS to AIM, harmonized with the ATM operational global concept activities, taking into account that, as the global ATM system makes progress together with the operational concept on the basis of collaborative decision making (CDM), the timely availability of high quality authorized sources as regards electronic aeronautical information (AIS) and meteorology (MET) will become more necessary.

1.3 **Follow-up on implementation of actions adopted by the 11<sup>th</sup>. Air Navigation Conference regarding the new AIM concept**

1.3.1 The 11th Air Navigation Conference elaborated Recommendation 1/8 that urges ICAO to define the requirements for the safe and efficient provision of global aeronautical information management (AIM), adopt a model for the exchange of aeronautical information, and develop new specifications for Annex 4 – *Aeronautical charts* and Annex 15 – *Aeronautical information services* which would govern the electronic availability of aeronautical information and charts.

1.3.2 It will first be necessary to develop a “global strategy” / “roadmap” to plan, manage and facilitate global transition from AIS to AIM. The roadmap should recognize that not all States or regions can make an immediate transition to AIM and that its transition should be evolutionary, on the basis of regional needs. To this end, all States’ and ICAO regions’ plans should be aligned to guarantee, as possible, that the solutions are internationally harmonized and integrated.

1.3.3 States should bear in mind that the quality, coherence, availability and punctuality of the data that AIS manages during the transition period should comply with strict requirements for the exchange of digital information, levels substantially higher than those currently considered acceptable.

1.3.4 As a previous requirement to AIM transition, States that have not yet done so should give high priority to the application of Annex 15 standards and recommended practices (SARPS) and, in particular, to those related with the World Geodetic System – 1984, and with the quality management and automation systems.

1.3.5 In this sense, the Meeting was informed that the ICAO Air Navigation Commission is aware that there is a need to update the *Manual of the new aeronautical information services* (Doc 8126) and the *Manual on the world geodetic system - 1984 (WGS-84)* (Doc 9674), and that a new manual on AIM quality management system should be prepared.

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1.3.6 On the other hand, the Meeting considered important that ICAO give ample dissemination to the results obtained in the *Worldwide Symposium on Enabling the Net-Centric Information Environment*, held in Montreal from 2 to 4 June 2008, where legal and institutional aspects related with the transition from AIS to AIM were dealt with.

1.3.7 Due to the above and after a thorough discussion on the subject, the Meeting agreed upon the following Draft Conclusions:

**DRAFT**

**CONCLUSION 11/1 - PRIORITY IN THE APPLICATION OF MEASURES TOWARDS THE MIGRATION OF THE AIS/MAP SERVICE TO AIM**

That CAR/SAM Status civil aviation authorities that have not yet done so, give high priority to the application of Annex 4 and Annex 15 Standards and Recommended Practices (SARPS), the complete application of the World Geodetic System – 1948 (WGS-84), the implementation of the quality management system and of automation as a previous measure to initiate the migration of the AIS/MAP service to aeronautical information management (AIM).

**DRAFT**

**CONCLUSIÓN 11/2 - GUIDELINES TO AID STATES IN THE TRANSITION PROCESS TO AIM**

That ICAO give priority, as possible, to the elaboration of guidelines to aid States in the transition process to AIM.

**DRAFT**

**CONCLUSIÓN 11/3 - IMPLEMENTATION OF AIRAC SYSTEM**

That States, Territories and International Organizations of the CAR/SAM Regions:

- a) publish an AIC each year that includes AIRAC based on effective dates of the aeronautical integrated documentation package, which includes the AIRAC system application, in support of an efficient use of the mentioned system, as well as the important impact that the system has for the operational safety;
- b) publish 56 days prior the effective date the aeronautical information which introduces significant changes of important impact to the air navigation systems; and
- c) notify NACC and SAM ICAO Regional Offices the total implementation of the AIRAC system, not later than **31 July 2008**.



CONCLUSION	FOLLOW-UP RESPONSIBILITY	FOLLOW-UP ACTIONS	STATUS/ REMARKS
<p><b>CONCLUSION 13/51 - APPLICATION OF THE HUMAN FACTORS PRINCIPLES TO AERONAUTICAL INFORMATION MANAGEMENT</b></p> <p>That, considering the evolution of aeronautical information management, its level of automation, its effect on operational procedures, and its direct relevance to flight operations safety, the AIS/MAP Subgroup:</p> <p>a) take the necessary steps to develop human factors principles for aeronautical information management and for their application in the respective AIS/MAP services;</p> <p>b) develop a manual containing guidelines on human factors for aeronautical information management, and an implementation plan, based on the relevant ICAO documentation. The aforementioned manual and plan will be presented to the GREPECAS/14 Meeting; and</p> <p>c) schedule, in coordination with ICAO Regional Offices and the States/Territories and International Organizations, activities aimed at teaching and analysing the repercussion of human factors on the new air navigation systems.</p>	<p>AIM/SG</p> <p>a)Completed</p> <p>b)Completed</p> <p>c)Valid</p>	<p>Will be dealt with under corresponding item on the agenda</p>	<p>Valid</p>

CONCLUSION	FOLLOW-UP RESPONSIBILITY	FOLLOW-UP ACTIONS	STATUS/ REMARKS
<p><b>CONCLUSION 14/36 - REQUIREMENTS FOR THE IMPLEMENTATION OF QUALITY MANAGEMENT SYSTEMS FOR AIM IN THE CAR/SAM REGIONS</b></p> <p>That the States and Territories of the CAR/SAM Regions, bearing in mind the advantages offered by the standardized application of guidelines and procedures for the implementation of quality management systems in their AIM services, adopt and apply:</p> <p>a) Part-4 of the <i>Guidance Manual for the Implementation of an AIM Quality Management System for the CAR/SAM Regions</i> related to the selection, proficiency, training and qualification of personnel of the Aeronautical Information Service as presented in <b>Appendix N</b> to this part of the Report;</p> <p>b) the procedures of verification and validation of aeronautical data contained in <b>Appendix O</b> to this part of the Report, which will be included in the contents of the Guidance Manual for the Implementation of an AIM Quality Management System;</p> <p>c) the procedures to conduct quality audits in the AIM areas (see <b>Appendix P</b> to this part of the Report), in order to ensure effective development of this process in the CAR/SAM Regions in accordance with the AIS Quality Guidance Manual; and</p> <p>d) the necessary resources and mechanisms to ensure the activation of a lead auditor team to ensure the performance of quality audits in the AIM services of the CAR/SAM Regions.</p>	States/Territories and International Organizations	The Regional Offices CAR/SAM asked to States to report on this matter	Valid
<p><b>CONCLUSION 14/37 - CONSOLIDATION OF THE CAR/SAM DIGITAL VFR AERONAUTICAL CHARTS PROJECT</b></p> <p>That ICAO NACC and SAM Regional Offices work in a coordinated manner to achieve the CAR/SAM Digital VFR Aeronautical Charts Project by the end of 2008:</p> <p>a) with PAIGH, in order to foster the production of VFR digital aeronautical charts on a common standards and procedures basis; and</p> <p>a) through the establishment of an ICAO technical co-operation programme funding mechanism.</p>	OACI	In progress, development of a Project with Technical Cooperation Area.	Valid

CONCLUSION	FOLLOW-UP RESPONSIBILITY	FOLLOW-UP ACTIONS	STATUS/ REMARKS
<p><b>CONCLUSION 14/38 - AIP AUDIT ASSISTANT (AAA) PROCESS INTEGRATION INTO THE CAR/SAM AIS</b></p> <p>That States/Territories/International Organizations:</p> <p>a) consider integrating AAA, which can be downloaded for free from website <a href="http://www.eurocontrol.int/aim/public/standard_page/tools_aaa.html">http://www.eurocontrol.int/aim/public/standard_page/tools_aaa.html</a>, into the CAR/SAM AIS so as to improve the AIP production process through the assessment and application of AAA during an experimental period; and</p> <p>b) develop a report on its use, shown in the <b>Appendix S</b> to this part of the Report, to be presented to the NACC and SAM Regional Offices by <b>31 January 2008</b>.</p>	States/Territories and International Organizations	In progress for the application of AAA for assessment and use	Valid
<p><b>CONCLUSION 14/39 - ACTIONS FOR THE USE OF GEOGRAPHIC INFORMATION SYSTEMS (GIS) FOR AIM SERVICES IN THE CAR/SAM REGIONS</b></p> <p>That taking into account the appropriateness of evolving towards the concept of digital aeronautical information management by electronic means in the CAR/SAM Regions, and that the use of Geographic Information Systems (GIS) could contribute directly and positively with these requirements by the end of 2008:</p> <p>a) CAR/SAM States and Territories consider the implementation of Geographical Information Systems (GIS) for AIM services as automated support for the electronic display of AIP and aeronautical chart information, and take action to permit training of AIS personnel on the practical management of GIS in order to facilitate the implementation and operation of these systems in their AIS services; and</p> <p>b) the NACC and SAM Regional Offices take the necessary action to consider, within relevant regional technical co-operation projects, the implementation requirements of Geographic Information Systems (GIS) as automated support for the activities of AIM services in the CAR/SAM Regions in direct support of CNS/ATM.</p>	States/Territories and International Organizations  ICAO	In the Regional offices CAR and SAM is being integrated the Technical Cooperation Project which will include this issues.	Valid

CONCLUSION	FOLLOW-UP RESPONSIBILITY	FOLLOW-UP ACTIONS	STATUS/ REMARKS
<p><b>CONCLUSION 14/40 - COMPLIANCE WITH SARPS CONTAINED IN CHAPTER 10 OF ICAO ANNEX 15 (ELECTRONIC TERRAIN AND OBSTACLE DATA)</b></p> <p>That the States and Territories of the CAR and SAM Regions, with a view to ensuring the provision of electronic terrain and obstacle data, take action in order to:</p> <ul style="list-style-type: none"> <li>a) include in their planning as soon as possible, the implementation of all required procedures to ensure that electronic terrain and obstacle data be provided in the period between 20 November 2008 (Annex 15, 10.6.1.1) and 18 November 2010 (Annex 15, 10.6.1.2), respectively, as established;</li> <li>b) ensure effective compliance of item a), through the establishment of a team of specialists in charge of the development of corresponding technical studies on this matter;</li> <li>c) put into practice an action plan oriented towards the collection of sets of electronic terrain and obstacle data for their classification, storage and availability in digital databases in accordance with the contents and structure specified in Appendix 8 to ICAO Annex 15; and</li> <li>d) ensure availability of electronic terrain and obstacle data of the State's national territory through coordination with national geographic institutes to have aeronautical Visual (VFR) Flight Charts available in digital format at scales between 1:250,000 and 1:1,000,000, respectively.</li> </ul>	States/Territories and International Organizations	Still not been received at the offices CAR / SAM plans of action pertaining	Valid

CONCLUSION	FOLLOW-UP RESPONSIBILITY	FOLLOW-UP ACTIONS	STATUS/ REMARKS
<p><b>CONCLUSION 14/41 - CAR/SAM FASID TABLE AIS-4</b></p> <p>That in compliance with CAR/SAM/3 RAN Recommendation 12/5, and based on the work carried out on this matter by both NACC and SAM Regional Offices and GREPECAS, and considering also that this is an operational requirement for the CAR/SAM Regions:</p> <p>a) the CAR/SAM States that have not yet done so, submit information to the ICAO Regional Offices for FASID Table AIS-4 as presented in <b>Appendix T</b> to this part of the Report;</p> <p>b) with that information, the ICAO NACC and SAM Regional Offices make the proposal for amendment to incorporate FASID Table AIS-4 - <i>Requirements for Integrated Aeronautical Information Package at International Airports</i> into the contents of Doc 8733, <i>CAR/SAM Air Navigation Plan, Volume II, FASID</i> by the end August 2007; and</p> <p>c) concerned ICAO Regional Offices take the necessary action to ensure that CAR/SAM States comply with updating and maintaining the information in the FASID Table AIS-4.</p>	<p>States/Territories and International Organizations</p> <p>ICAO</p>	<p>Some States of the CAR Region not send the required information still</p>	<p>Valid</p>

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Agenda Item 2: **Review of the AIM Subgroup Contributory Bodies Reports**

2.1 **Report of the Third Meeting of the AIM Quality Management Task Force (AIM/QM/TF/3), and follow-up on the initiative to develop an implementation plan for AIM services quality systems.**

2.1.1 For the dealing of this part of the Agenda, the Meeting reviewed and updated the results of the work presented by the Rapporteur of the AIM Quality Management Task Force.

2.1.2 The Task Force approved a Report containing the discussed subjects and the implementation plan of a quality management system was reviewed (**Attachment 1 to The AIM QM TF 3**)\* taking into consideration the CAR/SAM States' experience in which the system has been already implemented. The proposed plan has concrete actions and a deadline of 20 months (1 year and 8 months).

2.1.3 The Task Force discussed the reference Plan for the AIM concept transition concept in CAR/SAM Regions. The Meeting considered necessary that in the Plan configuration all the AIM Subgroup Task Forces will be involved, mainly because of the required automation component and, in this way, it would be more practical for the Subgroup Secretariat to undertake a Regional Strategy to be adopted by CAR/SAM States/International Organizations. To this regard, the Meeting considered appropriate to request to the other Task Force to examine the AIM transition project in the GREPECAS Web page with the view that each Task Force forward to the AIM Subgroup Secretariat their contributions to achieve the AIM Transition Regional Plan in a compatible manner (**Attachment 2 to Appendix**)\*.

2.1.4 The AIM human factors were evaluated considering their relation with training and personnel instruction issues in these programmes. It was considered pertinent to be transferred to AIM Training Task Force for its consideration. The Guidelines of the application of the human factor principles for AIM was also taken into account (**Attachment 5 to Appendix of the AIM QM TF 3 Report**)\* and should be placed as Part 5 of the Guidance Manual for the AIS/MAP Implementation of a Quality Management System in CAR/SAM Regions.

2.1.5 The Meeting evaluated the specifications of the requirements by the QM/TF (**Attachment 6 to Appendix of the AIM QM TF Report**)\* and which might be applied by the any other AIM Subgroup contributory bodies and that these requirements be taken into account by the Rapporteurs in the planning and development of their tasks.

2.1.6 The Meeting, after pertinent discussions on the subject, agreed to formulate the following conclusion:

**DRAFT CONCLUSION 11/6**

**APPLICATION GUIDANCE OF THE HUMAN FACTORS PRINCIPLES IN THE AIS/MAP**

That States/Territories/International Organizations adopt as Part 5 of the *Guidance Manual for the implementation of a Quality System in the AIS/MAP CAR/SAM*, the Application Guidance of the Principles in the AIS/MAP.

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\* The Final Report of each Task Force will be available in the Web page of the NAM CAR Office, in the near future

2.1.7 In dealing with this Agenda Item, the Meeting reviewed and updated the outcomes of the works presented by the Rapporteur of the AIM/QM Task Force, which will be shown in the Web page of the NAM CAR Office, in the future.

## 2.2 **Report of the Ninth Meeting of the Aeronautical Information Management Training Task Force (AIM/TRAIN/TF/9)**

2.2.1 The Meeting recalled that during AIS/MAP/SG/10 meeting, held in Caracas, Venezuela, from 26 February to 2 March 2007, established the AIM Training Task Force (AIM/TRAIN/TF) through Decision 10/9, to continue with the preparatory tasks for the AIS/MAP personnel training guidelines, within the Aeronautical Information Management environment.

2.2.2 The Ninth Meeting of the Aeronautical Management Training Task Force (AIM/TRAIN/TF/9) was held in Santa Cruz, Bolivia, from 24 to 28 March 2008. The meeting counted with the participation of 5 States and one International Organization, members of the Task Force, making a total of 19 participants.

2.2.3 Continuing with the actions developed in the Second and Third meetings of the AIS/MAP Quality Assurance Task Force, mainly the one held in Montevideo, Uruguay from 14 to 18 August 2006, the Meeting examined the Guidance Manual for the Implementation of an AIS/MAP Quality Assurance System in the CAR/SAM Regions, with the exception of Chapter 5 "Guidance of Responsibilities and Functions of AIS/MAP Personnel", which was dealt with exclusively under Agenda Item 5, for its adaptation to the new Aeronautical Information Management (AIM) Concept (**Appendix B to the AIM/TRAIN/TF/9**)\*.

2.2.4 The Task Force analyzed the updating made to the CAR/SAM AIS/021 Regional Standardized Programme (**Appendix C to the AIM/TRAIN/TF/9 Report**)\*, recommending the adoption of this programme by States. It was recognized that this document agrees with the new ICAO Training Manual and with the results of the AIS Global Congress which, in accordance with Recommendation 8, urges ICAO, together with States and International Organizations, to amend the current guidance material, or develop new training material in support to the AIM transition process.

2.2.5 It was recommended that the TRAIN Group should continue with the revisions to the referred manual, taking into account the latest amendments to Annexes 4 and 15, and the implementation of the new CNS/ATM systems and the Aeronautical Information Management (AIM). Under this same item, the meeting was made aware of the proposal presented by COCESNA regarding AIS/021 course, for its analysis at the next TRAIN meeting (**Appendices D and E of the AIM/TRAIN/TF/9**)\*.

2.2.6 The Task Force made a review to the guidelines and criteria for the development of the Study Programme for the Modules of the CAR/SAM AIS/021 Second Generation Course, in the future AIS/024 Course (**Appendix F to the AIM/TRAIN/TF/9 Report**)\*, and considering that the AIS transition to Aeronautical Information Management (AIM) is already a reality, the meeting deemed it convenient to examine the Study Programme for the Modules of the AIS/024 course, with the aim of guaranteeing an efficient training of the AIS/MAP personnel, as per the role it has to perform within the CNS/ATM environment, in order to keep and elevate the professional level required by the personnel, able to face future AIS/MAP challenges in the transition to the new AIM concept. To this effect, an Ad-hoc Group composed by Bolivia, Ecuador, Costa Rica, Dominican Republic, Paraguay, and COCESNA was established. The meeting agreed that the proposed corrections be presented to the AIM/SG/11 meeting, as well as the proposal presented by COCESNA on this same item (**Appendix G of the AIM/TRAIN/TF Report**)\*.

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2.2.7 The Task Force reviewed Chapter 5 – Guidance of Responsibilities and Functions of AIS/MAP Personnel, of the “Guidance Manual for the Implementation of a Quality Assurance System for the AIS/MAP of the CAR/SAM Regions, Part 4 – Selection, Competence and Re-qualification of AIS/MAP Personnel”, for its adaptation with the new AIM concept and the establishment of AIM as a central process of operational ATM, highlighting the importance of the role AIS/MAP personnel must assume as regards the validation and verification functions of the aeronautical data from its origin up to its delivery to the final user. To this effect, an Ad-hoc Group was established, which presented the proposal to separate the AIS Publications and Aeronautical Charts Offices, both in its organizational functions as in its responsibilities and functions.

2.2.8 The Task Force also analyzed the Guide for the Application of Human Factors Principles in the AIM, which, due to its relationship with personnel training aspects in these programmes, was transferred to the AIM Training Task Force through AIS/MAP/QM/TF/3 for its consideration, as Part 5 of the Guidance Manual for the Implementation of a Quality Management System in the CAR/SAM AIS/MAP, to serve as a guide to develop courses for AIS/MAP personnel, foreseeing the need to involve each State’s/Organization’s civil aviation training centre in this objective, and taking into account that no programme is to start without due AIS/MAP personnel training. To complete the requirements of the task assigned by the AIM Subgroup, an Ad-hoc Group was established, to work at a distance through the electronic mail and which is composed by experts from Bolivia, Costa Rica, Dominican Republic, Guatemala, Paraguay and COCESNA. Under this same topic, COCESNA highlighted GREPECAS Conclusion 13/31: “Application of the human factors principles in Aeronautical Information Management and the need to incorporate the Human Factor in the development of AIS/021 course, since this training is applied in the COCESNA’s ICCAE.

2.2.9 The Task Force made an analysis to ICAO’s language proficiency requirement, which established that aeronautical personnel must demonstrate their ability to speak and understand technical English, trying to apply pre-operational level 3 and operational level 4 for the application of the technical language, for both license holders as those aspiring to hold their licenses. Also, it was considered that one of the most important aspects for the establishment of efficient language learning programmes is the selection of appropriately qualified instructors, having the AIS/MAP instructors to collaborate with the English instructors to develop effective and precise programmes. The AIS/MAP experts can make sure that the training contents are appropriate, while the English instructor can ensure that the teaching is focused towards the learning of the language. To complete the requirements of the task assigned by the AIM Subgroup, an Ad-hoc Group was established, to work at a distance through the electronic mail, composed by experts from Bolivia, Costa Rica, Dominican Republic, Guatemala, Paraguay and COCESNA. Under this same subject, COCESNA indicated that another task of the AIM Subgroup is to study and define the basic criteria required to ensure the development of a technical English language training programme within the AIM environment, on the basis of ICAO’s language proficiency requirements and which are currently defined for air traffic services personnel, with which the meeting was in agreement with, having presented the profile of the English courses at ICCAE.

2.2.10 The Task Force at the moment of requesting a location to host the next AIM/TRAIN/10 in 2009, the States represented indicated having no possibilities. Nevertheless, and pending decision from their authorities, the COCESNA representative tentatively proposed the Instituto Centro Americano de Adiestramiento Aeronáutico (ICCAE) at San Salvador, El Salvador.

2.2.11 The Meeting, in this part of the discussions, agreed to express the possibility that the planning of different events at Regional level be carried out in order to support the AIM Transition through the following Draft Conclusion:

**DRAFT CONCLUSION 11/4****TRAINING SEMINARS/WORKSHOPS IN SUPPORT OF AIS/MAP TRANSITION TO AIM**

States are urged, with ICAO's support, to:

- a) agree Technical Cooperation Projects; and/or
- b) agree with other States/International Organizations the development of training events in supporting the AIS/MAP transition to AIM

2.2.12 In dealing with this Agenda Item, the Meeting reviewed and updated the results of the works presented by the Rapporteur of the AIM/TRAIN Task Force, which will be shown in the Web page of the NAM CAR Office, in the near future.

**2.3 First Meeting of Aeronautical Information Management Electronic Aeronautical Charts Task Force (AIM/e-MAP/TF/1)**

2.3.1 For dealing of this part of the Agenda, the Meeting reviewed and updated the results of the work presented by the Rapporteur of the Aeronautical Information Management Electronic Aeronautical Charts Task Force.

2.3.2 The Task Force presented the Development Status of the "ICAO/PAIGH Cooperation Project for the production of Electronic Aeronautical Charts VFR 1:1.000.000 and 1:500.000, approved by the Panamerican Institute of Geography and History (PAIGH) (**Attachment 1 to Appendix of the AIM/e-MAP/TF/1 Report**)\*, taking into consideration the need to agglutinate the ICAO and PAIGH initiatives for Aeronautical Cartography generation based on common standards, inducing the experience exchange and the coordination among organizations. The proposed plan has concrete actions and date lines which should be finished no later that the first quarter of 2009. To this respect, it was taken the decision that States should give the consulted card background through Regional Offices (**Attachment 2 to Appendix of AIM/e-MAP/TF/1**)\* which allows to carry out a diagnosis regarding the production of aeronautical cartography and in the way to propose a supporting common plan to the production of electronic aeronautical cartography based on regional reality.

2.3.3 The Rapporteur mentioned the issue related with useful Guidance Elaboration for the provision of Electronic Terrain and Obstacle data for the elaboration of Aerodrome and Obstacle Plans-Electronics, according to the stipulated in Chapter 10 of ICAO Annex 15. The Meeting considered pertinent to indicate the AIM/TRAIN Task Force the need to extend the training for the correct e-Tod implementation. A survey was prepared in order to be sent to States, Territories and International Organizations through AIM/SG/11, in order to meet the difficulties that the implementation of this issue presents, according to the ICAO established date. It was considered the need to carry out a **CATASTRO GRÁFICO**, in order to measure the magnitude of the work to carry out, the search of the best technical alternative for its execution and to establish priorities for its implementation. A guidance was elaborated in order to know the States current situation regarding the implementation of the electronic standards for Electronic Terrain and Obstacle data (**Attachment 3 to Appendix AIM/e-MAP/TF/1**)\*.

2.3.4 The Task Force presented the Meeting the Principles and Quality Standards applicable to Aeronautical Cartography, in order to establish the basis for the quality evaluation of Aeronautical Cartography in CAR/SAM Regions. Due to the complexity of the issued dealt, it was agreed in the need to go into this to subject in depth in a next meeting.

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2.3.5 The Aeronautical Cartography Symbols Manual was reviewed, for the Meeting's consideration in the production of Electronic Aeronautical Cartography. To this end, the Meeting considered that they should wait for the amendments of Annex 4, regarding symbology, before its applicability in all aeronautical cartography representations. In the same manner, it was concluded that the AIM/e-MAP Task Force continues with the study of the Geo Spatial Data Structure of Digital Environment and its interoperability in the AMXM preparation. It is suggested that, through Regional Offices, to request States, Territories and International Organizations the standardization of the graphic representation and dimensions of the symbol standards.

2.3.6 The Task Force reviewed the use of the Geographical Information Systems (GIS) and Database in Electronic Charts, showing their advantages to the Information Management and Aeronautical Charts in digital environment. It was decided to promote a training programme throughout the AIM/TRAIN Task Force on GIS and e-TOD. Also, it was decided the need to elaborate guidelines for States in the implementation of GIS, taking into consideration the GIS' future.

2.3.7 The Group mentioned the importance to carry out a seminar where experts present topics on Cartographic Quality, Standards, GIS, and Terrain Digital Models, in order to provide a technical perspective and unifying criteria for implementation. In addition, it was discussed the need to integrate MAP inspectors to the USOAP Audits. The Task Force might meet in April 2009.

2.3.8 From the analysis and review to Annex 15, Chapter 10 and Doc. 9881, and the discussion among its members, the Task Force considered the convenience of distribution a survey, which will be sent to State/Territories/International Organizations through the Secretariat of the AIM Subgroup, with the aim of becoming aware of the difficulties that the implementation of the areas concerning e-Tod presents, as regards the effective date established by ICAO. The analysis of the replies obtained will be evaluated at the next meeting of this Task Force.

2.3.9 In addition, in its report, the e-MAP/TF proposed the AIM/SG to take into consideration the possibility of coordinating with AECL, AENA and SAF to hold a GIS seminar in 2009 that includes quality cartography and digital model elevations.

2.3.10 Finally, it was informed that the Task Force agreed that the next meeting (e-MAP/TF/2) would be carried out in April 2009, and that the date and site is to be confirmed.

2.3.11 During the discussion of the Order of Business the Meeting reviewed and updated the results of the AIM/e-MAP Task Force work presented by the Rapporteur. This information will be published in the NAM CAR web shortly.

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**Agenda Item 2: Review of the AIM Subgroup Contributory Bodies Reports**

**2.1 Report of the Third Meeting of the AIM Quality Management Task Force (AIM/QM/TF/3) and follow-up on the initiative to develop an implementation plan for AIM services quality systems.**

**REPORT OF THE THIRD MEETING OF QUALITY MANAGEMENT TASK FORCE  
(AIM/QM/TF/3)**

(Presented by the Rapporteur)

**SUMMARY**

This Working Paper resumes the outcomes of the discussions held during the Third Meeting of Aeronautical Information Management Quality Management Task Force (AIS/MAP QM/TF/3). The Task Force formulated 4 Draft Decision and Conclusion which required action from AIM/SG/11.

**References:**

- Report of the AIS/MAP QM/TF/3 (Antigua, Guatemala, 6-10 August 2007)

**1. Introduction**

1.1 The Third Meeting of the AIM Quality Management Task Force (AIS/MAP QM/TF/3) was held in Antigua, Guatemala, Guatemala, from 6 to 10 August 2007. The Meeting count with the participation of 20 delegates of 10 States and one International Organization.

2.1 The Task Force approved a Report containing the discussed subjects and 4 Draft Decision/Conclusion submitted for the AIM/SG/11 Meeting's consideration. **Appendix** to this Working Paper includes these Draft Decisions/Conclusions.

**2. Review of the AIS/MAP QM/TF Third Meeting**

2.1 Under Agenda Item 3 the implementation plan of a quality management system was reviewed (**Attachment 1 to Appendix**) taking into consideration the CAR/SAM States' experience in which the system has been already implemented. The proposed plan has concrete actions and a deadline of 20 months (1 year and 8 months). In this context, Decision 3/1 was taken in order that the said Plan be sent to the AIM Subgroup Secretariat and circulated to States for its application.

2.2 The reference Plan for the AIM concept transition in CAR/SAM Regions was discussed in Agenda Item 5. The Meeting considered necessary that in the Plan configuration all the AIM Subgroup Task Forces will be involved, mainly because of the required automation component and, in this way, it would be more practical for the Subgroup Secretariat to undertake a Regional Strategy to be adopted by CAR/SAM States/International Organizations. To this regard, the Meeting considered appropriate Draft Decision 3/2, in order that each Task Force forward to the AIM Subgroup Secretariat their contributions to achieve the AIM Transition Regional Plan in a compatible manner (**Attachment 2 to Appendix**).

2.3 The AIM human factors were evaluated under Agenda Item 6. Their relation with training and personnel instruction issues in these programmes lead to formulate Draft Decision 3/3, which suggests that **Attachment 3 and 4 to Appendix** of this Working Paper be transferred to AIM Training Task Force for its consideration. The Guidelines of the application of the human factor principles for AIM was also taken into account (**Attachment 5 to Appendix**) and should be placed as Part 5 of the Guidance Manual for the AIS/MAP Implementation of a Quality Management System in CAR/SAM Regions. As a result a Draft Conclusion 3/4 was formulated.

2.4 The Meeting evaluated, under Agenda Item 7, the specifications of the requirements by the QM/TF (**Attachment 6 to Appendix**) and which might be applied by the any other AIM Subgroup contributory bodies. In this regard, Draft Decision 3/5 was taken in order that the Secretariat disseminate these requirements and taken into account by the Rapporteurs in the planning and development of their tasks.

### **3. Suggest action**

3.1 The Meeting is invited to:

- a) take into account the content of this working paper, and
- b) adopt the 4 Draft Decision/Conclusion contained in the Appendix of this paper.

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**Agenda Item 2: Review of the AIM Subgroup Contributory Bodies Reports**

**2.2 Report of the Ninth Meeting of the Aeronautical Information Management Training Task Force (AIM/TRAIN/TF/9)**

(Paper presented by the Rapporteur of the Training Task Force)

**SUMMARY**

This working paper summarizes the results of the discussions carried out during the ninth meeting of the Aeronautical Management Training Task Force (AIM/TRAIN/TF/9). The Task Force formulated 3 Draft Conclusions and 3 Draft Decisions requiring the action of the AIM/SG/11 Subgroup.

**References:**

- Report of the AIM/TRAIN/TF/9 meeting, Santa Cruz, Bolivia, 24-28 March 2008

**1. Background**

1.1 The AIS/MAP/SG/10 meeting, held in Caracas, Venezuela, from 26 February to 2 March 2007, established the AIM Training Task Force (AIM/TRAIN/TF) through Decision 10/9, to continue with the preparatory tasks for the AIS/MAP personnel training guidelines, within the Aeronautical Information Management environment.

1.2 The Ninth Meeting of the Aeronautical Management Training Task Force (AIM/TRAIN/TF/9) was held in Santa Cruz, Bolivia, from 24 to 28 March 2008. The meeting counted with the participation of 5 States and one International Organization, members of the Task Force, making a total of 19 participants.

1.3 The Task Force approved the report on all the items discussed, as well as 3 Draft Conclusions and 3 Draft Decisions submitted to the consideration of the AIM/SG/11 meeting. Appendix A to this working paper contains the mentioned draft conclusions and draft decisions.

**2. Review of the AIM/TRAIN/TF ninth meeting**

2.1 Under Agenda Item 2 and continuing with the actions developed in the second and third meetings of the AIS/MAP Quality Assurance Task Force, mainly the one held in Montevideo, Uruguay from 14 to 18 August 2006, the meeting examined the Guidance Manual for the Implementation of an AIS/MAP Quality Assurance System in the CAR/SAM Regions, with the exception of Chapter 5 "Guidance of Responsibilities and Functions of AIS/MAP Personnel", which was dealt with exclusively under Agenda Item 5, for its adaptation to the new Aeronautical Information Management (AIM) Concept (**Appendix B**).

2.2 Under Agenda Item 3, the meeting analyzed the updating made to the CAR/SAM AIS/021 Regional Standardized Programme (**Appendix C**), recommending the adoption of this programme by States. It was recognized that this document agrees with the new ICAO Training Manual and with the results of the AIS Global Congress which, in accordance with Recommendation 8, urges ICAO, together with States and International Organizations, to amend the current guidance material, or develop new training material in support to the AIM transition process.

2.3 It was recommended that the TRAIN Group should continue with the revisions to the referred manual, taking into account the latest amendments to Annexes 4 and 15, and the implementation of the new CNS/ATM systems and the Aeronautical Information Management (AIM). Under this same item, the meeting was made aware of the proposal presented by COCESNA regarding AIS/021 course, for its analysis at the next TRAIN meeting (**Appendices D and E**).

2.4 Under Agenda Item 4, a review was made to the guidelines and criteria for the development of the Study Programme for the Modules of the CAR/SAM AIS/021 Second Generation Course, in the future AIS/024 Course (**Appendix F**), and considering that the AIS transition to Aeronautical Information Management (AIM) is already a reality, the meeting deemed it convenient to examine the Study Programme for the Modules of the AIS/024 course, with the aim of guaranteeing an efficient training of the AI/MAP personnel, as per the role it has to perform within the CNS/ATM environment, in order to keep and elevate the professional level required by the personnel, able to face future AIS/MAP challenges in the transition to the new AIM concept. To this effect, an Ad-hoc Group composed by Bolivia, Ecuador, Costa Rica, Dominican Republic, Paraguay, and COCESNA was established. The meeting agreed that the proposed corrections be presented to the AIM/SG/11 meeting, as well as the proposal presented by COCESNA on this same item (**Appendix G**).

2.5 Under Agenda Item 5, the meeting reviewed Chapter 5 – Guidance of Responsibilities and Functions of AIS/MAP Personnel, of the “Guidance Manual for the Implementation of a Quality Assurance System for the AIS/MAP of the CAR/SAM Regions, Part 4 – Selection, Competence and Requalification of AIS/MAP Personnel”, for its adaptation with the new AIM concept and the establishment of AIM as a central process of operational ATM, highlighting the importance of the role AIS/MAP personnel must assume as regards the validation and verification functions of the aeronautical data from its origin up to its delivery to the final user. To this effect, an Ad-hoc Group was established, which presented the proposal to separate the AIS Publications and Aeronautical Charts Offices, both in its organizational functions as in its responsibilities and functions (**Appendix B**), formulating Draft Decision 9/1.

2.6 Under Agenda Item 6 – Human Factors within the AIM, a review was made to the Guide for the Application of Human Factors Principles in the AIM, which, due to its relationship with personnel training aspects in these programmes, was transferred to the AIM Training Task Force through AIS/MAP/QM/TF/3 Draft Decision 3/3, which should be incorporated as Part 5 of the Guidance Manual for the Implementation of a Quality Management System in the CAR/SAM AIS/MAP, to serve as a guide to develop courses for AIS/MAP personnel, foreseeing the need to involve each State’s/Organization’s civil aviation training centre in this objective, and taking into account that no programme is to start without due AIS/MAP personnel training.

2.7 To complete the requirements of the task assigned by the AIM subgroup, an Ad-hoc Group was established, to work at a distance through the electronic mail and which is composed by experts from Bolivia, Costa Rica, Dominican Republic, Guatemala, Paraguay and COCESNA. Under this same topic, COCESNA highlighted GRPECAS Conclusion 13/31: “COCENSA’s ICCAE.

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2.8 Under Agenda Item 7, an analysis was made to ICAO's language proficiency requirement, which established that aeronautical personnel must demonstrate their ability to speak and understand technical English, trying to apply pre-operational level 3 and operational level 4, for the application of the technical language, for both license holders as those aspiring to hold their licenses.

2.9 It was considered that one of the most important aspects for the establishment of efficient language learning programmes is the selection of appropriately qualified instructors, having the AIS/MAP instructors to collaborate with the English instructors to develop effective and precise programmes. The AIS/MAP experts can make sure that the training contents are appropriate, while the English instructor can ensure that the teaching is focused towards the learning of the language. To complete the requirements of the task assigned by the AIM Subgroup, an Ad-hoc Group was established, to work at a distance through the electronic mail, composed by experts from Bolivia, Costa Rica, Dominican Republic, Guatemala, Paraguay and COCESNA. Under this same subject, COCESNA indicated that another task of the AIM Subgroup is to study and define the basic criteria required to ensure the development of an technical English language training programme within the AIM environment, on the basis of ICAO's language proficiency requirements and which are currently defined for air traffic services personnel, with which the meeting was in agreement with, having presented the profile of the English courses at ICCAE.

### **3. Other matters**

3.1 The meeting made an evaluation to the terms of reference, compliance and level of execution of the AIM/TRAIN work programme, presented in **Appendix H**, supported by the information provided by the Rapporteur.

3.2 The meeting considered that the five tasks composing the AIM/TRAIN work programme: AIM/TRAIN 1, is finalized, but it would be desirable to follow it up through the Training Task Force in order to evaluate its effectiveness or eventually its updating, as decided by the AIM/SG; AIM/TRAIN 2, AIM/TRAIN 3, AIM/TRAIN 4 y AIM/TRAIN 5 have not been totally completed, recommending AIM/SG to extend its ending date.

3.3 The expert from Bolivia indicated the meeting that, in coordination with the AIM Subgroup, arrangements be made with the ICAO NACC and SAM Offices for the holding of aeronautical charts updating courses, with particular emphasis on the preparation of AIS personnel in the use of Geographical Information Systems (GIS).

3.4 The meeting expressed its concern regarding the constraints that have been adopted for the participation of AIS experts in the AIM/SG Task Forces meetings, thus reducing the participation of personnel needing to acquire experience and knowledge on the progress of the subjects to be dealt with.

3.5 Taking into account the need to continue with appropriate follow up to valid actions, and the need to develop new tasks, at the moment of requesting a location to host the next AIM/TRAIN/10 in 2009, the States represented indicated having no possibilities. Nevertheless and pending decision from their authorities, the COCESNA representative tentatively proposed the Instituto Centroamericano de Adiestramiento Aeronáutico (ICCAE) at San Salvador, El Salvador.

**4. Action suggested**

4.1 The Meeting is invited to:

- a) Take note of the contents in this working paper; and
- b) Adopt the draft conclusions and draft decisions contained in Appendix A to this working paper.

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**Available in Spanish Only**

**Cuestión 3 del  
Orden del Día: Revisión sobre aspectos de planificación y la transición al AIM**

**ASPECTOS FUNDAMENTALES TRATADOS EN EL SIMPOSIO MUNDIAL SOBRE  
HABILITACIÓN DE ENTORNOS DE INFORMACIÓN EN RED.**

(Nota presentada por la Presidencia)

**RESUMEN**

Esta Nota de Estudio trata de recopilar de una forma resumida las cuestiones fundamentales tratadas en el Simposio Mundial sobre habilitación de entornos de información en red.

**Referencias:**

1. Ponencias presentadas en el Simposio Mundial sobre habilitación de entornos de información en red.

**1. Introducción**

1.1 El simposio mundial sobre habilitación de entornos de información en red se ha previsto como seguimiento del congreso mundial OACI/EUROCONTROL sobre servicios de información aeronáutica (AIS), celebrado en el 2006.

1.2 La estrategia global de desarrollo está encaminada al concepto operacional OACI de ATM mundial y la habilitación del sistema ATM futuro, lo que establece nuevos requisitos para el AIS, que debe hacer la transición hacia el suministro y gestión de la información centrada en los datos, dentro de un concepto mas amplio de gestión de información aeronáutica (AIM).

1.3 El *simposio mundial sobre habilitación de entornos de información en red* tiene como objetivo iniciar el proceso para resolver este reto, reconocido internacionalmente en la esfera de la aviación, que abarca aspectos organizativos, financieros y de propiedad intelectual relacionados con la gestión de todo el sistema de información aeronáutica, todo ello acorde a las tendencias generales del uso de las técnicas de información y el proceso de informatización de la sociedad que se lleva a cabo a nivel global.

## **2. Aspectos más relevantes del desarrollo del evento.**

2.1 Se dio una explicación ampliada del significado del ATM mundial y sus implicaciones en la comunidad aeronáutica y la importancia relevante del papel de la información aeronáutica en este contexto. Se hizo mucho énfasis en la necesidad del carácter global y mundial de los sistemas en general destacando que se cuenta actualmente con la tecnología adecuada, pero que era fundamental hacer un análisis de los factores institucionales y jurídicos, de recursos humanos, económicos, y de intercambio de información en red, que propicien la disponibilidad de toda la información necesaria en tiempo real y en cualquier fase del vuelo.

2.2 Quedó claro la necesidad de satisfacer los nuevos requerimientos que están surgiendo del concepto ATM Global y con el objetivo de ser útil en sus necesidades futuras, el AIS tiene que transitar en un mediano y largo plazo de ser suministrador de productos predeterminados a la manipulación de información aeronáutica/datos aeronáuticos. Es por ello que el AIS debe dejar atrás su actual naturaleza centrada en el producto y evolucionar hacia la manipulación de información aeronáutica centrada en los datos.

2.3 La manipulación de datos aeronáuticos (AIM) está diseñada para proveer mecanismos destinados a establecer y manipular el flujo de información aeronáutica compartida y de calidad asegurada que es requerida por el sistema ATM.

2.4 De igual forma el concepto de información / datos aeronáuticos deberá ampliar su espectro considerando como tal cualquier información meteorológica, planes de vuelo y datos operacionales en general que estarán disponibles en tiempo real para cualquier usuario en cualquier fase de vuelo.

2.5 Se insistió en la posibilidad de la delegación de provisión de servicios de varios Estados a Organizaciones no gubernamentales, pusieron ejemplos de EUROCONTROL y COCESNA, aunque se recalcó que el Estado seguiría siendo responsable de la información.

2.6 La importancia de promover y fomentar el AIS hacia un entorno en red para aumentar la capacidad de la información fue tema principal en más de una ponencia, sobretodo teniendo en cuenta la necesidad del intercambio de datos en tiempo real y todo bajo protocolo y normas estándar y seguras, que aseguren los sistemas desde su diseño.

2.7 En el entorno ATM global, el AIS pasará a ser uno de los servicios facilitadores mas valiosos e importantes, asegurando el suministro de información aeronáutica actualizada y de calidad para todas las fases del vuelo.

2.8 Los datos aeronáuticos se intercambiarán en un entorno completamente electrónico y en red, solo se imprimirá aquella información que se necesite como referencia o para su memorización temporal o como apoyo de visualización a los operadores humanos convirtiéndose la creación y aplicación de una base de datos en piedra angular en el desarrollo de un entorno digital.

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2.9 Es claro que por primera vez es una preocupación de toda la comunidad aeronáutica, la parte jurídica en lo que a responsabilidad de proporcionar información concierne, así como los cobro y recuperación de costos en este nuevo concepto de provisión de información en red y se estableció un cuestionamiento sobre el concepto de la soberanía nacional y como este concepto podría haber cambiado en correspondencia con la época en que se desarrolla puesto que la tendencia generalizada promueve al intercambio libre de la información aeronáutica en áreas geográficas como es un ejemplo hoy Eurocontrol y su base de datos EAD de la cual hacen uso todos los miembros europeos de esta organización no gubernamental.

2.10 Es importante destacar que en nuestra región geográfica se promueve el nacimiento y desarrollo de una organización llamada NEXTGEN (Next generation air transport system), con sede en Estados Unidos con un programa similar al SESAR europeo (Single European sky ATM research), cuyo propósito es crear las condiciones necesarias en cuanto a información disponible y servicios de navegación que faciliten la toma de decisiones en colaboración CDM y el llamado espacio aéreo sin costuras o cielo único europeo (SES), que cuenta hoy con un nuevo promotor en nuestra región y sería muy conveniente desde ahora analizar y estudiar este proyecto.

### **3. Conclusiones**

3.1 En este Simposio se pudo obtener un cúmulo de información que una vez procesada y estudiada a profundidad nos aportará una valiosa herramienta para continuar desarrollando nuestros Planes de transición al AIM.

3.2 En este marco se consolidó la necesidad ya manifiesta del AIS de desarrollar los nuevos sistemas automatizados sobre las líneas ya definidas a nivel mundial que propicien el intercambio de información garantizando su calidad y confiabilidad.

3.3 Aún hay incertidumbre en muchos aspectos de esta transición, se necesitan normas uniformes a nivel mundial evidenciándose la necesidad de que la OACI tomara la iniciativas y trazara pautas inmediatas para la transición al AIM es decir que la OACI liderara estos procesos.

3.4 Debe seguir profundizándose en el carácter de los cambios que implica el AIM en el marco jurídico e institucional.

3.5 Se reitero la continuidad de este evento en el Forum de integración y armonización del Next Gen y SESAR en el marco de la ATM mundial, en el mes de septiembre en Montreal, por lo que se insta a los Estados a participar en tan importante evento donde se trazarán políticas y estrategias a seguir por las Aeronáutica Civil en estos temas.

**Agenda Item 4: Review of the Implementation Process**

**4.1 Initiative for Spanish speaking States to comply with the requirement in Annex 15, Chap. 3, para. 3.6.1, regarding the publication of the Integrated Aeronautical Information Package in the English language, especially in digital formats**

4.1.1 In the discussion of this subject, the Meeting recalled that through Annex 15, 12<sup>th</sup> Edition, application date 25 November 2004, the Recommendation in Para. 3.6.1 was modified to Standard (compulsory), and indicates the following:

*“3.6.1 Each of the elements in the aeronautical information integrated documentation distributed internationally will contain the **English version** of the parts expressed in clear language.”*

4.1.2 After a review made by the Meeting, following is a table listing NAM/CAR/SAM States that indicates compliance with Annex 15, Standard 3.6.1:

STATE / INTERNATIONAL ORGANIZATION	CAR OR SAM REGION	FIRST LANGUAGE	PUBLISHES VERSION IN ENGLISH	REMARKS
Anguilla	CAR	English		Does not apply
Antigua and Barbuda	CAR	English		Does not apply
Antillas Neerlandesas/ Netherlands Antilles	CAR	English/Dutch		Does not apply
Argentina	SAM	Spanish	NO	Cumplimiento estimado para finales 2008
Aruba	CAR	English		Does not apply
Bahamas	CAR	English		Does not apply
Barbados	CAR	English		Does not apply
Belize	CAR	English		Does not apply
Bermuda	CAR	English		Does not apply
Bolivia	SAM	Spanish	NO	Compliance estimated for end of 2009
Brazil	SAM	Portuguese	YES	
Canada	NAM	English/French		Does not apply
Colombia	SAM	Spanish	NO	Partially complied with – Compliance estimated for end of 2009
Costa Rica	CAR	Spanish	YES	
Cuba	CAR	Spanish	YES	
Chile	SAM	Spanish	NO	Partially complied with – Compliance estimated for end of 2009
Dominica	CAR	English		Does not apply
Ecuador	SAM	Spanish	NO	-----
El Salvador	CAR	Spanish	NO	-----
Estados Unidos/United States	NAM	English		Does not apply

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STATE / INTERNATIONAL ORGANIZATION	CAR OR SAM REGION	FIRST LANGUAGE	PUBLISHES VERSION IN ENGLISH	REMARKS
Estados Unidos – Islas Vírgenes/United States – Virgin Islands	CAR	English		Does not apply
France-French Guiana	SAM	French	YES	
France – Guadeloupe	CAR	French	YES	
France – Martinique	CAR	French	YES	
Grenada	CAR	English		Does not apply
Guatemala	CAR	Spanish	NO	Compliance estimated for end of 2009
Guyana	SAM	English		Does not apply
Haití	CAR	rench	YES	
Honduras	CAR	Spanish	NO	-----
Islas Caimanes/Cayman Islands	CAR	English		Does not apply
Islas Turcas y Caicos/Turks and Caicos	CAR	English		Does not apply
Jamaica	CAR	English		Does not apply
Mexico	CAR	Spanish	NO	-----
Montserrat	CAR	English		Does not apply
Nicaragua	CAR	Spanish	NO	-----
Panama	SAM	Spanish	YES	
Paraguay	SAM	Spanish	NO	Compliance estimated for end of 2009
Peru	SAM	Spanish	NO	Compliance estimated for end of 2008
Reino Unido – Islas Vírgenes/British Virgin Islands	CAR	English		Does not apply
Republica Dominicana/Dominican Republic	CAR	Spanish	YES	
Saint Kitts and Nevis	CAR	English		Does not apply
Saint Vicent and Grenadines	CAR	English		Does not apply
Santa Lucia	CAR	English		Does not apply
Suriname	SAM	English		Does not apply
Trinidad and Tobago	CAR	English		Does not apply
Uruguay	SAM	Spanish	NO	Compliance estimated for end of 2009
Venezuela	SAM	Spanish	YES	
COCESNA	CAR	Spanish	NO	Compliance estimated for end of 2009

4.1.3 The Meeting, recalling that this Standard is of fundamental consideration for the international exchange of information, recognized that Spanish-speaking States need to take action regarding the production in English of the aeronautical information integrated package for international distribution, with special attention in the NOTAM information, even though it was aware of several projects towards this objective.

4.1.4 In addition, the Meeting urged States that have not yet done so, to continue making the necessary efforts for its prompt compliance and informing the corresponding Regional Office on its publication, as required by the mentioned Standard.

4.2 **Review of CAR/SAM State Action Plans regarding the resolution of existing deficiencies in AIM areas (AIS/MAP), and review of actions taken by the ASB/8 Meeting held in Lima, Peru, from 5-6 March 2008, in ICAO SAM Office regarding reclassification of “U” deficiencies using SMS methodology as a means for risk assessment**

4.2.1 The Meeting agreed that one of the responsibilities of the ICAO NACC and SAM Regional Offices, through GREPECAS, is to follow-up and evaluate the deficiencies of each of the air navigation fields and recommend pertinent actions for their solution, especially the “U” deficiencies. In spite of their receiving a special treatment by the GREPECAS Air Safety Board (ASB), many deficiencies are kept valid for years, constituting a “potential threat to the safety of air operations”, or were inappropriately classified as “U”.

4.2.2 The Meeting took into consideration the importance of GREPECAS Conclusion 14/59 and Decision 14/60.

4.2.3 Regarding Conclusion **14/59** – “National Coordinator responsible for updating the GREPECAS Air Navigation Deficiency database (GANDD)”, it is relevant to say that Regional Offices have the national coordinators list for the GANDD updating. This follow-up made by the Secretariat has shown that this new procedure might be used by national coordinators without difficult since it counts with more interface user friendly for their operation.

4.2.4 Regarding Decision **14/60** – Procedures for classifying and addressing GREPECAS “U” Deficiencies”, the Meeting was made aware that the criteria for classifying “U” deficiencies was developed using the risk analysis approach of the SMS ICAO official course. The idea is to consider all deficiencies with risk indexes 5A, 5B, 5C, 4A, 4B and 3A, respectively, with frequent, occasional and remote levels of probability and **catastrophic, hazardous and major** levels of severity as “U” deficiencies.

4.2.5 The Meeting also reviewed the elements that enable the reclassification of “U” deficiencies carried out by the Regional Offices according to the document “Procedures for Classifying and Addressing GREPECAS “U” Deficiencies, which is attached as **Appendix A**.

4.2.6 It also acknowledged that the use of the “last resort action” which was required by GREPECAS Conclusion 13/92 is still under study and will be finalized after States/Territories/International Organizations answer the requirements of ASB/8 Conclusion 8/2, which indicates:

#### **CONCLUSION ASB/8/2 - CLASSIFICATION OF “U” DEFICIENCIES**

That:

- a) GREPECAS “U” type deficiencies be sent to States/Territories and International Organizations (IATA and IFALPA) to carry out a risk analysis assessment for each “U” deficiency and the aspects of the uniform methodology approved by the Council;

- b) States/Territories and International Organizations should determine the Risk Index for each deficiency according to the ICAO SMS methodology for risk assessment (the respective matrix is represented by Appendix D to the Report (**Appendix B** to this part of the report), using the format presented as Appendix E (**Appendix C** to this part of the report); and
- c) The Secretary of GREPECAS present the results of the analysis mentioned in a) and b) to the ASB/9 Meeting scheduled previous to GREPECAS/15 Meeting.

4.2.7 Spain informed the Meeting that it had included its AIS personnel in the SMS courses. In turn, Colombia indicated it already applied SMS in the ATM and AGA areas and that it has developed two SMS courses in support of the training for said personnel, scheduling two hold two additional courses before December 2008, in which it foresees to include AIS personnel. In this respect, the Meeting agreed that that it was pertinent to include AIS personnel in the SMS courses, since they work with information sensible to the safety of air operations.

4.2.8 In the same way, Cuba presented a detailed report of the developments in the implementation process and in the AIS Quality Management System Certification. This important development, together with the different training stages in all levels of involved areas resulted in a successful implementation programme and in the usual benefits such as quality, safety and efficiency in AIS/MAP products that this State makes to the international aeronautical community.

#### 4.3 **Action proposal for the introduction of basic elements related to the e-AIP concept, in preparation for AIXM implementation.**

4.3.1 The Secretariat informed the Meeting that the work of the technical requirements (SARPs) related to the electronic presentation of AIP information and ICAO's aeronautical charts are still being prepared by an expert group at ICAO's Headquarters, with an estimated date to finalize this SARPs work and guidance material between 2010 and 2013.

4.3.2 With regard to the complexity and range of these changes, States should take actions to establish an initial development platform based on the agreements that previously were adopted by the AIM Subgroup and GREPECAS, on the basis of the work of the experts in ICAO Headquarters.

4.3.3 There are currently models such as the AICM/AIXM developed by EUROCONTROL and United States that have been widely used for the exchange of aeronautical information. Therefore, consideration should be given to the need of examining the documentation of these models, together with the aerodrome chart exchange model (AMXM) and integrate it to the AIM process.

4.3.4 On the other hand, Annexes 4 and 15 and the associated guide material will be amended to support the new digital information requirements and for an adequate presentation of the aeronautical information to the final user through a digital AIP and electronic charts. These requirements will be developed taking into account the new "**data centric**" concept in the new AIM services as an essential aspect.

4.3.5 Many discussions focus on the availability of the aeronautical information/data, geographic and geodesic of high quality and integrity in digital format to develop the electronic aeronautical charts, rather than in the concept treatment of an electronic AIP. The global tendency is

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towards the SWIM (System Wide Information Management) which involves the most developed on aeronautical information concept on an electronic format.

4.3.6 Emphasis was made to the Meeting that, regarding electronic AIP information display, as well as aeronautical charts, implies the handling of related space and complex data base, such as the web page, cockpit displays or the air traffic control systems, each with their specifications and requirements, for which there are different types of tools that efficiently support this kind of technical requirements, but there still is no ICAO approval for their application, nevertheless the great advantages this technology is offering in the aeronautical field.

4.3.7 The Meeting was indicated that the data base might be directly incorporated to the Geographical Information System (GIS) which allowed integrate information hard to associate in any other means, like satellite images of data analyzed and processed to produce charts and digital information to be applied in the international civil aviation. GIS represents a useful tool able to capture, to store, analyze, exhibit and represent in digital way information and identified data according to its geographical position.

4.3.8 The Meeting was informed that technical requirements for the electronic display of AIP information and aeronautical charts are of global range, starting from a first stage that coordinately integrates high reliable guarantee systems and the implementation of technical specifications of an aeronautical information exchange model (AIXM).

4.3.9 The Meeting, on this issue formulated the following draft Conclusion:

**DRAFT  
CONCLUSION 11/5 - FOLLOW UP TO THE DEVELOPMENT OF MODELS FOR THE  
EXCHANGE OF INFORMATION/AERONAUTICAL DATA FOR  
AIM**

That States, Territories, International and Organizations follow-up on the development of models for the exchange of information/aeronautical data for AIM in which ICAO has participation.

4.3.10 The Meeting, regarding the need to adopt actions designed to promote the implementation of digital systems in the CAR/SAM Regions, allowing the electronic presentation of aeronautical information (e-AIP) and aeronautical charts (e-MAP), as well as the need to incorporate an aeronautical information exchange model in the Aeronautical Information Services, formulated the following draft Conclusion:

**DRAFT  
CONCLUSION 11/9 - ACTIONS BY STATES FOR THE INTRODUCTION OF THE e-  
AIP DIRECTED TO AIXM**

That, CAR/SAM States/Territories and International Organizations, in considering the management concept of aeronautical information through electronic means, provide the necessary training to AIS/MAP (AIM) personnel in the management of information technology systems and in the Aeronautical Information Exchange Model (AIXM), in order to become aware of the main ordinary, essential and critical electronic data management characteristics, as a background towards the preparation of an e-AIP.

4.4 **Follow-up on e-TOD implementation (electronic terrain and obstacle data), actions taken by CAR/SAM States regarding Annex 15, Chap. 10, Appendix 8 SARPs and guidance from Doc. 9881 (Conclusions 9/7 and 9/9 of the AIS/MAP/SG/9 Meeting)**

4.4.1 The Meeting recognized the importance of key elements which directly impact the implementation of the required data in electronic aeronautical chart display, and one of these elements is the electronic terrain and obstacle availability data with large integrity and reliability levels.

4.4.2 The participants in the Meeting recalled that during GREPECAS/14 meeting, through Conclusion 14/40, the problem pertaining to the non existing availability of terrain and obstacle electronic data in the CAR/SAM States, and that they must be provided with a high degree of reliability and integrity, taking into account cost-benefit relationship, method and technology acquisition and available information.

4.4.3 The Secretariat requested the Meeting to inform the ICAO NACC and SAM Offices on the e-TOD implementation plans, or difficulties in their implementation, as well as the necessity to formulate an integral plan to establish an ICAO regional technical projects as a means to face the aforementioned implementation.

**Analysis of the information provided by Paraguay, Colombia, Chile, COCESNA and IATA**

**Paraguay**

4.4.4 Paraguay indicated that on 28 November 2008 the *Dirección Nacional de Aviación Civil* (DINAC) officially started with the operation of the new Aeronautical Message Handling System (AMHS) together with the NOTAM data base for AMHS, provided with and installed under ICAO/UNDP PAR/03/019 project, through contract granted to Radiocom, Inc., whose objective was to implement the mentioned system in compliance with ICAO standards.

**Implementation of the AMHS system**

4.4.5 The DINAC AMHS provides message exchanges in the air traffic, meteorology, aeronautical information administrative management among stations in Asunción (the main control centre), Ciudad del Este, Pedro Juan Caballero, Concepción, Mariscal Estigarribia, Pilar, Bahía Negra, the DINAC main offices, an Air Force base and two international circuits with Argentina and Brazil.

**AIS data base**

4.4.6 DBAIS is based on a data bank that automates completely the AIS (Aeronautical Information Service) using a powerful SQL (Simple Query Language) database server to process and store AIS information such as NOTAM, SNOWTAM, ASHTAM and other reports, providing data or answers to different queries received in order to forward the requested information by using AMHS messages, email, LAN/WAN terminals and Web pages.

**DBAIS characteristics installed in Paraguay**

4.4.7 The DBAIS implemented in Paraguay is perfectly adaptable to support several scenes of applications of AIS/Messaging, such as an integrated informative system or like a solution of Terminal

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ATS. DBAIS also provides a graphical layer with information MET through a special module that can adapt to the necessities of the client.

4.4.8 DBAIS can provide information to one or several terminals auto-informative AMHS remote and integrated for pilots and also to obtain data from the own house thanks to the Internet Information Server via Internet with a telephone connection. As an integral part of the solution, the Usuary Agent who is the Terminal TAU provides all the attendance for the messages creation without errors.

4.4.9 DBAIS can interchange information of static data through formats XML in sequence to qualify the migration towards the new AICM (Aeronautical information Concept Model).

4.4.10 DBAIS is designed to provide all the following facilities:

- a) Briefing creation.
- b) MET data entry, validation and management.
- c) NOTAM operations and data management.
- d) Basic/static data management.
- e) Support for information display and printing.

4.4.11 Three data categories are managed by DBAIS:

- a) **Static Data:** Data common to civil aviation and documented in AIP or other related documents.

Divided into two types of static data:

- **Document data:** that includes FIR, aerodrome, NavAids, area maps, rules and other documents related to these subjects.
- **Basic Air Navigation Plan Data:** Data required by the system to enable NOTAM and FPL checking and validation, e.g. reference lists. This database is also mirrored in each TAU, and periodically updated from the basic database in the AIS server. The server has a Static Database in AIXM format included.

- b) **Dynamic Data:** NOTAM, SNOWTAM, and related messages (checklist, repeat, reply), Bulletins, MET data.

### Colombia

#### **Proposal for the homologation and application of the ICAO Annex 15 and Doc 8126 format for the development of the e-AIP**

4.4.12 The Meeting was made aware that the Colombian *Unidad Administrativa Especial de Aeronáutica Civil (UAEAC)* acquired an aeronautical information system based on the international Standards (AICM/AIXM Models) and the ICAO currently directives through IDS Italy, in order to centralize the information in a unique data base, to harmonize the aeronautical charts production, to automate the design of flight procedures and to get an Electronic AIP.

4.4.13 The Electronic AIP is generated from all the information stored in the aeronautical data base. Each of the UAEAC areas or groups that has concerned in the process to input its information must previously certify and verify them; in this way, they assure that this information is actual and opportune to the AIS/publications group for the generation and delivering of the Electronic AIP accomplishing with the AIRAC cycles properly settled down by ICAO.

4.4.14 On the basis of the gained experience, Colombia suggested that within the CAR/SAM environment, consideration be given to the elaboration of orientation guidelines related with the aspects detailed hereunder within an integrated electronic environment with information exchange capability, all within the frame of the respective quality assurance procedures, elements which are:

- a) Information load to the aeronautical centralized data base by the areas accountable.
- b) Basic text information insertion in each one structure parts of the AIP.
- c) Generation of the Electronic AIP, and Integrated Documentation (AIC, SUP) in different formats that allow to their publication in Internet and others digital means for their publication and distribution.
- d) Modifications to the information contained in the data base will allow the automatic generation of the corresponding AMDT.
- e) Document to sustain any information to the end users (airlines, Civil Aviation Authorities and the State).
- f) Unification of the aeronautical information from the Civil Aviation Authorities guaranteeing its quality.
- g) Import of data filtered to other tailored formats.
- h) Management of aeronautical information (load, modification, consult, elimination) in a centralized data base.
- i) Aeronautical information validation and integration in a centralized data base.
- j) Rapidity in the obtaining of the aeronautical information for processing.
- k) Reduction of work load in the generation of the integrated documentation.

#### **Flight procedure design**

4.4.15 The Colombian *Unidad Administrativa Especial de Aeronáutica Civil* (UAEAC) informed the Meeting they have enhanced its system of managing aeronautical information in 2006, acquiring new components that made part of the system and updating one of the tools, which it has had the organization for the airspace management and the flight procedure design (conventional, RNAV and RNP).

#### **FPDAM**

4.4.16 The FPDAM system is connected to the aeronautical centralized data base, from which it obtains all their up-to-date data, like runways coordinates, ARP, thresholds, obstacles, routes, airspace and nav aids, besides ground information. The system allows to design, to control and to maintain departure flight procedures, arrival and instrument approach procedures. In addition, it allows to design and to manage airspace, routes, aeronautical and topographical data.

4.4.17 Last of all, in its report, Colombia recommended that in the evaluation of the level of implementation of requirements AIM and on the solution of deficiencies existing in the design of flight procedures, the following aspects are to be considered:

- a) Design automation of flight procedures.
- b) Time efficiency in the elaboration of flight procedures.
- c) Accomplish with IACO PANS-OPS OACI (Doc. 8168) standard about visual and instruments flights procedures.
- d) Management and design of airspace and routes.
- e) Aeronautical and ground data management.
- f) Perform the norms of U.S. FAA TERPS (Instruments Terminal Procedures).
- g) Automatic calculation of flight minimum allowed altitudes for an aircraft on an Obstacle.
- h) Calculation of interference of an Obstacle in a route.
- i) Automatic design charts update with the information of the centralized data base (AeroDB).
- j) Surfaces building and evaluation (protection areas, obstacles limit surfaces); satisfying ICAO Annex 14 and considering natural obstacles and obstacles that have been done by the man.
- k) Routes Design regarding lateral separations and obstruction verification in order to calculate of the minimum route level.
- l) Nav aids different alternatives installation evaluation.
- m) Airspace Optimization.

**Benefits of electronically sharing aeronautical information publications (AIP) among ICAO member States**

4.4.18 During the last ICAO Assembly (October 2007), Colombia presented an initiative regarding the using of ICAO NET to allocate the AIP in an electronic form thanks to ICAO that has made greater use of electronic means of communication with contracting States. ICAO has been encouraging States to interchange information and to facilitate the access of aviation to relevant safety information.

4.4.19 This presentation was motivated by the fact that ICAO contracting States spend a great amount of money each year on air cargo costs, shipping hard copies around the world. Most of these shipping costs, as well as the printing and reproduction costs, could be reduced by making these AIP documents available electronically through a secure ICAO website. This secure website would be available to ICAO contracting States for the purpose of sharing time-sensitive, critical information on issues of flight safety.

**Chile**

**Updating of AIS-4 Tables and FASID AIS 1, 2, 3, 5, 6, 7 and 8**

4.4.20 Chile informed the Meeting it had sent Table AIS-4 to the ICAO South American Regional Office, as well as duly updated AIS Tables 1, 2, 3, 5, 6, 7 and 8. It indicated that the previously issued Table AIS-5, geoid ondulation data (GUND) had been added to column 10 regarding the aerodromes of Arica/AP Chacalluta, Antofagasta/AP Cerro Moreno, Iquique/AP Diego Aracena, Isla de Pascua/ AP Mataverí, Puerto Montt/AP El Tepual, Punta Arenas/AP Presidente Carlos Ibañez del Campo and Santiago/ AP Arturo Merino Benítez. The mentioned data are published in the Chile AIP, Volume I, Part AD 2 (**Appendix D** to this part of the report, only in Spanish).

**IATA**

4.4.21 In the dealing of matters related with CAR/AM AIS deficiencies, IATA presented the Meeting with the information paper NI/04 that, after being analyzed by the participants, was agreed it be incorporated in the present report as **Appendix E**.

**COCESNA**

4.4.22 In discussing subjects regarding the digital AIP in the Internet, COCESNA presented the Meeting with an information paper that, after its analysis, was agreed it be shown in this report as **Appendix F** (in Spanish only).

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## **PROCEDURES FOR CLASSIFYING AND ADDRESSING “U” DEFICIENCIES IN THE AIR NAVIGATION FIELD**

### **1 Introduction**

1.1 The procedures described below establish the steps to be followed by States and the ICAO NACC/SAM Regional Offices for resolving “U” deficiencies in the air navigation field. These procedures, developed in compliance with GREPECAS Decision 14/60, contribute to the application of a Uniform Methodology for the identification, assessment and reporting of deficiencies, as approved by ICAO Council, and are included as **Appendix A**.

1.2 These procedures shall provide Regional Offices and States with a method to re-classify current deficiencies, update procedures for capturing data and reports, and improve the use of the web application associated with the GANDD database.

1.3 These procedures shall also facilitate the *review of deficiencies* with “U” priority with a view to implement GREPECAS Conclusion 13/92 in the application of last resort action.

### **2 Common Criteria for its Classification and Storage in the GANDD**

2.1 Two main parts are identified in the integral treatment of deficiencies as shown below:

1. ICAO NACC and SAM Regional Offices through:
  - a) specific fields (AGA, ATM, AIM, CNS, MET, SAR);
  - b) administration of the database (GANDD) by the ICT section of each Regional Office; and
2. States that coordinate with the Regional Offices through Focal Points in accordance with GREPECAS Conclusion 14/59.

2.2 The identification and reporting process of deficiencies is as prescribed in the Uniform Methodology.

2.3 The process of deficiency classification requires an assessment for priority assignment. For this reason, the deficiency must be duly identified and reported. In this regard, the information from columns 1 to 6 from **Appendix B**, which is the report extracted from the GANDD, must be available in order for the GREPECAS mechanism to revise the status of “U” “A” and “B” deficiencies.

2.3.1 In accordance with the guidance provided in paragraph 4 of the Uniform Methodology, the Regional Office, in coordination with the State Focal Point, shall determine the Priority of the Requirement, which determines the priority of the deficiency. In order to determine whether or not a “U” deficiency exists, a risk analysis will be necessary. **Appendix C** provides criteria for use in this respect.

*Important Note: Every deficiency may represent a potential **hazard** to air navigation, which is associated to a specific **risk**. There are several methods of risk analysis, each of them specific to the case in question. In the ICAO Safety Management System (SMS) training courses, a risk analysis method is presented that is applicable to cases affecting safety and determines whether the risk is intolerable or tolerable, and whether it may be mitigated. Based on this, a concept is available to mainly provide assistance with prioritizing the requirements that could result in “U” deficiencies, since the case of SMS methodology is oriented to risks affecting safety.*

2.4 Once the deficiency is classified, coordination with the Focal Point will take place regarding the information required in columns 8, 9, 10, and 11 from Appendix B, and will then be entered into the GANDD database, notifying the State through the Focal Point.

*Important note: If some fields of Appendix B are not completed, for example, fields in the Action Plan, the deficiency will be entered into the GANDD and a notation will be made in the Remarks field.*

### 3 **Reports to be Presented to the GREPECAS Mechanism**

3.1 In accordance with the Uniform Methodology, the GREPECAS mechanism shall receive information on deficiencies from the Regional Offices, found in the attached **Appendix B**. Based on this information, the mechanism shall proceed with the Uniform Methodology procedures. In addition, the GANDD can provide statistical reports that the mechanism could require for analysis.

### 4 **Responsibilities in the Treatment of Deficiencies and Maintenance of GANDD**

4.1 Considering that the GANDD is a tool to manage the treatment of deficiencies, the procedures outlined below are applicable while the deficiency is registered and stored in the database.

#### **Responsibility of the Regional Offices**

- a) Review and, if necessary, reclassify existing deficiencies based on established procedures.
- b) Coordinate the validation, revision, and/or updating of data for deficiencies with Focal Points, and update the information in the GANDD, advising the Focal Points of changes.
- c) Review periodic reports from Focal Points on the status of resolution implementation for the deficiencies. Any missing data from the Action Plan shall have a high priority during the review.

- d) Review deficiencies with the Focal Point during visits carried out by Regional Officers according to the mission programme established by the corresponding Regional Office.
- e) Present the list of deficiencies for revision at each meeting of GREPECAS Subgroups and/or Committees or other informal meetings, such as implementation meetings.
- f) Present information and reports to the ASB and to GREPECAS regarding the status of deficiencies.

### **Responsibilities of States/Focal Points**

- a) Review, at least quarterly, the deficiencies and their respective Action Plans, and give special attention to missing information from the Action Plan.
- b) Respond to all requests from the Regional Offices that may necessitate the revision/updating of the list of deficiencies without delay.
- c) Request the corresponding Regional Office to update the status of deficiencies through the web application form (see details in paragraph 6).
- d) Once the deficiency is corrected, inform the corresponding Regional Office of the area involved without delay.

## **5 Deficiency Resolution Follow-up**

5.1 Regional Offices and Focal Points shall closely follow-up on the Action Plan to resolve deficiencies, and the GANDD database will be updated accordingly. The deficiencies with missing data, for example, those referred to the Action Plan, will have priority in the follow-up.

## **6 Procedures to Manage the GANDD Database, Based on the Existing Web Application**

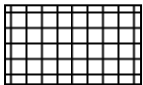
6.1 In October 2004, the procedures for access and use of the GANDD database were circulated to States so that States could report, review and update their corresponding deficiencies. In accordance with GREPECAS Decision 14/60, the Regional Offices have completely revised the procedures and structure of the GANDD in order to increase the efficiency of this tool. Updated procedures for Focal Points to interact with the database to revise and report amendments are attached as **Appendix D**. A presentation in power-point has been uploaded on the websites of each Regional Office for training purposes.

7 Complementary Measures

7.1 This document will be updated by the ICAO Regional Offices. Amendments shall be distributed to States via e-mail through the Focal Points.

**ASB/ 8**  
**Appendix D to Report on Agenda Item 4**

Risk probability	Risk severity				
	Catastrophic <b>A</b>	Hazardous <b>B</b>	Major <b>C</b>	Minor <b>D</b>	Negligible <b>E</b>
Frequent <b>5</b>	<b>5A</b>	<b>5B</b>	<b>5C</b>	<b>5D</b>	<b>5E</b>
Occasional <b>4</b>	<b>4A</b>	<b>4B</b>	<b>4C</b>	<b>4D</b>	<b>4E</b>
Remote <b>3</b>	<b>3A</b>	<b>3B</b>	<b>3C</b>	<b>3D</b>	<b>3E</b>
Improbable <b>2</b>	<b>2A</b>	<b>2B</b>	<b>2C</b>	<b>2D</b>	<b>2E</b>
Extremely improbable <b>1</b>	<b>1A</b>	<b>1B</b>	<b>1C</b>	<b>1D</b>	<b>1E</b>



“U” type deficiencies correspond to the shadowed area of this matrix (Risk Indexes: 5A, 5B, 5C, 4A, 4B and 3A)

**FORMAT TO BE SENT TO STATES/TERRITORIES TO CARRY OUT RISK  
ASSESSMENT AND ESTIMATE RISK INDEX**

Example

<b>Area</b>	<b>State</b>	<b>Deficiency</b>	<b>Current Classification</b>	<b>Risk Index</b>
AGA	Ecuador	Number and description	“U”	
		Number and description	“U”	
	Paraguay	Number and description	“U”	
	Panamá	Number and description	“U”	
	Suriname	Number and description	“U”	
		Number and description	“U”	
	Venezuela	Number and description	“U”	
		Number and description	“U”	
		Number and description	“U”	
		Number and description	“U”	
		Number and description	“U”	

**APENDICE  
 TABLAS AIS-4**

Tabla AIS 1

Establecimiento de dependencias AIS de aeródromos

ESTADO DE IMPLANTACIÓN

Estado o Territorio	Implantada SI / NO	Bajo directo control del AIS SI / NO	Dependencia de AIS aeródromos requeridas en Ciudad / Aeródromos
<b>CHILE</b>	SI	* NO	Arica / AP Chacalluta
	SI	* NO	Antofagasta / AP Cerro Moreno
	SI	* NO	Concepción / AP ALTN Carriel Sur
	SI	* NO	Iquique / AP Diego Aracena
	SI	* NO	Isla de Pascua / AP Mataveri (PAC)
	SI	* NO	Puerto Montt / AP El Tepual
	SI	* NO	Punta Arenas / AP Presidente Carlos Ibáñez del Campo Santiago / AP Arturo Merino Benítez

\* Operan bajo coordinación de ATS del AD





Tabla AIS 5

Nivel de implantación del Sistema Geodésico Mundial 1984 (WGS-84)

Estado, territorio o aeródromo para el que se requiere el WGS-84			WGS-84 requerido									Observaciones
CIUDAD/AERÓDROMO/ USO  CHILE	RWY NR	Tipo de Pista	FIR	ENR	TMA CTA CTR	APP	RWY	AD/HEL	GUND	Sistema de calidad	AIP	
1	2	3	4	5	6	7	8	9	10	11	12	13
SCAR / RS	02 20	NPA NINST	X	X	X	X X	X X	X	X	X	X	
SCDA / RS	01 19	NPA PA1	X	X	X	X X	X X	X	X	X	X	
SCFA / RS	01 19	NPA NPA	X	X	X	X X	X X	X	X	X	X	
SCIP / RS	10 28	PA1 NPA	X	X	X	X X	X X	X	X	X	X	
SCEL / RS	17L	PA3	X	X	X	X	X	X	X	X	X	
	35R	NPA	X	X	X	X	X	X		X	X	
	17R	PA1	X	X	X	X	X	X		X	X	
	35L	NPA	X	X	X	X	X	X		X	X	
SCIE / AS	02 20	PA1 NPA	X	X	X	X X	X X	X		X	X	
SCTE / RS	17 35	NPA PA1	X	X	X	X X	X X	X	X	X	X	
SCCI / RS	07	NPA	X	X	X	X	X	X	X	X	X	
	25	PA1	X	X	X	X	X	X		X	X	
	12	NPA	X	X	X	X	X	X		X	X	
	30	NPA	X	X	X	X	X	X		X	X	

AIM/SG/11  
Appendix D to the Report on Agenda Item 4

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Tabla AIS 6

NIVEL DE IMPLEMENTACIÓN DEL WGS-84 DE LAS CARTAS AERONAUTICAS INCLUIDAS EN LA AIP

FIR o Aeródromo para el que se requiere la carta			Cartas obligatorias					Cartas condicionalmente obligatorias					Observaciones
Ciudad / Aeródromo/ Uso	Pista Núm.	Tipo de Pista	ENRC	IAC	ADC	AOC-A	PATC	ARC	SID	STAR	VAC	AOC-C	
<b>CHILE</b>			4	5	6	7	8	9	10	11	12	13	14
SCAR RS	02 20	NPA NINST	X	X		X		X	X	X			Carta AOC-C. No se publica. Diferencia notificada.
SCDA RS	18 36	NPA PA1	X	X		X		X	X	X			
SCFA RS	01 19	NPA NPA	X	X		X		X	X	X			
SCIP RS	10 28	PA1 NPA	X	X		X		X	X				
SCEL RS	17L	PA3							X	X			Carta Aeronáutica, escala 1.1:000.000. Chile solo la produce para su territorio, sin ajustarse a numeración mundial. Diferencia notificada.
	35R	NPA	X	X	X	X	X	X	X	X			
	17R	PA1							X	X			
	35L	NPA							X	X			
SCIE AS	02 20	PA1 NPA	X	X		X			X	X			
SCTE RS	17 35	NPA PA1	X	X		X		X	X	X			
SCCI RS	07	NPA							X				
	25	PA1	X	X		X		X	X				
	12	NPA	X	X				X					
	30	NPA	X	X				X					

AIM/SG/11  
Appendix D to the Report on Agenda Item 4

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TABLA AIS 7

RESPONSABILIDAD DE LA PRODUCCION DE LAS HOJAS DE  
LA CARTA AERONAUTICA MUNDIAL – OACI 1:1.000.000

NIVEL DE IMPLEMENTACIÓN

ESTADO	NUMERO DE HOJAS *	IMPLANTADA SI/NO	ESPECIFICACIONES		FORMATO OACI
			OACI	SI/NO	SI/NO
					OBSERVACIONES
<b>CHILE</b>	3194, 3258, 3317, 3381, 3436, 3437, 3490, 3538, 3585, 3627, 3668, 3737, 3762, 3789.	NO	NO	NO	No se produce bajo el Sistema WGS-84.  * Solo para cubrir información del territorio nacional.

TABLA AIS 8

REQUISITO DEL PAQUETE INTEGRADO DE INFORMACION AERONAUTICA

Estado	AIP	Enmienda de AIP			Suplemento de AIP			AIC	NOTAM				AIRAC		Observaciones
		REG	AIRAC	NIL	REG	AIRAC	NIL		REG	Iniciador	Lista de Verificación	Resumen	REG	NIL	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
CHILE	X	X	X	X	X	X	X	X	X	X	X		X	X	AIP Reestructurado

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**Agenda Item 4: Review of the Implementation Process**

**4.2 Review of CAR/SAM State Action Plans regarding the resolution of existing deficiencies in AIM**

(Presented by the International Air Transport Association – IATA)

**SUMMARY**

- This working paper presents the situation of regional deficiencies in the Region. Deficiencies continue to impact flight safety and operating efficiency. IATA urges the implementation of corrective measures at the earliest opportunity.

**References:**

- ICAO Annex 15

**Introduction**

Airlines have voiced concern over the lack of action by several States to correct many of ongoing deficiencies in the Region.

IATA receives reports from airlines requesting assistance in resolving infrastructure problems, which affect flight operations and safety. However, many of these requests are not resolved immediately by States and, thus, are sent to ICAO for inclusion in the Regional Database. The deficiencies include air traffic services (ATS), airport infrastructure (AGA/AOP), aeronautical information services (AIS), meteorology (AIS), and communications (COM).

IATA conservatively estimates that the deficiencies cost airlines an additional USD \$10 million dollars per year in operating cost. The obstacle to overcoming deficiencies in the air navigation field is not so much technical as they are organizational and financial in nature.

**Discussion**

Member airlines and IATA are working closely with ICAO and the Civil Aviation Authorities in a positive and constructive framework, to establish formal review, analysis and resolution of all deficiencies.

However, the existing deficiencies that affect the provision of air navigation services in the region and the need for States to implement programs for their elimination are a matter of urgent concern and of high priority for IATA and its member airlines.

Unfortunately, many States have ignored recommendations from the ICAO Aviation Safety Board (ASB) to prepare action plans to resolve ongoing deficiencies.

ICAO Annex 15 also stresses that States follow the internationally agreed AIRAC cycle in assuring a timely flow of information.

Currently, there are outstanding deficiencies affecting AIS field as per the GREPECAS Report. The following are a few examples of the deficiencies that impact airline operations and are predominant in several States in the region:

- Timely dissemination of aeronautical information such as NOTAMs.
- Outdated AIPs lacking revised amendments.
- Standard measures meteorologist units.
- Lacking WGS-84 data (Airport obstacles, etc)
- Type A Charts

### **Conclusion**

The aeronautical services which the airlines receive from the different States and Authorities, which include Aeronautical Information; cost hundreds of thousands of dollars per year for these services.

It is to be expected then, that as paying users of the airspace, the airlines will receive services that will assure safety and efficiency in their operations and will insist on corrective measures when things are not meeting under the required standards.

Civil Aviation Authorities are encouraged to establish the highest priority for the elimination of these problems and assist ICAO in coordination and implementation of immediately solutions.

### **Action requested**

1. Direct the State's Civil Aviation Authority to review regional deficiencies and implement corrective action measures, whilst disseminating appropriate details to ICAO and IATA.
2. Ensure that States obtain the necessary resources to correct AIS deficiencies in order to comply with ICAO Annexes.

- END -

**Cuestión 4 del  
Orden del Día:**

**Revisión de los Procesos de Implantación  
4.3 Propuesta de acción para la homologación y aplicación del formato de la  
OACI del Anexo 15 y Doc. 8126 en un 100% para el desarrollo del e-AIP, en  
preparación para la implementación del AIXM**

**AIP DE CENTROAMERICA**

(Nota presentada por COCESNA)

**RESUMEN**

Esta nota informativa tiene la intención de comunicar la experiencia de COCESNA, relacionada con la divulgación de la AIP de Centroamérica en Internet.

**Referencias:**

- Doc. 8126: Manual para los Servicios de Información Aeronáutica ;
- Anexo 15 de OACI Servicios de Información Aeronáutica.
- Sitemeter

**1. Introducción**

1.1 El tema AIM como un componente del concepto global operacional de gestión del tránsito aéreo ATM, requiere de homologación de formatos para la divulgación de la información aeronáutica a través de medios electrónicos.

1.2 En COCESNA también se le da mucha importancia y apoyo a los asuntos AIS, de tal manera que la información contenida en esta nota, pretende transmitir a los lectores una perspectiva de los avances en que se han tenido en Centroamérica, para diseminar la información aeronáutica de forma continua a través de la Internet.

**2. Análisis**

2.1 El AIP de Centroamérica, documento de carácter regional ha estado disponible en el sitio web del AIS de COCESNA ([http://www.cocesna.org/aip\\_ca/aip\\_main.html](http://www.cocesna.org/aip_ca/aip_main.html)) desde el 15 de mayo de 2007, en este sitio también es visualizada la información de los mensajes NOTAM, METAR, TAF, etc. que se actualizan en tiempo real (<http://www.cocesna.org/easy-opd-free/php/Mapas.php?keymapa=1>).

2.2 A partir del mes de febrero de 2008, se dio inicio a la utilización de una herramienta para medir las visitas al sitio, aspecto este que reviste mucho interés, pues la estadística generada permite conocer la demanda de la información aeronáutica proveniente de las consultas de los Estados, Agencias, Empresas y Organizaciones Internacionales, destacando significativamente las que se realizan desde las Regiones de OACI que poseen un mayor desarrollo tecnológico.

### 3. Conclusiones

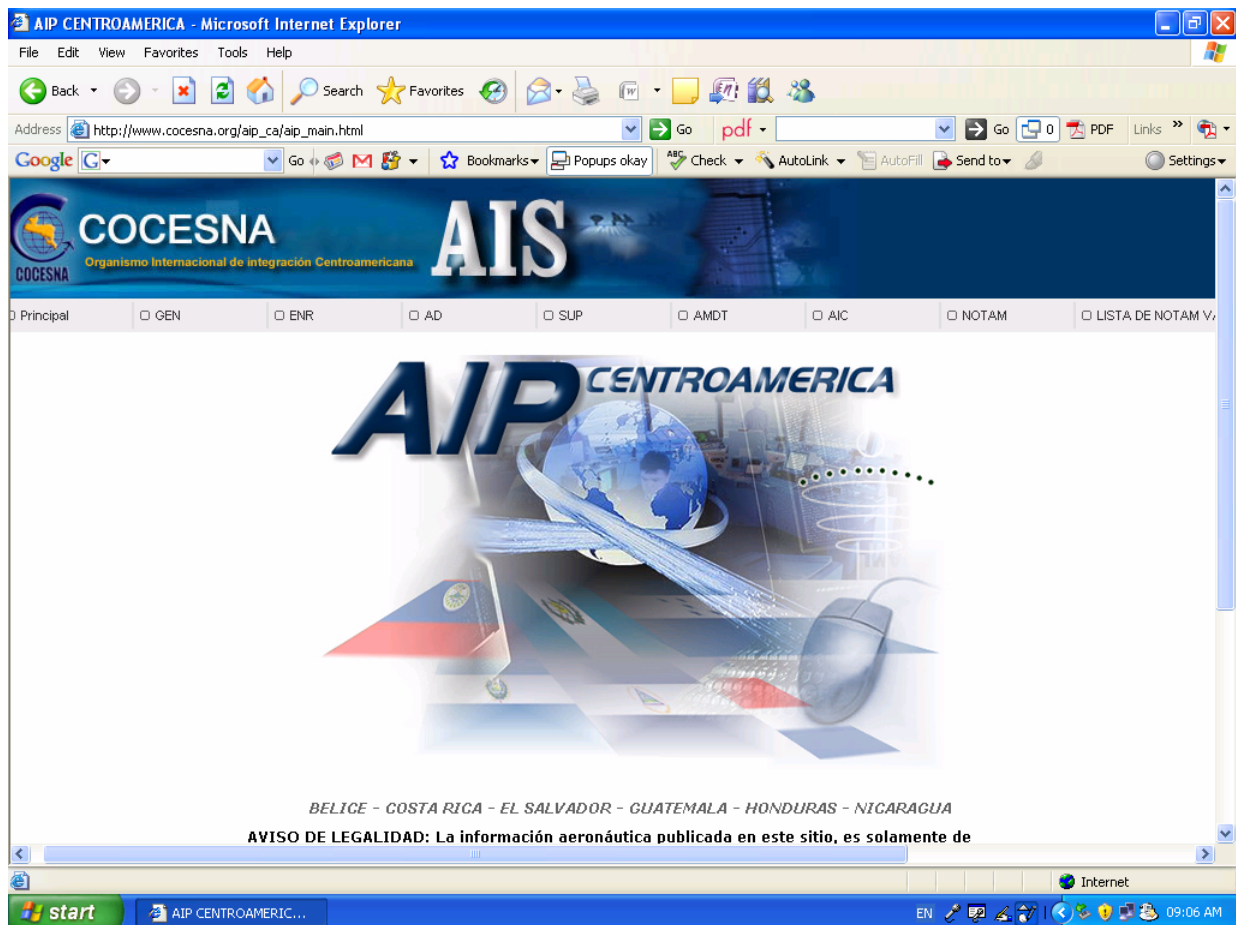
3.1 COCESNA le da seguimiento especial a los avances del AIS/MAP, y la evolución hacia el AIM, a la espera de la adopción del AIXM por parte de la OACI y normalizar el intercambio de información a través de la e-AIP.

3.2 COCESNA procura con la divulgación de la AIP de Centroamérica a través de la Internet, lograr mayores márgenes de seguridad operacional, y de contribuir significativamente a la modernización de los servicios de información aeronáutica, como lo requiere la navegación aérea internacional.

3.3 Es conveniente alentar a los Estados de las Regiones CAR/SAM, que aún no lo han realizado, a dedicar también parte de sus esfuerzos para ofrecer sus AIP's a los usuarios, y facilitar así las consultas por medios electrónicos.

### 4. Acción sugerida

Se invita a la Reunión a tomar nota de la información presentada y conocer la estadística contenida en el **Apéndice**, la que ha sido recopilada desde el medidor del sitio web [http://www.cocesna.org/aip\\_ca/aip\\_main.html](http://www.cocesna.org/aip_ca/aip_main.html) conforme al registro de los últimos 30 días.



**APENDICE**

**REGISTRO DE VISITAS AL SITIO WEB DE LA AIP DE CENTROAMERICA  
 PERIODO DEL 13 DE MAYO AL 12 DE JUNIO DE 2008**

**AIP Centroamérica  
 Site Summary**

**VISITS**

Total	893
Average Per Day	10
Average Visit Length	2:51
Last Hour	3
Today	16
This Week	73

**PAGE VIEWS**

Total	1,426
Average Per Day	15
Average Per Visit	1.4
Last Hour	4
Today	34
This Week	105

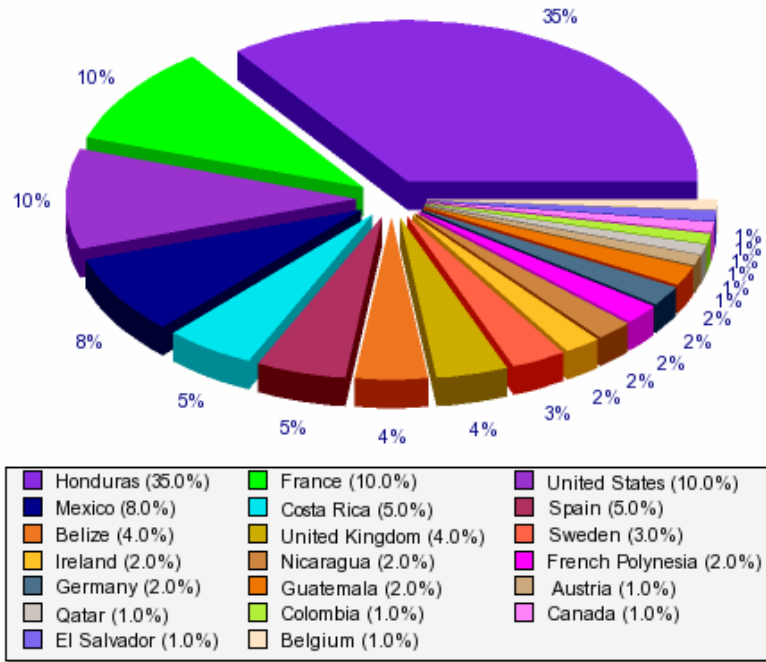
Plus 2,020 visitors before joining *Site Meter* on February 16, 2008

**Resumen de visitas al sitio**

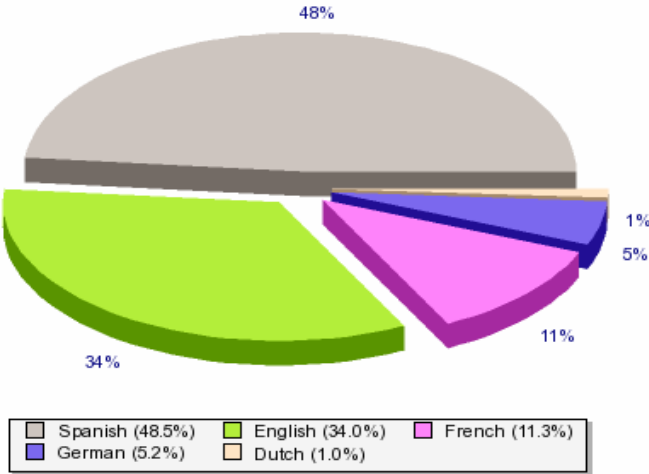
AIP Centroamérica Traffic Prediction				
Based on the site traffic during the last ...	The site will have this much traffic over the next ...			
	Hour	Day	Week	Month
Hour	4 Page Views	96 Page Views	665 Page Views	2,880 Page Views
	3 Visits	72 Visits	498 Visits	2,160 Visits
Day	1 Page Views	13 Page Views	90 Page Views	390 Page Views
	0 Visits	8 Visits	55 Visits	240 Visits
Week	1 Page Views	15 Page Views	105 Page Views	455 Page Views
	0 Visits	11 Visits	73 Visits	316 Visits
Month	1 Page Views	13 Page Views	92 Page Views	397 Page Views
	0 Visits	10 Visits	66 Visits	285 Visits

Visits      Visits      Visits      Visits

**Predicción del tráfico de visitas al sitio.**

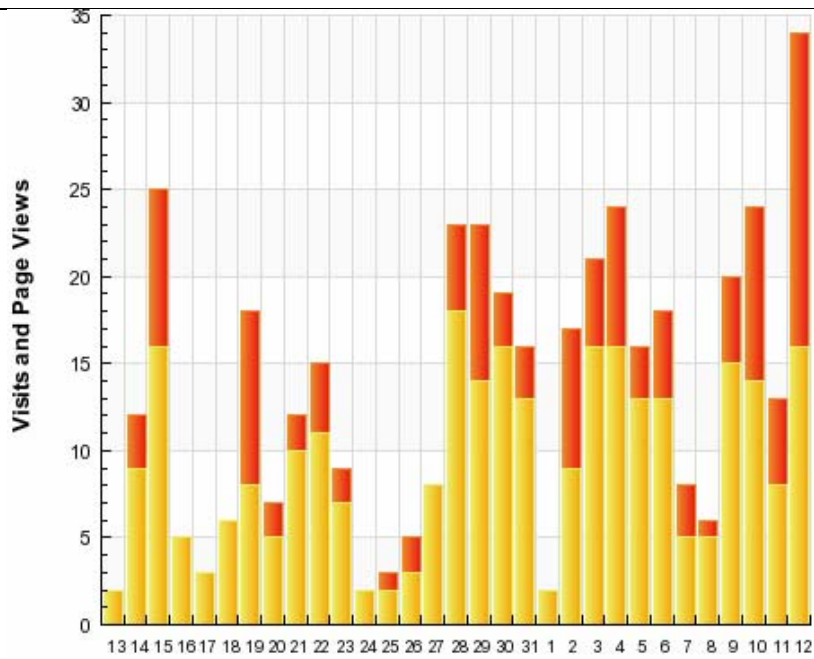


**Estadística de visitas de los Estados**
























**Estadística de consultas por Idiomas de origen**

AIM/SG/11  
 Appendix F to the Report on Agenda Item 4  
 4F-6



Day of the Month	Visits	Page Views
12	16	34
11	8	13
10	14	24
9	15	20
8	5	6
7	5	8
6	13	18
5	13	16
4	16	24
3	16	21
2	9	17
1	2	2
31	13	16
30	16	19
29	14	23
28	18	23
27	8	8
26	3	5
25	2	3
24	2	2
23	7	9
22	11	15
21	10	12
20	5	7
19	8	18
18	6	6
17	3	3
16	5	5
15	16	25
14	9	12
13	2	2

**Visitas y páginas vistas durante los últimos 30 días**

AIP Centroamérica Recent Visitors by Location			
Detail	Country	Location	Distance (miles)
<a href="#">1</a>	Honduras	Tegucigalpa, Francisco Morazan	75*
<a href="#">2</a>	 United States	Columbia, Illinois	1,645
<a href="#">3</a>	 Canada	Montreal, Quebec	2,244
<a href="#">4</a>	Honduras	Tegucigalpa, Francisco Morazan	75*
<a href="#">5</a>	Honduras	Tegucigalpa, Francisco Morazan	75*
<a href="#">6</a>	 United States	Columbia, Illinois	1,645
<a href="#">7</a>	 France	Paris, Ile-de-France	5,389
<a href="#">8</a>	 Spain	Barcelona, Cataluna	5,469
<a href="#">9</a>	 Spain	Torrejn De Ardoz, Madrid	5,187
<a href="#">10</a>	 United States	Washington, District of Columbia	1,756
<a href="#">11</a>	 France	Paris, Ile-de-France	5,389
<a href="#">12</a>	 United Kingdom	London, London, City of	5,258
<a href="#">13</a>	 France	Paris, Ile-de-France	5,389
<a href="#">14</a>	 United Kingdom	Staines, Greater London	5,241
<a href="#">15</a>	 France	Paris, Ile-de-France	5,389
<a href="#">16</a>	 France	Cestas, Aquitaine	5,290
<a href="#">17</a>	 Belize	Crooked Tree	246
<a href="#">18</a>	Honduras	Tegucigalpa, Francisco Morazan	75*
<a href="#">19</a>	Honduras	San Pedro Sula, Cortes	118
<a href="#">20</a>	 El Salvador	San Salvador	203
<a href="#">21</a>	 France	Nantes, Pays de la Loire	5,227
<a href="#">22</a>	Nicaragua	La Trinidad, Managua	158
<a href="#">23</a>	 Costa Rica	San Jos, San Jose	374
<a href="#">24</a>	 Germany	Frankfurt Am Main, Hessen	5,652
<a href="#">25</a>	 Qatar	Doha, Ad Dawhah	8,469
<a href="#">26</a>	Honduras	Tegucigalpa, Francisco Morazan	75*
<a href="#">27</a>	Honduras	Tegucigalpa, Francisco Morazan	75*
<a href="#">28</a>	Honduras	Tegucigalpa, Francisco Morazan	75*
<a href="#">29</a>	 Costa Rica	San Jos, San Jose	374
<a href="#">30</a>	 United States	Bear, Delaware	1,828

[1](#) [2](#) [3](#) [4](#)

**Visitas más recientes por localidad.**

- FIN -

**Agenda Item 5:           Review of Administrative Aspects of AIM Subgroup****5.1                   Review of the Terms of Reference and Work Programme of the AIM Subgroup and their task forces**

5.1.1               The Meeting examined and updated the terms of reference and work programme of the AIM/SG, as well as those of the TRAIN/TF, QM/TF and e-MAP/TF. This information is shown in **Appendices A, B, C and D** to this part of the report.

**5.2                   Consideration of restructuring the AIM Subgroup. Substitution of AUTO/TF with the creation of IT/TF**

5.2.1               Under this Item, the Meeting analyzed the scope of the AIM Subgroup's current organizational structure, with views to improve the Subgroup's functioning effectivity, specifically as regards the substitution of the Automation Task Force (AUTO/TF), which has not met in the past two years, by a new Task Force designated as "Information Technology Task Force (**IT/TF**)".

5.2.2               This new contributory body of the AIM/SG will be presented to the AIM/SG/12 meeting. To this end, the Secretariat and Rapporteurs of the already existing Task Forces, will keep close coordination to establish a terms of reference and work programme proposal.

## APPENDIX A

### TERMS OF REFERENCE AND WORK PROGRAMME OF THE AERONAUTICAL INFORMATION MANAGEMENT SUBGROUP (AIM/SG)

#### 1. Terms of Reference

1.1 Foster and ensure the evolution of CAR/SAM Aeronautical Information Services from a manual operational environment to an environment where digital aeronautical information of high quality and integrity is processed and exchanged electronically to support the implementation of CNS/ATM systems, GNSS, operational ATM and a state-of-the-art FMS

*1.2 Aeronautical Information Management (AIM) apply in a global and in a interoperable basis the provision of aeronautical information and data covering the needs of the present and future ATM system needs and all the phases of flight for use by pilots, air traffic controllers, and other data users.*

#### 2. Work Programme

TASK NUMBER	TASK DESCRIPTION	PRIORITY	DATE	
			START	END
AIM /1	Develop strategies and policies to establish the basic requirements and planning criteria for the evolution of AIS services within an effective Aeronautical Information Management (AIM) environment, in keeping with the components of the Global <i>Intero</i> perational Concept.	A	2007	2010
AIM /2	Coordinate the application of quality systems in AIM services, according to the relevant ISO standards. Propose action plans for the implementation by CAR/SAM States of these systems; and assess the problems facing AIM services for the implementation of the cited systems.	A	2007	<del>2008</del> 10
AIM /3	Define the requirements to ensure due process when evaluating personnel of human factor within the framework of effective aeronautical information management, together with the consistent application of CAR/SAM AIM training programmes, taking also into account the need for basic criteria to ensure to development of an English language training programme related to effective aeronautical information management.	B	2007	2010

TASK NUMBER	TASK DESCRIPTION	PRIORITY	DATE	
			START	END
AIM /4	Coordinate the development of basic operational requirements and the required strategies for adoption of aeronautical information conceptual and exchange models (AICM/AIXM) in the CAR/SAM Regions, in order to facilitate the electronic exchange of digital aeronautical information/data between operational systems and their manual inter-functionalities, both within the CAR/SAM Regions, as well as between these and other ICAO Regions.	B	2008	2010
AIM/5	Implement practical guides to assist the States in the provision of electronic terrain and obstacle data, Doc 9881, for the electronic representation of aeronautical charts, as well as in the drafting of electronic aerodrome obstacle charts, as required.	A	2007	2008
AIM/6	Conduct the required relevant studies for the use of Geographical Information Systems (GIS) in AIM, as well as to prepare technical guides for the production by CAR/SAM States of VFR Aeronautical Charts (Scales between 1:500,000 and 1:1,000,000) in digital format.	A	2007	2010
AIM/7	<i>Periodically update the CAR/SAM Regional Navigation Plan (Part VIII, AIS) in order to ensure its effective evolution with respect to the Global CNS/ATM Plan and in keeping with the SARPS contained in ICAO Annexes 4 and 15.</i>	<del>BA</del>	<del>2007</del> 2008	2010
AIM/8	Promote and follow-up the effective implementation of AIM requirements according to the established procedures in order to take the corresponding corrective actions to resolve deficiencies affecting air operations.	A	2007	2008
AIM/9	Coordinate, on an ongoing basis, with all GREPECAS contributory bodies, in order to ensure proper integration of all areas contributing to CNS/ATM implementation.	<del>BA</del>	<del>2007</del> 2008	2010

### 3. Priority

- A** High priority tasks, on which work should be speeded up.
- B** Medium priority tasks, on which work should commence as soon as possible, but without detriment to priority **A** tasks.
- C** Tasks of lesser priority, on which work should commence as time and resources allow, but without detriment to Priority **A** and **B** tasks.

### 4. Composition

~~Argentina, Bolivia, Brazil, Chile, Colombia, Costa Rica, Cuba, Dominican Republic, Ecuador, France, Paraguay, Peru, Spain, Trinidad and Tobago, United States, Venezuela, CAR/SAM States, Spain, France, COCESNA, IATA and PAIGH.~~

### 5. Chairperson

Chairman: Mrs. Noemí Carta (Cuba)

Vice-Chairman: Mr. Rafael Torres (Venezuela)

## APPENDIX B

### TERMS OF REFERENCE AND WORK PROGRAMME OF THE AERONAUTICAL INFORMATION MANAGEMENT QUALITY MANAGEMENT TASK FORCE (AIM/QM/TF)

#### 1. Terms of reference

Promote effective aeronautical information management through the development of guides that will ensure that all of the procedures involved in the electronic exchange of digital aeronautical information/data have rigorous quality management systems in place to guarantee the integrity of that type of information.

#### 2. Work programme

TASK NUMBER	TASK DESCRIPTION	PRIORITY	DATE	
			START	END
AIM/QM 1	Complete the development of guides and action plans to foster the implementation of quality systems in (AIM) services, based on the relevant ISO standards.	A	2007	2008
AIM/QM 2	Continue with the preparation of guides based on ISO standards in order to ensure the integrity of the aeronautical information/data provided both manually and through data banks and automated AIM systems, both operational and to be implemented.	A	2007	<del>2009</del> 2010
AIM/QM 3	In coordination with the relevant AIM/SG bodies, comply with the quality specifications of automated AIS systems, AIM training programmes, and electronic aeronautical charts.	A	2007	2009
AIM/QM 4	Develop, in coordination with the Secretariat of the (AIM/SG), application guidelines and an implementation plan for human factors principles within (AIM) services, based on Doc 9683-AN/950, ICAO circulars on human factors and other related ICAO documents.	A	2007	25 December 2007
AIM/QM 5	Evaluate the problems that the AIM services are facing regarding quality management implementation.	A	2008	2010

#### 3. Composition

Argentina, Bolivia, Brazil, Chile, Colombia, Cuba\*, Dominican Republic, Ecuador, Guatemala, Paraguay, Uruguay Venezuela and COCESNA.

4. **Rapporteur** Mr. Enrique Echarri (Cuba)  
**Alternate Rapporteur:** Argentina

## APPENDIX C

### TERMS OF REFERENCE AND WORK PROGRAMME OF THE AERONAUTICAL INFORMATION MANAGEMENT TRAINING TASK FORCE (AIM/TRAIN/TF)

#### 1. Terms of reference

Encourage the development of the Human factor component within the effective aeronautical information management environment, in keeping with the operational requirements of a system for the electronic exchange of aeronautical information/data of high quality and integrity, through the development of the required training guides and procedural manuals.

#### 2. Work programme

TASK NUMBER	TASK DESCRIPTION	PRIORITY	DATE	
			START	END
AIM/TRAIN1	Define the requirements to ensure due process when evaluating personnel within an effective aeronautical information management environment, through the verification of the competencies, training, specialisation, maintenance, and re-qualification of <i>AIS-AIM</i> officials working in the CAR/SAM Regions.	A	2007	2008
AIM/TRAIN 2	Analyse the level of consistency between the global (AIM) training programme and the CAR/SAM Regional Standard Programme AIS/021, in order to ensure the consistent application of an <i>AIS-AIM</i> training programme in the CAR/SAM Regions.	A	2007	2009
AIM/TRAIN 3	Continue the feasibility studies for the development of an <i>AIS-AIM</i> course based on basic operational requirements and state-of-the-art technical criteria, under the nomenclature AIS/024- <del>CAR/SAM</del> .	B	2007	2010
AIM/TRAIN 4	Study and define the basic criteria to ensure the development of an English language teaching programme within the context of effective aeronautical information management.	A	2007	2008
AIM/TRAIN 5	Study and define the quality criteria for personnel within the context of effective aeronautical information management, to be submitted to the <i>AIM/QM/SG-AIM/QM/TF</i> for the development of the corresponding specifications.	A	2007	2008

#### 3. Composition

Argentina, Bolivia\*, *Colombia*, Costa Rica, Cuba, Dominican Republic, Ecuador, Guatemala, Paraguay, Spain, Uruguay, Venezuela and COCESNA.

#### 4. Rapporteur: Mrs. Mery Frontanilla (Bolivia) Alternate Rapporteur:

## APPENDIX D

### TERMS OF REFERENCE AND WORK PROGRAMME OF THE AERONAUTICAL INFORMATION MANAGEMENT ELECTRONIC AERONAUTICAL CHARTS TASK FORCE (AIM/eMAP/TF)

#### 1. Terms of reference

In coordination with the AIM/AUTO/TF and the AIM/QM/TF, and within an aeronautical information management environment, promote the harmonised and consistent development of technical specifications that will permit the implementation of *space-spatial* databases to support the management of electronic aeronautical charts and terrain digital modelling systems in the CAR/SAM Regions, within the context of global exchange of information.

#### 2. Work programme

TASK NUMBER	TASK DESCRIPTION	PRIORITY	DATE	
			START	END
AIM/e-MAP 1	Based on existing technologies, provide guidance material for the production of electronic aeronautical charts, in <i>consideration to the cartographic quality management for</i> the CAR/SAM Regions, based on the WGS-84 system.	A	2007	2010
AIM/e-MAP 2	Based on the technical requirements of Chapter 10 of ICAO Annex 15 <i>and in Doc. 9881</i> , develop practical guides to support the States in the provision of terrain and obstacle electronic data, and for the development of electronic aerodrome obstacle charts.	A	2007	2010
AIM/e-MAP 3	In coordination with the AIM/AUTO/TF, conduct the necessary studies for the implementation of geographical information systems (GIS) to support the electronic representation of aeronautical charts and terrain digital modelling systems (TDMS).	A	2007	2010
AIM/e-MAP 4	In coordination with national geographic institutes, develop technical guides for the production by CAR/SAM States of VFR aeronautical charts (scales between 1:500,000 and 1:1,000,000) <i>and IFR cartography</i> in digital format.	A	2007	<del>2010</del> 2013
AIM/e-MAP 5	<i>Elaborate guidance</i> for the training requirements concerning the electronic representation of aeronautical charts and terrain digital modelling systems (TDMS). In addition, <i>the elaboration of guidelines</i> for the implementation and operation of geographical information systems for digital aeronautical mapping.	A	2008	2010
AIM/e-MAP 6	<i>Continue with the study regarding the geospace data structure and its inter-operability in a digital environment, in preparation for the AMXM (Aerodrome Mapping Exchange Model)</i>	A	2008	2010

3. **Composition**

Argentina, Bolivia, Brazil, Chile\*, *Colombia*, Ecuador, Jamaica, *Panama*, *Paraguay*, Spain, United States, Uruguay, Venezuela, *COCESNA* and Jeppesen.

4. **Rapporteur** Mrs. Viviana Barrientos (Chile)  
**Alternate Rapporteur:**

**Agenda Item 6: Other issues according to the AIM/SG Terms of Reference**

6.1.1 Regarding MET integration initiative in AIM services, which was considered to discuss in this Meeting, it was modified in order to be dealt in the ATM-MET-AIS Pilots Coordination Seminar, which will be held in 24-28 November, 2008, in Cartagena, Colombia. For this reason, no issue was discussed in the Agenda Item.

6.1.2 Some general comments, like the invitation to Delegates of Brazil to participate in the GREPECAS Meeting, from 13 to 17 October in Río Janeiro were done.

6.1.3 The representative of the Jeppesen expressed that CAR/SAM States had improved significant the publications, also she congratulated the States in the AIM/SG/11 Meeting.

6.1.4 The representative of NGA, of United States, informed that AIXM Seminar will be held in September, in Honduras, Tegucigalpa, hosted by ICCAE/COCESNA, in to participate in this important CAR/SAM event.