International Civil Aviation Organization
CAR/SAM Regional Planning and Implementation Group (GREPECAS)
Fifteenth Meeting of the CAR/SAM Regional Planning and Implementation Group (GREPECAS/15)
Rio de Janeiro, Brazil, 13 to 17 October 2008

Agenda Item 3: Regional air navigation planning and implementation issues

3.5 Report of the AIM/SG/11 Meeting

(Presented by the Secretariat)

SUMMARY

This paper summarises the discussions held at the Eleventh meeting of the AIM Subgroup (AIM/SG/11). The Subgroup formulated draft conclusions that require some action by the GREPECAS/15 Meeting.

References:

- Report of the AIM/SG/11 meeting (Bogotá, Colombia, 16 to 20 June 2008);
- Doc. 8733 – *CAR/SAM Regional Air Navigation Plan*;
- Report of the GREPECAS/14 meeting (San Jose, Costa Rica, 16 to 20 April 2007);
- GREPECAS Procedural Handbook.

1. Introduction

1.1 The Eleventh meeting of the Aeronautical Information Management Subgroup (AIM/SG/11) was held in Bogotá, Colombia, from 16 to 20 June 2008, with the participation of 47 delegates from 16 member States of the Subgroup, 1 representative from a United States agency (NGA), 4 International Organizations (COCESNA, IATA, ALTA, and CNAC) as observers, and 2 service providers (JEPPESEN and IDS). The Subgroup approved a report on the topics discussed, as well as 9 draft conclusions, which are submitted to the consideration of the GREPECAS/15 Meeting.

2. Review of the Eleventh Meeting of the AIM Subgroup

2.1 Review of action taken by higher bodies regarding the AIM Subgroup

2.1.1 The meeting reviewed and updated the list of GREPECAS conclusions and decisions in the AIM field (AIS/MAP), in order to submit it to the consideration of GREPECAS/15, based on the action taken by the Air Navigation Commission with respect to the reports of the GREPECAS/12, GREPECAS/13, and GREPECAS/14 meetings and outstanding AIM conclusions. In this regard, it left as **Valid** only those that had not expired, those that would be the subject of further work, and/or were being acted upon by the contributory bodies of the Subgroup. It should be noted that, while reviewing these conclusions, the Subgroup agreed to update some of them.

2.1.2 When reviewing the action taken by GREPECAS/14 on the report of the AIS/MAP/SG/10 meeting, it was noted that, after examining the list of outstanding conclusions to be submitted to GREPECAS/15, the meeting had deemed it advisable to update it based on that stated in **Appendix A** to this working paper. On the other hand, regarding the action taken by the Air Navigation Commission on the report of the GREPECAS/14 meeting with respect to the action taken by the AIS/MAP/SG/10 meeting, the Meeting took note of a summary of the action taken by GREPECAS/14 and the revision of said report by the ANC for the corresponding follow-up by the Subgroup. In this sense, the ANC Working Group on Regional Plans (ANC RPL/WG) examined the report of the GREPECAS/14 meeting and the conclusions and decisions that could require some action by the Commission and/or the Council, including those that could have repercussions on other Regions. However, at the time of the AIM/SG/11 meeting, the Air Navigation Commission had not submitted the GREPECAS/14 report to the Council.

2.1.3 A very important issue that was discussed was the transition of AIS/MAP to the new aeronautical information management (AIM) concept, which establishes various stages for controlling aeronautical information/data, from its origin, going through storage, recovery, exchange, and delivery of digital aeronautical information (AIM) within the context of gate-to-gate flight operations, taking into account pre-flight, in-flight, and post-flight planning. In this regard, it was recalled that the global ATM system, which is aimed at applying the operational concept based on collaborative decision-making (CDM), will require authorised high-quality sources of electronic aeronautical (AIS) and meteorological (MET) information available on a timely basis.

2.1.4 The meeting deemed it necessary to develop a “strategy” for planning, managing, and expediting AIS-to-AIM transition. It should be recognised that not all States or Regions can do an immediate transition to the AIM and that its implementation should be evolutionary, based on regional requirements. To that end, the States should bear in mind that, in terms of quality, consistency, and timeliness of the data handled by the AIS during this transition stage, the stringent requirements for the exchange of digital information must be met at levels that are substantially superior to those currently considered as acceptable. As a pre-requisite to AIM transition, the States that have not done so yet must assign high priority to the implementation of Annex 15 standards and recommended practices (SARPs) and, in particular, those related to the World Geodetic System - 1984, and the automation and quality management system.

2.1.5 On the other hand, the Meeting deemed it important for ICAO to disseminate the results of the *Worldwide Symposium on Enabling the Net-Centric Information Environment*, held in Montreal from 2 to 4 June 2008, where legal and institutional matters related to the AIS-AIM transition were addressed.

2.2 Review of the Reports of the AIM Subgroup Contributory Bodies

Review of the AIM QM/TF-3 Report

2.2.1 The Meeting reviewed the report of the Third meeting of the Quality Management Task Force (AIM/QM/TF/3), and did the follow-up on the initiative for the development of an implementation plan for a quality management system in AIM services. The Meeting discussed and updated the results of the work presented by the Rapporteur of the AIM/QM Task Force, as shown in **Appendix B** to this working paper.

2.2.2 In this respect, it was noted that, with the implementation of quality systems in the States and International Organizations, all work processes being carried out for the development of the Integrated Aeronautical Information Documentation should be **certified under a Quality Management System** that ensures that available information processes meet the ICAO/ISO precision, resolution, and integrity requirements.

2.2.3 The document prepared by the QM TF on human factor principles analysed civil aviation safety risks. In this sense, items 4), 6) and 8) of ICAO Strategic Objective A, related to AIM (AIS) services, are fundamental for the implementation of the new technologies for the processing and distribution of ordinary, essential and critical aeronautical data/information in both traditional (printed) and digital formats.

2.2.4 It was felt that ICAO international standards on quality and human factors are faced with new decision-making scenarios and have an impact on human performance. Thus the importance of their implementation and integration into the whole operational structure, including AIM (AIS), the pilots, dispatch offices, air traffic control, the maintenance area, amongst other areas in which they interact with aeronautical operations.

Review of the AIM TRAIN/TF-9 Report

2.2.5 When reviewing the report of the Ninth meeting of the Aeronautical Information Management Training Task Force (AIM/TRAIN/TF/9), note was taken of the task involving the conduction of a course for AIS/MAP, based on AIM principles and human factor guidelines developed by the Quality Management Task Force. The Task Force reviewed the new ICAO AIS Training Manual and updated the AIS/021 Regional Standard Programme, adjusting it to the new AIM concept for its implementation in the CAR/SAM Regions.

2.2.6 The Task Force reviewed and did the follow-up on the action agreed upon by the QM/TF/2 meeting, the draft conclusions and decisions of the AIS/MAP/SG/10 meeting, and the conclusions of GREPECAS/14. It also reviewed the Guidance Material for the implementation of a quality management system in the AIS/MAP in the CAR/SAM Regions, Part 4 – Selection, Competency, Training, and Re-qualification of AIS/MAP (AIM) personnel.

2.2.7 The Task Force reviewed the curriculum and second-generation modules of the CAR/SAM AIS/021 course and the future CAR/SAM AIS/024 course. It also made a thorough review of the Guide on Responsibilities and Functions of AIS/MAP personnel, to make it consistent with the new Aeronautical Information Management (AIM) concept.

2.2.8 Lastly, the group agreed to study and define the basic criteria to ensure the development of a technical English language training programme for AIS/MAP personnel of CAR/SAM States.

2.2.9 When discussing this agenda item, the Meeting reviewed and updated the results of the work presented by the Rapporteur of the AIM/TRAIN task force, as shown in **Appendix C** to this working paper.

Review of the AIM e-MAP/TF-1 Report

2.2.10 When reviewing the report of the First meeting of the Electronic Aeronautical Chart Task Force concerning Aeronautical Information Management (AIM/e-MAP/TF/1), the Meeting reviewed and

updated the results of the work presented by the Rapporteur of the AIM/e-MAP task force, as shown in **Appendix D** to this working paper.

2.2.11 The e-MAP task force considered that ICAO should proceed with the development of technical cooperation guidelines so that they can be available by the first quarter of 2009. This will permit the production of VFR 1:500.000 y 1:1.000.000 electronic aeronautical charts approximately by 2015.

2.2.12 On the other hand, the e-MAP task force deemed it advisable to circulate a survey, which will be sent to the States/Territories/International Organizations through the Secretariat of the AIM Subgroup, in order to know the difficulties involved in the implementation of areas concerning e-TOD, in view of the target date established by ICAO. The responses obtained will be assessed at the next meeting of this working group, based on Chapter 10 of Annex 15, Doc. 9881, and the discussions among its members.

2.2.13 In its report, the e-MAP/TF also suggested that the AIM/SG should consider the possibility of coordinating with AECI, AENA and SAF for the conduction of a GIS seminar in 2009 that included mapping quality and digital contour models. Finally, it was noted that the working group had agreed that its next meeting (e-MAP/TF/2) would be held in April 2009, on a date and place to be confirmed.

2.3 Information confidentiality and sensitivity

2.3.1 At the AIM/SG/11 meeting, the request was made that action be taken in view of the fact that any AIS system based on aeronautical information management networks and an AIM-based approach, should recognise that some of its data are sensitive for military, national security, airline, commercial airport, or industrial reasons. Only through the full support of all participants in the information process will it be possible to properly protect sensitive data, by taking the necessary measures to prevent unauthorised use, applying restricted access methods to critical revision and control operations, and implementing a way of identifying adverse circumstances that might affect aeronautical information management.

2.3.2 It was stated that if Organizations reduce defensive barriers in the operational field, systems would be subject to the impact of events that might lead to an accident. Particularly AIM (AIS) personnel responsible for processing aeronautical information, now in digital format, must be aware of the big responsibility and sensitivity (essential and critical data) of aeronautical information for users: pilots, flight planners and dispatchers, air traffic controllers, technicians from other air navigation services, and Organizations that produce aeronautical charts and other documents related to aeronautical information.

2.4 Review of the survey on the use of the AIP (AAA) audit process and its application in quality processes

2.4.1 The Meeting noted that, in order to support quality processes, the GREPECAS/14 meeting, through Conclusion 14/38, requested CAR/SAM States, Territories, and International Organizations to audit their AIPs using the AAA (AIP Audit Assistant) tool, developed by EUROCONTROL. Through this audit concept, which consists of a set of checklists that correspond to each AIP item (COM, ATM, MET, AGA, SAR, MIL, etc.), it will be possible to identify inconsistencies in some parts of the AIPs, which would be undetectable if a rigorous systemic tracking procedure was not applied. The Secretariat urged the States that had not informed ICAO yet about the application of the AAA software, to do so as soon as possible.

2.4.2 Likewise, Cuba submitted an important information paper about the World Symposium on the implementation of network information environments, a copy of which appears in **Appendix E** to this working paper. It also reported that the documentation from that symposium was available at: *http://www.icao.int/netcentric/documentation.htm*.

2.5 International exchange of information

2.5.1 For the international exchange of information, paragraph 3.6.1 of Annex 15 contains a standard that specifies that it is fundamental for Spanish-speaking States to take action regarding the production of the integrated aeronautical information package in the English language for international distribution, with special emphasis on NOTAM information, although there are several projects in this regard. An appeal was also made to the States that had not done so yet, to continue making the necessary efforts for prompt compliance, and to inform the corresponding Regional Office about the publication, as required by the cited standard.

2.6 "U" deficiencies in the AIM field

2.6.1 The Meeting agreed that one of the responsibilities of the ICAO CAR/SAM Regional Offices, through GREPECAS, was to do the follow-up on, and assess, the deficiencies in each air navigation field, and to recommend relevant action for their resolution, especially with respect to deficiencies classified as urgent ("U"). Although they receive special treatment by the GREPECAS Aviation Safety Board (ASB), many deficiencies remain valid for many years, which mean that they are a "potential threat to the safety of air operations", or have been unduly classified as "U".

2.6.2 The States have designated a National Coordinator responsible for updating the GREPECAS Air Navigation Deficiencies Database (GANDD). The Regional Offices already have the list of National Coordinators responsible for updating the GANDD. In this regard, the Meeting noted that the criterion for classifying "U" deficiencies had been developed based on the risk analysis used in the official ICAO SMS course. The idea was to consider all deficiencies with a risk index of 5A, 5B, 5C, 4A, 4B, and 3A, with a frequent, occasional, and remote likelihood, respectively, and a **catastrophic, dangerous** and **serious** severity, as "U" deficiencies.

2.7 Matters concerning the AIS-to-AIM transition

2.7.1 The Secretariat informed the Meeting that the panel at ICAO Headquarters was still developing the technical requirements (SARPs) related to the electronic display of AIP information and ICAO electronic aeronautical charts, with an estimated date of completion of these SARPs and guidelines between 2010 and 2013.

2.7.2 Currently, there are models developed by EUROCONTROL and the United States, such as the AICM/AIXM that have been extensively used for the exchange of aeronautical information. For that reason, consideration should be given to the need to review the documentation of said models, together with the model for the exchange of aerodrome charts (AMXM), and integrate them into the AIM processes.

2.8 Terms of reference and work programme of the AIM/SG

2.8.1 The Meeting went on to review and update the terms of reference and work programme of the AIM/SG, and of the TRAIN/TF, QM/TF, and eMAP/TF working groups. This information is

reflected in **Appendix F** to this working paper. In this regard, the Meeting considered the re-structuring of the AIM Subgroup, replacing the AUTO/TF with a new Information Technology/TF.

2.8.2 Under this agenda item, the Meeting analysed the scope of the current structure of the AIM Subgroup, with a view to improving its operational effectiveness, concretely through the replacement of the Automation Task Force (AUTO/TF), which had not met in the last two years, with a new task force entitled Information Technology Task Force (AIM IT/TF). This would be addressed by the AIM/SG/12 meeting, given the need to update the terms of reference and work programme of a task force that would have as its main objective to link the latest aeronautical data and information technologies to the new AIM concept.

3. Suggested action

3.1 The Meeting is invited to:

a) take note of the information contained in this working paper; and

b) approve the draft conclusions contained in **Appendix G** to this working paper.

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APPENDIX A

REVIEW OF THE LIST OF GREPECAS AIS VALID CONCLUSIONS

CONCLUSION	FOLLOW-UP RESPONSIBILITY	FOLLOW-UP ACTIONS	STATUS/ REMARKS
DRAFT CONCLUSION 11/3 - IMPLEMENTATION OF THE AIRAC SYSTEM That the CAR/SAM States/Territories/International Organizations, a) to publish once a year a national AIC with the effective AIRAC dates of the aeronautical information integrated documentation package, and the AIRAC system application details, in support to the effective use of the system and the important impact of the system for air navigation safety; d) publish, over 56 days in advance of the date of application, the aeronautical information introducing significant changes to air navigation systems; and f) notify the ICAO NACC and SAM Regional Offices of the whole AIRAC system implementation, no later than **31 July 2008**.		Replaces Conclusion 12/100	
DRAFT CONCLUSION 11/4 – TRAINING SEMINARS/WORKSHOPS IN SUPPORT OF AIS/MAP TRANSITION TO AIM States are urged, with the support of ICAO, to: a) Agree upon technical cooperation projects; and/or b) Agree with other States/International Organizations to carry out training events in support of AIS/MAP transition to AIM.	ICAO/States/International Organizations	Calendar of events	
CONCLUSION 13/41 - NEED TO FURTHER AIS/MAP AUTOMATED SYSTEMS That, considering the need for CAR/SAM States/Territories/International Organizations to develop automated systems for exchange of information/data and the resulting application of the aeronautical information management concept, GREPECAS consider: a) that automation of AIS services in the CAR/SAM Regions as an urgent matter necessary to make progress in line with developments related to the CNS/ATM elements that are already being implemented in these Regions; and b) urging ICAO to define the global data model for the exchange of aeronautical information as soon as possible**.**	ICAO	Update in order to include defined activities and deadlines.	Replaced by Conclusion 11/5 – Follow up to the development of models for the exchange of information/aeronautical data for AIM

CONCLUSION	FOLLOW-UP RESPONSIBILITY	FOLLOW-UP ACTIONS	STATUS/ REMARKS
CONCLUSION 13/45 - SPECIAL IMPLEMENTATION PROJECT (SIP) FOR TRAINING IN ELECTRONIC AERONAUTICAL DATA That, taking into consideration that the AIS/MAP personnel need to obtain greater knowledge on required techniques for the availability and supply of electronic aeronautical data, ICAO NACC and SAM Regional Offices, are urged to promote the development of a Special Implementation Projects (SIP), addressed to provide training in the following subjects: a) Geographic Information System (GIS); b) Terrain Digital Models System (TDM); c) Electronic Chart Display and Information Systems (ECDIS); d) platform and tools required for the supply of Electronic Terrain and Obstacles Data; e) electronic aeronautical charts display under a global reach, in direct support of GNSS; and, f) reliable procedures and methods to ensure the quality and integrity of the aeronautical, geographical and geodesic information/data for civil aviation use.	ICAO	A new date is coordinated for the 2nd half of 2007.	Valid
CONCLUSION 13/51 - APPLICATION OF THE HUMAN FACTORS PRINCIPLES TO AERONAUTICAL INFORMATION MANAGEMENT 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: a) take the necessary steps to develop human factors principles for aeronautical information management and for their application in the respective AIS/MAP services; 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 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.	AIM/SG a) Completed b) Completed c) Valid	Will be dealt with under corresponding item on the agenda	Valid

CONCLUSION	FOLLOW-UP RESPONSIBILITY	FOLLOW-UP ACTIONS	STATUS/ REMARKS
CONCLUSION 14/36 - REQUIREMENTS FOR THE IMPLEMENTATION OF QUALITY MANAGEMENT SYSTEMS FOR AIM IN THE CAR/SAM REGIONS 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: a) Part–4 of the *Guidance Manual for the Implementation of an AIM Quality Management System for the CAR/SAM Regions* related to the selection, proficiency, training and qualification of personnel of the Aeronautical Information Service as presented in **Appendix N** to this part of the Report; b) the procedures of verification and validation of aeronautical data contained in **Appendix O** 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; c) the procedures to conduct quality audits in the AIM areas (see **Appendix P** 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 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.	States/Territories and International Organizations	The Regional Offices CAR/SAM asked to states to report on this matter	Valid
CONCLUSION 14/37 - CONSOLIDATION OF THE CAR/SAM DIGITAL VFR AERONAUTICAL CHARTS PROJECT 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: a) with PAIGH, in order to foster the production of VFR digital aeronautical charts on a common standards and procedures basis; and a) through the establishment of an ICAO technical co-operation programme funding mechanism.	OACI	In progress, development of the project with the area of technical cooperation	Valid

CONCLUSION	FOLLOW-UP RESPONSIBILITY	FOLLOW-UP ACTIONS	STATUS/ REMARKS
CONCLUSION 14/38 - AIP AUDIT ASSISTANT (AAA) PROCESS INTEGRATION INTO THE CAR/SAM AIS That States/Territories/International Organizations: a) consider integrating AAA, which can be downloaded for free from website http://www.eurocontrol.int/aim/public/standard_page/tools_aaa.html, 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 b) develop a report on its use, shown in the **Appendix S** to this part of the Report, to be presented to the NACC and SAM Regional Offices by **31 January 2008**.	States/Territories and International Organizations	In progress for the application of AAA for assessment and use	Valid
CONCLUSION 14/39 - ACTIONS FOR THE USE OF GEOGRAPHIC INFORMATION SYSTEMS (GIS) FOR AIM SERVICES IN THE CAR/SAM REGIONS 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: 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 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.	States/Territories and International Organizations ICAO	In the Regional offices CAR and SAM is being integrated the technical cooperation project which will include this area	Valid

CONCLUSION	FOLLOW-UP RESPONSIBILITY	FOLLOW-UP ACTIONS	STATUS/ REMARKS
CONCLUSION 14/40 - COMPLIANCE WITH SARPS CONTAINED IN CHAPTER 10 OF ICAO ANNEX 15 (ELECTRONIC TERRAIN AND OBSTACLE DATA) 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: 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; 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; 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 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.	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
CONCLUSION 14/41 - CAR/SAM FASID TABLE AIS-4 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: 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 **Appendix T** to this part of the Report; b) with that information, the ICAO NACC and SAM Regional Offices make the proposal for amendment to incorporate FASID Table AIS-4 - *Requirements for Integrated Aeronautical Information Package at International Airports* into the contents of Doc 8733, *CAR/SAM Air Navigation Plan, Volume II, FASID* by the end August 2007; and 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.	States/Territories and International Organizations ICAO	Some States of the CAR Region not send the required information still	Valid
DRAFT CONCLUSION 11/5 - FOLLOW UP TO THE DEVELOPMENT OF MODELS FOR THE EXCHANGE OF INFORMATION/AERONAUTICAL DATA FOR AIM That States/Territories/International Organizations follow-up on the development of models for the exchange of information/aeronautical data for AIM in which ICAO has participation.			

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APPENDIX B

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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APPENDIX C

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 Turing 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 updatings 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.

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.

APPENDIX D

Available only in Spanish

Revisión de los Informes de los Órganos Auxiliares del Subgrupo AIM Informe de la Primera Reunión del Grupo de Tarea de Cartas Aeronáuticas Electrónicas (AIM/eMAP/TF/1).

INFORME DE LA PRIMERA REUNIÓN DEL GRUPO DE TAREA DE CARTAS AERONÁUTICAS ELECTRÓNICAS (AIM/eMAP/TF/1

(Nota presentada por el Relator)

RESUMEN

Esta Nota de Estudio resume los resultados de las discusiones llevadas a cabo durante la Informe de la Primera Reunión del Grupo de Tarea de Cartas Aeronáuticas Electrónicas (AIM/e-MAP/TF/1. El Grupo de Tarea formuló 8 Proyectos de Decisión y Conclusión que requieren la acción del AIM/SG/11.

Referencias:

- Informe de la Novena Reunión del Subgrupo AIS/MAP (AIS/MAP/SG/09) Santo Domingo, Republica Dominicana 13 al 17 de Junio 2005.
- Informe de la Décima Reunión del Subgrupo AIS/MAP (AIS/MAP/SG/10) Caracas, Venezuela, 26 de Febrero a 2 de Marzo 2007.

1. Introducción

1.1 La Primera Reunión del Grupo de Tarea de Cartas Aeronáuticas Electrónicas (AIM/e-MAP/TF/1), se realizó en Montevideo, Uruguay, del 26 al 30 de mayo de 2008. La Reunión contó con la participación de 14 delegados de 08 Estados y 01 Organismo Internacional.

1.2 El Grupo de Tarea aprobó un Informe que cubría los temas discutidos así como 8 Proyectos de Decisión/Conclusión, con sus respectivos anexos, que se someten a la Reunión AIM/SG/11. El **Apéndice** a esta Nota de Estudio contiene dichos Proyectos de Decisión/Conclusión.

2. **Examen de la Tercera Reunión del AIS/MAP QM/TF**

2.1 Bajo la Cuestión 2 del Orden del Día, se presentó ante la Reunión Estado de Avance del "Proyecto de Cooperación OACI/IPGH para la producción de las Cartas Aeronáuticas Electrónicas VFR 1:1.000.000 y 1:500.000", aprobado por el Instituto Panamericano de Geografía e Historia (IPGH) (**Adjunto 1 al Apéndice**), tomándose en consideración la necesidad de aglutinar las iniciativas de la OACI y del IPGH para la generación de Cartografía Aeronáutica en base estándares comunes, propiciando el intercambio de experiencias y la coordinación entre ambos organismos. El plan propuesto contiene acciones concretas y tiempos límites que deben ser culminados a más tardar el primer trimestre del año 2009. Al respecto, se tomó la Decisión de los estados deberán entregar los antecedentes consultados en la ficha a través de las Oficinas Regionales (**Adjunto 2 al Apéndice**), que permita efectuar un diagnostico referente a la producción de cartografía aeronáutica y de este modo, proponer un plan común de apoyo a la producción de cartografía aeronáutica electrónica, en base a la realidad regional.

2.2 La Cuestión 3 del Orden del Día abordó el tema relacionado con la Elaboración de Guías prácticas para el suministro de Datos Electrónicos del Terreno y Obstáculos para la elaboración de los Planos de Obstáculos de Aeródromos – Electrónicos, según lo estipulado en el Capitulo 10 del anexo 15 de la OACI. La Reunión consideró la pertinencia de indicar al Grupo de Tarea AIM/TRAIN la necesidad ampliar los planes de capacitación para la correcta implantación de los e-TOD. Se preparo una encuesta a ser remitida a los Estados, Territorios y Organizaciones a través del AIM/SG/11, con el fin de conocer las dificultades que presenta la implantación de este asunto de acuerdo a la fecha establecida por la OACI. Se consideró la necesidad de realizar un catastro grafico a fin de mesurar la magnitud del trabajo a realizar, la búsqueda de la mejor alternativa técnica para su ejecución y establecer las prioridades para su implantación. Se elaboro una guía para conocer la situación actual de los Estados con respecto a la implantación de los estándares electrónicos para datos de terreno y obstáculos (**Adjunto 3 al Apéndice**).

2.3 En la Cuestión 4 del Orden del Día se distribuyó la ficha de consulta sobre producción de cartografía aeronáutica en los Estados miembros de la región CAR/SAM. La Reunión formuló un Proyecto de Conclusión, con la finalidad de instar a los Estados a entregar los antecedentes que permitan sugerir procedimientos y estándares aplicables a la producción de cartas aeronáuticas electrónicas en la región CAR/SAM y cuyos resultados serian analizados en la próxima reunión del Grupo de Tarea AIM/e-MAP/TF/2.

2.4 Bajo la Cuestión 5 del Orden del Día se presentó a la Reunión los Principios y Estándares de Calidad aplicables a la Cartografía Aeronáutica, a fin de establecer las bases para la evaluación de calidad de la Cartografía Aeronáutica en la Región CAR/SAM. Debido a la complejidad de los temas tratados se convino en la necesidad de profundizar en esta materia en una próxima reunión.

2.5 En la Cuestión 6 del Orden del Día se revisaron los Manuales de Símbolos de Cartografía Aeronáutica, para su consideración en la producción de Cartografía Aeronáutica Electrónica. A estos efectos la Reunión consideró que se deberían esperar las modificaciones al Anexo 4, en lo referente a simbología, antes de pronunciarse a su aplicabilidad en todas las representaciones cartográfica aeronáuticas. Igualmente se concluyo que el Grupo de Tarea AIM/e-MAP continúe con el estudio de la Estructura de Datos Geoespaciales en Ambiente Digital y su interoperatividad en preparación para AMXM. Que a través de las Oficinas Regionales se solicite a los Estados, Territorios y Organizaciones internacionales la estandarización de la representación grafica y dimensiones de los patrones de la simbología.

2.6 Bajo la Cuestión 7 del Orden del Día se trató sobre el Empleo de Sistemas de Información Geográficos y Bases de Datos en la Cartografía Aeronáutica Electrónica, planteándose sus alcances para la gestión de la Información y de la Cartografía Aeronáutica en ambiente digital. Se concluyo en la conveniencia de promover a través del Grupo de Tarea de Instrucción AIM/TRAIN, la realización de un programa de adiestramiento en SIG, Base de Datos y e-TOD. Igualmente, se concluyó en la necesidad de elaborar un documento que sirva de guía a los Estados, en la implantación de los Sistemas de Información Geográfica, considerando las capacidades que poseen los SIG.

2.7 En la Cuestión 8 del Orden del Día se planteó la pertinencia de realizar un Seminario donde expertos expongan temas referentes a Calidad Cartográfica, Estándares, Sistemas de Información Geográficos, Modelos Digitales de Terreno a fin tratar desde una perspectiva técnica los temas antes indicados y de este modo unificar criterios para su apropiada implantación. El Grupo de Tarea planteó la necesidad de incorporar a la agenda de estudio las auditorias USOAP, en lo referente a formación de inspectores MAP. Por ultimo se concluyo en la necesidad de que el Grupo de Tarea realice su próxima reunión en el mes de abril del año 2009.

3. Acción Sugerida

Se invita a la Reunión a que:

a) tome nota del contenido de esta Nota de Estudio; y

b) adopte los 8 Proyectos de Decisión/Conclusión que contiene el Apéndice a esta Nota de Estudio.

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APPENDIX E

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.

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 le 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 seria 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.

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APPENDIX F

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 Interoperational 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	2008
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	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.	A	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.	A	2007	2010
AIM/10	Developing methods for restricting access, merging and de-identification of source, etc. In regard of a networked aeronautical information management system with the scope envisage for AIM it is recognized that some data it contains will be sensitive, as consequence it is necessary to take into account to protect information /data from unauthorized use.	A	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**

CAR/SAM States, Spain, France, COCESNA, IATA and PAIGH.

5. **Chairperson**

Chairman: Mrs. Noemí Carta (Cuba)
Vice-Chairman: Mr. Rafael Torres (Venezuela)

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	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	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

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 personnel 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 AIM 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 AIM training programme in the CAR/SAM Regions.	A	2007	2009
AIM/TRAIN 3	Continue the feasibility studies for the development of an AIM course based on basic operational requirements and state-of-the-art technical criteria, under the nomenclature AIM/024.	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 AIM/QM/TF 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:

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 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 consideration to the cartographic quality management for 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 and in Doc. 9881, 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) and IFR cartography in digital format.	A	2007	2013
AIM/e-MAP 5	Elaborate guidance for the training requirements concerning the electronic representation of aeronautical charts and terrain digital modelling systems (TDMS). In addition, the elaboration of guidelines for the implementation and operation of geographical information systems for digital aeronautical mapping.	A	2008	2010
AIM/e-MAP 6	Continue with the study regarding the geospatial data structure and its inter-operability in a digital environment, in preparation for the AMXM (Aerodrome Mapping Exchange Model)	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:

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APPENDIX G

AIM/SG/11 REPORT – 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 States 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 CONCLUSION 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 CONCLUSION 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**.

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

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.

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.

DRAFT
CONCLUSION 11/7 - ADOPTION OF THE DRAFT STRATEGY FOR THE TRANSITION TO AIM

That CAR/SAM States adopt the first version of the "Draft Strategy for the Transition to AIM" prepared by the AIM/QM/TF.

Note: The document mentioned in the above Conclusion will be available in the NAM CAR WEB Page soon, this will be informed to States through a letter and messages to the respective AIM (AIS/MAP areas).

DRAFT
CONCLUSION 11/8 - RESTRICTED ACCESS IN AREAS WHERE AERONAUTICAL INFORMATION/DATA IS MANAGED IN WEB SERVERS AND NOTAM AND GIS DATA BASES

That CAR/SAM States/Territories/International Territories take the following steps to safekeeping the security of essential and critical information in the AIS/MAP and NOTAM areas establish:

a) a restricted access in spaces reserved for communications, data base servers and any other equipment destined to essential and critical information exchange; and

b) sufficient **information technology firewalls** in the systems data base, network accesses and any other means that may permit the alteration of sensible information and turn into a safety risk.

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,

a) 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.

- END -