FINAL REPORT

INTERNATIONAL CIVIL AVIATION ORGANIZATION

REPORT OF THE FOURTEENTH MEETING OF THE CAR/SAM REGIONAL PLANNING AND IMPLEMENTATION GROUP (GREPECAS/14)

(San Jose, Costa Rica, 16 – 20 April 2007)

Prepared by the Secretariat and the Chairman of GREPECAS

April 2007

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HISTORY OF THE MEETING

ii.1 Place and Duration of the Meeting

Upon the kind invitation of the Costa Rican Civil Aviation Authorities, the Fourteenth Meeting of the CAR/SAM Planning and Implementation Group (GREPECAS/14) was held in San José, Costa Rica, from 16 to 20 April 2007 at the Ramada Plaza Herradura Hotel.

ii.2 Opening Ceremony and Other Matters

Ms. Loretta Martin, Regional Director of the ICAO North American, Central American and Caribbean Regional Office addressed the audience and expressed her sincere appreciation to the authorities of Costa Rica for hosting this Meeting.

Ms. Viviana Martín Salazar, Vice Minister of Public Works and Transport of Costa Rica, welcomed the delegates wishing them success with the Meeting objectives, and emphasised the need for close interregional coordination aimed at providing a more harmonised air navigation system.

ii.3 Organization, Officers and Secretariat

Mr. Normando Araújo de Medeiros (Brazil), Chairman of GREPECAS, presided over the Meeting throughout its duration and expressed his appreciation to the Costa Rican Civil Aviation Administration.

Mr. José Miguel Ceppi, ICAO Regional Director, South American Office, as Secretary of the Meeting was assisted by the following officers from Montreal and the ICAO NACC and SAM Regional Offices:

Loretta Martin	Regional Director , ICAO NACC Office
José Antonio Díaz de la Serna	Secretary of the ATM/CNS Subgroup
Carlos Stehli	Secretary of the Institutional Aspects Task Force
Hindupur Sudarshan	Regional Affairs Officer, PCO, Headquarters
Nohora Arias	Secretary of the AERMET Subgroup
Jorge Fernández	Secretary of the ATM Committee
Aldo Martínez	Secretary of the CNS Committee
Samuel Cardoso	Secretary of the AGA/AOP Subgroup
Victor Hernández	Regional Officer ATM, NACC Office
Ricardo Delgado	Secretary of the AVSEC Committee
Raúl Martínez	Secretary of the AIS/MAP Subgroup

ii.4 **Working Languages**

The working languages of the meeting and its documentation were English and Spanish.

ii.5 **Agenda**

The agenda was adopted:

Agenda Item 1 Review of the Air Navigation Commission (ANC) and Unlawful Interference Committee (UIC) actions on the GREPECAS/13 Report

MANAGEMENT OF THE CAR/SAM AIR NAVIGATION SYSTEM

Agenda Item 2 Analysis of Global, Inter- and Intra-Regional Activities

2.1 Interregional and Intra-Regional CNS/ATM Activities and Coordination
2.2 Directors General of Civil Aviation Conference on a Global Strategy for Aviation Safety (DGCA/06)
2.3 Fifth Meeting of all Planning and Implementation Regional Groups (ALLPIRG/5)
2.4 Development of ICAO Business Plan and its relationship to GREPECAS
2.5 Safety Management System (SMS) Implementation in CAR/SAM States

Agenda Item 3 Assessment of development of Regional Air Navigation and Security Infrastructure.

3.1 Report of the Third Meeting of the Task Force on Institutional Aspects
3.2 Report of the AVSEC/COMM/5 Meeting
3.3 Report of the AERMET/SG/8 Meeting
3.4 Report of the AGA/AOP/SG/5 Meeting
3.5 Report of the AIS/MAP/SG/10 Meeting
3.6 Report of the ATM/CNS/SG/5 Meeting

EVALUATION OF AIR NAVIGATION PLANNING AND IMPLEMENTATION DEFICIENCIES/ PROBLEMS IN THE CAR/SAM REGIONS

Agenda Item 4 Evaluation of Air Navigation Planning and Implementation Deficiencies/Problems in the CAR/SAM Regions

4.1 Report of the ASB/6 Meeting
4.2 Specific Air Navigation Planning and Implementation Deficiencies/Problems in the CAR/SAM Regions

GREPECAS MANAGEMENT

Agenda Item 5 Management of the GREPECAS Mechanism

5.1 Report of the ACG/6 Meeting
5.2 Review of GREPECAS and its Contributory Bodies Terms of Reference and Work Programmes

Agenda Item 6 Examination of GREPECAS outstanding Conclusions

Agenda Item 7 Other Business

7.1 Review of outcome of GREPECAS/14 using Business Plan approach

ii.6 **Attendance**

The Meeting was attended by 82 participants from 19 Member States and 1 Contracting State, located or having territories in the CAR/SAM Regions, as well as 1 State located outside the Regions, and observers from 6 international organizations. A list of participants is shown in pages iii-1 to iii-3.

ii.7 **Conclusions and Decisions**

GREPECAS records its action in the form of conclusions and decisions as follows:

Conclusions deal with matters which, in accordance with the Group's terms of reference, merit directly the attention of States or on which further action will be initiated by ICAO in accordance with established procedures.

Decisions deal with matters of concern only to the GREPECAS and its contributory bodies.

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LIST OF PARTICIPANTS

Members	Advisers	Nominated by
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Members	Advisers	Nominated by
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Members	Advisers	Nominated by
Also attending the Meeting:		
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	Juan de Mata Morales Luis Andrada Márquez	SPAIN
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Agenda Item 1 Review of the ANC and UIC actions on the GREPECAS/13 Report

1.1 The Meeting was presented with actions taken by the Air Navigation Commission (ANC) and the Committee on Unlawful Interference (UIC) during their review and approval of the report of the Thirteenth Meeting of the CAR/SAM Regional Planning and Implementation Group (GREPECAS) held in Santiago, Chile, 14-18 November 2005. The Meeting noted the specific actions taken by the ANC, the UIC and the follow-up by the States and Secretariat on conclusions and decisions of the Meeting as contained in the **Appendix** to this part of the Report.

1.2 Discussing certification of aerodromes, and referring to Conclusion 13/32 regarding provision of information on certified aerodromes in the Aeronautical Information Publication (AIP), the Meeting noted that the Commission called upon the Secretary General to develop ways and means to identify, within the AIP, those aerodromes that are not certified.

1.3 The Meeting noted that the ANC agreed with GREPECAS regarding the provision of aeronautical information services that call for a high level of proficiency for relevant personnel. However, it did not share the view of GREPECAS in Conclusion 13/47 that licensing of AIS/MAP specialists is necessary to achieve this goal. In particular, the quality system that is now required for AIS/MAP shall include a mechanism that ensures that all personnel have and maintain the competency that is required to effectively discharge their duties. In this context, the ANC noted Conclusion 13/47 and recommended that the Secretary General give priority to the publication of the final version of Part E-3 of the *Aeronautical Information Services Personnel Training Manual* (Doc 7192), which is now completed and available on ICAO-NET.

1.4 Supporting the proposal developed by GREPECAS for an amendment on aeronautical phraseology in the *Procedures for Air Navigation Services — Air Traffic Management* (PANS-ATM, Doc 4444), the Meeting was apprised that the ANC endorsed Conclusion 13/63, and called upon the Secretary General to initiate the necessary amendment process to Chapter 12 of Doc 4444. This amendment is scheduled to be presented to the Commission in April/June 2007.

1.5 Regarding the definition of In-flight Security Officer (IFSO) and its safety implication (Conclusion 13/6), the Meeting noted that the issue was considered by the Eighteenth Meeting of the Aviation Security Panel. Subsequently, on 20 November 2006, the outcome was reviewed and the definition of IFSO was approved by the Council.

1.6 Concurring with GREPECAS regarding risk assessment (Conclusion 13/7), the Meeting was informed that the relevant guidance material is being developed and will be available to contracting states by June 2007. ICAO regional workshops on risk assessment are also being planned.

1.7 The Meeting was pleased to note that the ANC had congratulated GREPECAS for developing guidelines to prepare ATM contingency plans for use by the States (Conclusion 13/68). Furthermore, the ANC requested the Secretary General to call upon GREPECAS to develop a catalogue of regional contingency plans in support of the continuity of civil aviation operations during natural and/or human events that lead to disruptions.

1.8 The Meeting thanked the ANC and UIC for their valuable guidance on various GREPECAS activities and agreed that this guidance would be taken into account in the development of ongoing work programmes of the Regions.

Item	Conclusion No. Strategic Objective GPI No.	Needs, findings or implementation gaps	Proposed actions by the Secretary General
1	13/16 D	Cost recovery of MET services in the CAR/SAM Regions	Call upon States to establish a methodology for cost recovery through the application of charges for air navigation services.
2	13/20 D GPI-19	Periodic tests on volcanic ash SIGMETs, volcanic ash advisories, and volcanic ash ASHTAMs or NOTAMs	Request certain States to take part in periodic tests related to the correct issuance and dissemination of SIGMETs, volcanic ash advisories, and NOTAMs for volcanic ash (or ASHTAMs).
3	13/30 D GPI-19	Training on the BUFR code	Invite the WMO to organize a seminar, in coordination with ICAO, on the operational use of GRIB- and BUFR-coded WAFS products for the States of the CAR/SAM Region.
4	13/32 D GPI-18	Information on certified aerodromes in AIP	Develop ways and means to identify within the AIP those aerodromes that are not certified.
5	13/36 D GPI-13	Clarification on the application of the expression "wherever practicable" mentioned in Annex 14, Volume I	Clarify the application of the expression "wherever practicable" mentioned in the standards in Annex 14, Volume I.
6	13/43 D GPI-18	Availability of the mapping symbols guidance manual in the web page	Ensure that any associated ICAO web page posting be harmonized with Annex 4 provisions.
7	13/46 D GPI-18	ICAO/PAIGH project for the production of aeronautical charts	Facilitate in establishing a TC project for CAR/SAM Regions, in cooperation with the PAIGH, to assist States in the production of 1:1 000 000 and 1: 500 000 VFR aeronautical charts in accordance with ICAO specifications.
8	13/47 D GPI-18	General guide for AIS/MAP personnel licensing in Annex 1	Expedite the publication of final version of Part E-3 (Aeronautical Information Service Personnel) of the Training Manual (Doc 7192).
9	13/63 D GPI-18	Proposal for amendment to the Doc 4444–PANS/ATM for aeronautical phraseology in Spanish	Initiate the process to amend Chapter 12 of ICAO Doc 4444 PANS-ATM.
10	13/68 E	ATM contingency plans for the CAR/SAM Regions	Call upon GREPECAS to develop a catalogue of regional contingency arrangements in support of continuity of civil aviation operations due to natural and/or human events that result in disruptions.
11	13/89 D GPI-23	Support of States in the CAR/SAM Regions to the ICAO position for the ITU WRC-2007	Continue encouraging States to participate at various levels in different fora to provide support for ICAO's position at the forthcoming WRC-2007 so as to protect the aeronautical frequency spectrum.

Item	Conclusion No. Strategic Objective GPI No.	Needs, findings or implementation gaps	Proposed actions by the Secretary General
12	13/92 A	Action for resolving urgent air navigation deficiencies	Urge States of the CAR/SAM Regions to eliminate urgent deficiencies by 31 December 2007 and, at that point, to consider the application of last resort action, as detailed in Decision 12/124 of GREPECAS/12.

Agenda Item 2 Analysis of global, inter- and intra-regional activities

Global Air Navigation Plan

2.0.1 The Meeting recalled that in 1998, the Council accepted the Global Air Navigation Plan for Communications, Navigation, and Surveillance/Air Traffic Management (CNS/ATM) Systems (Global Plan), which was followed by the first amendment in 2001. In light of the Eleventh Air Navigation Conference (AN-Conf/11) in 2003, and the Sixth Meeting of the Air Navigation Commission Consultation with Industry in May 2004, the Meeting was informed that the second amendment to the Global Plan was prepared and accepted by the Council in November 2006. The Meeting noted the revised Global Plan, which was developed on the basis of industry roadmaps, is now available on ICAO-NET.

2.0.2 The Meeting received a comprehensive presentation on the revised Global Air Navigation Plan. The presentation addressed past and future work associated with achieving a global ATM system; the Global Plan Initiatives (GPIs); the performance-based approach to planning and implementation; and the process of carrying out regional integration and transition. The revised planning process would be facilitated through planning tools, an electronic air navigation planning database, project and programme management techniques and new reporting methodologies. The Meeting noted that the revised Global Plan would not cause major changes to the work already in progress in the regions since the objective was to harmonize work programmes, improve reporting processes and help to ensure interoperability and seamlessness between regions. It would also introduce methods to ensure that performance objectives were developed and measured. The Meeting noted that ICAO, at the Headquarters level, was committed to offering the support required to the Regional Offices to ensure success with implementation of the GPIs.

2.0.3 For effective planning and implementation of GPIs, the Meeting was apprised that the Secretariat would review the data presented in the tables contained in the regional air navigation plans (ANPs) so as to facilitate integration of the GPIs into the planning process and to maximize their usefulness as part of the ANP searchable database. Additionally, in light of the ATM Operational Concept and the GPIs, the Secretariat will revisit the Statement of Basic Operating Requirements and Planning Criteria (BORPC) contained in the regional ANPs. Furthermore, as this revised global plan addresses the elements beyond CNS and ATM, and includes additional systems, the document has been renamed "Global Air Navigation Plan," which allows for a more logical alignment with regional ANPs.

2.0.4 The Meeting was supportive of the revised Global Plan and the new approach to planning and implementation. In this regard, the Meeting took note of the performance planning activities by the ANC Panels as well as the outcome of the ICAO Symposium on Performance of Air Navigation Systems that was held in March 2007.

Increasing the Efficiency of PIRGs

2.0.5 As a follow-up to the observation made by the Council in February 2006, on the need to review the format and method of processing the reports of the Commission to the Council, as well as the terms of reference (TORs) of the PIRGs, the Meeting received a progress report on the work accomplished on the subject to date.

2.0.6 As a result, the Meeting noted that an ANC working group was addressing the following, which are expected to be completed by June 2007: a) reassessment of PIRG TORs to align with ICAO Strategic Objectives and the Global Air Navigation Plan; b) amendment of the PIRG reporting format to the Commission; c) revision of the method for the Secretary General to present PIRG reports to the Commission; and, d) examination of the method for the Commission to report to the Council.

2.0.7 With regard to the future format of Commission reports to the Council, it may consist of a compilation of all PIRG reports in lieu of individual PIRG reports and would be presented annually in a concise format. An annual report on all PIRG activities for consideration by the Council would highlight the main achievements in the Regions with regard to the implementation of the GPIs and elimination of the deficiencies. However, if a timely Council decision is required, case-by-case reports of PIRGs to the Council would be presented.

2.0.8 The Meeting, while expressing full commitment to the PIRG process, noted that ICAO is considering the development of a common approach to all PIRGs and alignment of their work programmes with the Strategic Objectives of the Organization.

2.1 Interregional and intra-regional CNS/ATM activities and coordination

2.1.1 The Meeting received a presentation on the business case model for the implementation of CNS/ATM Systems developed by ICAO. It was noted that the air navigation planning process takes into account the interdependencies between the equipment installed on the ground and the aircraft avionics. Accordingly, this tool, which integrates both the air navigation service providers and the airspace users, will be very useful in the development of various implementation scenarios. Also, this will serve as a basis for the decision-making process by the CNS/ATM partners regarding the implementation of new systems and the investments involved. However, the business case should be used in conjunction with other tools in order to provide more comprehensive and acceptable results.

2.1.2 This interactive model, known as the Database and Financial Analysis Computer System (DFACS), has three main components: database establishment, scenarios development, and report analysis. The Meeting noted that the tool has been made available to States and Regional Offices through State Letter EC 2/88-06/106, dated 20 December 2006, and is accompanied by a user's manual that provides a systematic guide to using the software along with an illustrative example. The tool and the documents can be downloaded from the ICAO-NET (under Electronic Publications/ICAO Documents/CD-ROMs and Unnumbered Documents). In addition, the Secretariat has created a new secure website called Civil Aviation Forecasts and Economic Analyses (CAFEA) to facilitate the establishment of a network of experts and enable the exchange of studies, analyses and documents on the cost effectiveness, cost-benefit analyses and business cases for the implementation of CNS/ATM systems as well as other forecasts and economic analyses documents. The Meeting was informed that ICAO will be conducting regional workshops for States imparting training on the development of business cases.

2.2 Directors General of Civil Aviation Conference on a Global Strategy for Aviation Safety (DGCA/06)

2.2.1 The Directors General of Civil Aviation (DGCA/06) Conference on a Global Strategy for Aviation Safety was convened in Montreal from 20 to 22 March 2006, in order to build consensus on improving aviation safety through coordinated action by all contracting states, ICAO, and the aviation industry.

2.2.2 The Conference made declarations and recommendations covering three themes viz: Status of Aviation Safety Today; Improving Aviation Safety; and Beyond the Current Framework. Taking into account the report of the Air Navigation Commission, the ICAO Council considered and approved follow-up to the DGCA/06 Conference on 15 June 2006,. Although the Council decision only called for the implementation report to address the recommendations directed to States and other stakeholders, the Meeting noted that C-WP/12805 and its Appendix addressed the status of implementation of all DGCA/06 recommendations. The Meeting, while reviewing the status of implementation of recommendations, observed that transparency of information is essential for ensuring harmonised implementation and enhancing safety worldwide, as well as protecting it against undue use.

2.3 Fifth Meeting of All Planning and Implementation Regional Groups (ALLPIRG/5)

2.3.1 The Meeting was informed of the results of the ALLPIRG/5 Meeting that was held in Montreal, Canada, from 23 to 24 March 2006, which addressed interregional issues in the planning and implementation of air navigation systems including CNS/ATM systems in ICAO regions and advised the ICAO Council on related matters as appropriate. The Meeting noted that the ALLPIRG/5 Meeting had developed eighteen conclusions covering a wide-range of issues, which are detailed in the **Appendix** to this part of the Report.

2.3.2 It was noted that the ICAO Council had reviewed the ALLPIRG/5 Report on 13 June 2006, taking into account the comments of the Air Navigation Commission, and approved the ALLPIRG/5 Report. As a follow-up, GREPECAS, as well as other planning and implementation regional groups (PIRGs), were to take certain follow-up actions on the conclusions of ALLPIRG/5.

2.3.3 As a result of analysis of the conclusions of ALLPIRG/5, the Meeting identified those conclusions which require follow-up by GREPECAS and assigned tasks to the relevant subgroup. Also, the Meeting called upon States and international organizations to take follow-up action on conclusions that were relevant to them. Accordingly, the following was formulated:

DECISION 14/1 IMPLEMENTATION OF ALLPIRG/5 CONCLUSIONS BY GREPECAS

That the following conclusions of ALLPIRG/5 be studied by the concerned subgroups, that action be taken to implement them, and that the outcome be presented to ensuing GREPECAS meetings:

Conclusions 5/2 and 5/5: AGA/AOP/SG
Conclusions 5/2, 5/4, 5/5, 5/7, 5/8, 5/9, 5/11, 5/13, 5/16 and 5/17: ATM/CNS/SG
Conclusions 5/2 and 5/5: AIS/MAP/SG
Conclusions 5/2 and 5/5: AERMET/SG
Conclusions 5/14 and 5/15: ASB
Conclusions 5/4: IA/TF.

CONCLUSION 14/2 IMPLEMENTATION OF ALLPIRG/5 CONCLUSIONS BY STATES

That States of the CAR/SAM Region take action to implement the following nine conclusions of ALLPIRG/5:

5/4, 5/5, 5/7, 5/8, 5/9, 5/11, 5/13 and 5/16.

CONCLUSION 14/3 IMPLEMENTATION OF ALLPIRG/5 CONCLUSIONS BY INTERNATIONAL ORGANIZATIONS

That international organizations take action to implement the following six conclusions of ALLPIRG/5:

5/2, 5/4, 5/5, 5/7, 5/13 and 5/16.

2.4 Development of ICAO Business Plan and its relationship to GREPECAS

2.4.1 The Meeting received a presentation on the ICAO Business Plan, which moves towards a results-oriented and performance-based organization. The Meeting also noted the number of new working methods being introduced by ICAO that would ensure prudent and efficient use of limited resources. The draft ICAO Business Plan for the next triennium (2008-2009-2010) has been developed, and the budget is now being constructed in such a way that it secures resources for the implementation of action plans, which in turn will be supported by detailed operational plans leading to the achievement of the Strategic Objectives. The draft ICAO Business Plan for 2008-2009-2010 is accessible at the following website: http://www.icao.int/icaonet. Based on the budget amount that will be approved by the Council for the triennium (2008-2009-2010), the programmes and tasks detailed in the draft Business Plan will be reviewed and reprioritised; subsequently, the Business Plan will be finalised.

2.4.2 The Meeting noted that the components of the Business Plan, the Vision and Mission Statements, and Strategic Objectives, which have been approved by the Council for the current triennium, are also valid for the next triennium (2008-2009-2010). The Strategic Profile developed by the Secretariat is a tool for the Secretariat, helping to determine priorities with the implementation of the Business Plan. It includes areas such as strategic positioning, operational focus, public information, e-strategy and strategic skills for the successful implementation of the Business Plan. The high-level indicators, which flow from the Vision and Mission Statement, will allow the regular monitoring of international aviation performance. As ICAO moves towards a results-based budget (RBB), the Action Plan, which is the tactical part of the Business Plan, has been redefined. While the Action Plan translates the Strategic Objectives into key activities, in its new layout, it identifies results with related details such as issues and challenges, strategic approaches, expected output, key performance indicators

(KPIs), project leaders, and required human resources. In practical terms, the Action Plan means that resources are planned more effectively on the basis of each Strategic Objective and that efforts by the Secretariat will be focused on resolving the major challenges facing the Organization through results-based planning and budgeting.

2.4.3 In the development of the Business Plan, the functional integration between different units of the Organization, and especially between Headquarters and Regional Offices, received special attention. The Operational Plans, which are the subsets of the overall Business Plan of the Organization, serve as a tool for project managers to carry out their programmes in order to implement the Business Plan. As a part of functional integration, the Operational Plan of the Regional Programme is incorporated into the Air Navigation Integrated Programme (ANIP), thus providing a unified approach to the management and implementation of air navigation projects. The ANIP aligns technical project leaders from Headquarters with Regional technical officers. The ANIP is an online environment that allows effective interaction between staff and improves tracking and monitoring of performance, while presenting opportunities for cost savings and more effective management. Although still in development, access to this online planning system will be available to the decision-making bodies of the Organization, the Secretariat at Headquarters as well as the Regional Offices in January 2008, thus providing transparency to the execution of the Business Plan.

2.4.4 The Meeting noted that for any tasks to be undertaken by ICAO, which are identified by GREPECAS, it is now essential to be included in the Business Plan as funding will be made available accordingly.

2.5 Safety Management System (SMS) Implementation in CAR/SAM States

2.5.1 The Meeting was informed about the progress made by ICAO in relation to its Strategic Objective A: Safety, and more specifically, Key Activity A8, which deals with implementation of safety management systems (SMS). In this regard, a detailed explanation of the implementation of the SMS training programme developed by ICAO was provided. The training comprises seven regional courses as well as those requested by the States, pursuant to Circular AN 12/46-06/52 of the Secretary General, dated June 2006. The Meeting noted that this programme had been organised in response to DGAC/06 Recommendation 2/2.

2.5.2 The Meeting also noted that the main goals of the courses provided to the States were to:

a) familiarise participants with SMS concepts;

b) present ICAO SMS requirements contained in Annexes 6, 11, 14 and related guidelines; and

c) develop the necessary knowledge and skills to certify and monitor SMS implementation by operators and service providers.

2.5.3 The Meeting noted that the ICAO SMS training programme was being conducted worldwide with standardised material. The training course is currently available in Spanish, English, and French, and the ICAO Secretariat has adequate resources to conduct the SMS course in these three languages. It is expected that States receiving the courses will be able to train instructors and develop national courses based on the teaching material provided by ICAO, in order to create an SMS culture and develop a programme to be implemented according to the applicable SARPS as of 23 November 2006.

2.5.4 The Meeting was informed about the regional SMS course programme in the CAR/SAM Regions and the courses conducted in response to the letter of the Secretary General. It was also noted that the regional experience of ICAO with SMS courses has been very good, and the States have shown great interest and support.

2.5.5 In this regard, several members of GREPECAS felt that in order to create an SMS culture, civil aviation administrations should give priority to SMS courses and implementation so that operators and service providers can establish their SMS programmes and comply with the SARPS contained in Annexes 6, 11, and 14. It was also mentioned that in the course of ICAO USOAP audits, SMS could contribute to the identification of non-conformities with the SARPS. If this were the case, the important thing would be for the State to commit to a concrete SMS implementation action plan as an output of the audit process. IATA expressed its support of the ICAO SMS training programme, and noted that it had implemented a similar programme, which is described on its website.

2.5.6 In view of the above, the Meeting formulated the following conclusion:

CONCLUSION 14/4 SMS IMPLEMENTATION AND INSTRUCTOR TRAINING COURSES

That the States, when planning SMS implementation:

a) assign high priority to the implementation of these programmes; and

b) when receiving training on safety management systems through the ICAO training programme, designate instructors to receive training courses with a view to the effective implementation of SMS in keeping with ICAO SARPS.

FOLLOW-UP BY GREPECAS ON CONCLUSIONS OF ALLPIRG/5

ALLPIRG/5 Conclusions	Relationship with Strategic Objective & Global Plan Initiatives (GPIs)	Follow-up task	Follow-up to be initiated by
Conclusion 5/1 — Workshops on the Global Plan for Regional Offices			
That, in support of the Global Plan, ICAO conduct workshops in the Regional Offices to provide training on planning tools and methodologies as well as strengthening the interaction between technical officers at Headquarters and Regional Offices.	Increases efficiency (Strategic objective D) Relates to all GPIs	Conduct workshops in the Regional Offices to provide training on planning tools and methodologies through the SIP mechanism	ICAO Headquarters
Conclusion 5.2 — Implementation of Global Plan Initiatives (GPIs)			
That, recognizing that the evolution continues from a systems-based to a performance-based approach to planning and implementation of the air navigation infrastructure, the regional planning groups:	Increases efficiency (Strategic objective D) Relates to all GPIs		
a) note that the Global Plan is a significant component in the development of regional and national plans and that, together with the global ATM operational concept, provide an effective architecture for achieving a harmonized and seamless Global ATM system;		Note that the Global Plan is a significant component in the development of regional and national plans	GREPECAS, States and international organizations
b) identify GPIs that most closely align with the well established implementation plans of their respective regions;		Identify GPIs that most closely align with the implementation plans of their respective regions	GREPECAS, States and international organizations
c) select GPIs that would be most effective in achieving the objectives of the region while ensuring continuation of the work already accomplished;		Select GPIs that would be most effective in achieving the objectives of the region	GREPECAS, States and international organizations
d) implement GPIs that take into account the Initiatives across regions, to align work programmes and to develop national and regional plans that facilitate achieving a Global ATM system;		Implement GPIs in the development of national and regional plans	GREPECAS, States and international organizations
e) utilize the planning tools as the common planning and implementation mechanism, thereby ensuring proper coordination and global integration; and		Utilize the planning tools as the common planning and implementation mechanism	GREPECAS, States and international organizations
f) review, at each PIRG meeting as a part of its regular agenda, the progress achieved and challenges identified in the implementation of GPIs using a common template.		Review, at each PIRG meeting as a part of its regular agenda, the progress achieved and challenges identified in the implementation of GPIs	GREPECAS

ALLPIRG/5 Conclusions	Relationship with Strategic Objective & Global Plan Initiatives (GPIs)	Follow-up task	Follow-up to be initiated by
Conclusion 5/3 — Workshop on the business case model for communications, navigation, and surveillance/air traffic management (CNS/ATM) Systems			
That, in support of the development of business cases for the implementation of CNS/ATM systems, ICAO convene a training workshop for States at the Regional Offices through an appropriate mechanism, such as Special Implementation Projects (SIPs).	Increases efficiency (Strategic objective D) Relates to all GPIs	ICAO to convene a training workshop for States at the Regional Offices through the SIPs mechanism	ICAO Headquarters
Conclusion 5/4 — Application of the business case model for CNS/ATM systems implementation			
That PIRGs, States and airspace users:	Increases efficiency (Strategic objective D) Relates to all GPIs		
a) note that business cases for the implementation of CNS/ATM systems leading to a global ATM system is a key element in the development of regional, subregional and national plans;		Note that business cases for the implementation of CNS/ATM systems is a key element in the development of regional, subregional and national plans	GREPECAS, States and international organizations
b) consider the application of the model for the development of business cases in the formulation of national and subregional plans with a view to facilitating the achievement of a global ATM system; and		Apply the model for the development of business cases in the formulation of national and subregional plans	GREPECAS, States and international organizations
c) establish, with ICAO's assistance and within the limits of the programme budget, a network of experts on cost-effectiveness, cost-benefit analyses and business cases for the implementation of CNS/ATM systems in order to share expertise and to provide assistance to the Regional Offices.		Establish a network of experts on cost-effectiveness, cost-benefit analyses and business cases for the implementation of CNS/ATM systems	ICAO Headquarters

ALLPIRG/5 Conclusions	Relationship with Strategic Objective & Global Plan Initiatives (GPIs)	Follow-up task	Follow-up to be initiated by
Conclusion 5/5 — ICAO Global air navigation plan (ANP) database and geographic information system (GIS) portal			
Recognizing that access to an ICAO Global ANP database and associated planning services through an web-based ICAO GIS portal would constitute an invaluable tool in supporting, integrating and monitoring the planning and implementation of harmonized regional, interregional and global air navigation infrastructures, the regional planning groups:	Increases efficiency (Strategic objective D) Relates to all GPIs		
a) note the progress made by the Secretariat in accordance with Recommendation 1/14 of AN-Conf/11 and the ICAO Global ANP database;		Note the progress made in the development of ICAO Global ANP database	GREPECAS, States and international organizations
b) note the ongoing efforts by the Secretariat in harmonizing formats of all the ANP tables together with the inclusion of temporal information in the tables that would assist the regional planning groups in monitoring and analysing the implementation progress;		Harmonize formats of all the ANP tables	ICAO Headquarters
c) note the intent to expand the ANP tables to include Global Plan Initiatives (GPIs), as appropriate; and		Include GPIs in the ANP tables	ICAO Headquarters
d) utilize, through the ICAO GIS portal, the ICAO Global ANP database and associated planning services so as to ensure the currency, coordination and implementation of regional air navigation planning and to contribute to the further development of air navigation plans as the framework for the efficient implementation of new air navigation systems and services at the national, regional, interregional and global levels.		Utilize the ICAO Global ANP database and associated planning service	GREPECAS, States and international organizations
Conclusion 5/6 — Development of planning tools			
That ICAO, in the development of planning tools and services, should accommodate requirements established by the Regional Offices, as well as to take into account similar tools developed by other organizations such as EUROCONTROL.	Increases efficiency (Strategic objective D) Relates to all GPIs	Develop planning tools by taking into account regional requirements and experience gained by other organizations	ICAO Headquarters

ALLPIRG/5 Conclusions	Relationship with Strategic Objective & Global Plan Initiatives (GPIs)	Follow-up task	Follow-up to be initiated by
Conclusion 5/7 — Environmental benefits of CNS/ATM systems			
That PIRGs and States: a) use the Committee on Aviation Environmental Protection (CAEP) provided CO_2 conversion factor in the analysis of environmental benefits of implementing CNS/ATM systems;	Minimizes environmental impact (Strategic objective C)	Use the CAEP provided CO2 conversion factor in the analysis of environmental benefits of implementing CNS/ATM systems	GREPECAS, States and international organizations
b) prioritize the implementation of voluntary, operationally-based improvements in their air traffic management systems, with emphasis on fuel savings, emissions reductions and noise benefits, and also to mitigate costs to the industry;		Prioritize the implementation of voluntary, operationally-based improvements in their air traffic management systems	GREPECAS and States
c) provide feedback to ICAO on studies conducted on the environmental benefits of implementing CNS/ATM systems; and		Provide feedback to ICAO on studies conducted on the environmental benefits of implementing CNS/ATM systems	GREPECAS, States and international organizations
d) share air traffic data to improve future CAEP assessments, in line with State letter AN 1/17-03/86.		Share traffic data with CAEP	GREPECAS, States and international organizations
Conclusion 5/8 — Globally coordinated air traffic services (ATS) routes			
That PIRGs: a) establish a global consolidated, prioritized list of routes and terminal area (TMA) improvements in close coordination with airspace users; and	Increases efficiency (Strategic objective D) Relates to GPI 7	Establish a global consolidated, prioritized list of routes and terminal area (TMA) improvements	GREPECAS and States
b) work with neighbouring PIRGs/States/air navigation service providers (ANSPs) to accelerate international route improvements.		Work with neighbouring PIRGs/States/ANSPs to accelerate international route improvements	GREPECAS and States

ALLPIRG/5 Conclusions	Relationship with Strategic Objective & Global Plan Initiatives (GPIs)	Follow-up task	Follow-up to be initiated by
Conclusion 5/9 — Terminal area (TMA) structure and area navigation			
That States:	Increases efficiency (Strategic objective D) Relates to GPI 5		
a) employ area navigation in all TMAs, including appropriate arrival and departure procedures, to improve efficiency and reduce emissions in the vicinity of airports; and that, in special cases where there are particularly challenging obstacles and where air traffic density is very high and additional approach paths are possible, the more precise and contained required navigation performance (RNP) procedures be employed; and		Employ area navigation in all TMAs, including appropriate arrival and departure procedures	States
b) review operations, procedures and training of controllers to ensure the optimum management of air traffic services.		Review operations, procedures and training of controllers to ensure the optimum management of air traffic services	States
Conclusion 5/10 — Environmental benefits of RVSM introduction and regional expertise			
That ICAO:	Minimizes environmental impact (Strategic objective C) Relates to GPI 2		
a) undertake a study on the environmental benefits of the introduction of RVSM and to ensure that this information is transmitted to policy makers; and		Study the environmental benefits of the introduction of RVSM	ICAO Headquarters
b) seek appropriate support from recognized expert organizations in its work on quantifying the environmental benefits of RVSM, noting the support offered by EUROCONTROL in this regard.		Seek support from recognized expert organizations in its work on quantifying the environmental benefits of RVSM	ICAO Headquarters

ALLPIRG/5 Conclusions	Relationship with Strategic Objective & Global Plan Initiatives (GPIs)	Follow-up task	Follow-up to be initiated by
Conclusion 5/11 — Air traffic management (ATM) safety management			
That ICAO: a) urge States to give priority to the establishment and effective operation of their ATM safety management and safety regulatory functions;	Increases safety (Strategic objective A)	Give priority to the establishment and effective operation of their ATM safety management and safety regulatory functions	States
b) support the development of sufficient expertise levels in the industry through formal training in ATM safety issues and, by cooperation through regional bodies, promote collective means to optimize the effectiveness of training provision; and		Develop formal training in ATM safety issues	States
c) develop further measures to enable the implementation of a "just-culture" reporting environment to facilitate the reporting of ATM occurrences.		Implement a "just-culture" reporting environment to facilitate the reporting of ATM occurrences	States
Conclusion 5/12 — Coordination between regional monitoring agencies (RMAs)			
That the ICAO EUR/NAT Office act as the initial focal point for the required coordination between RMAs in order to: a) facilitate the exchange of monitoring and operational data between RMAs;	Increases efficiency (Strategic objective D) Relates to GPI 2	Facilitate the exchange of monitoring and operational data between RMAs	ICAO EUR/NAT Office
b) facilitate the exchange information about best practices between RMAs;		Facilitate the exchange information about best practices between RMAs	ICAO EUR/NAT Office
c) ensure that incident reports are correctly disseminated to the appropriate RMA;		Ensure that incident reports are correctly disseminated to the appropriate RMA	ICAO EUR/NAT Office
d) provide a forum to manage changes to monitoring requirements; and		Provide a forum to manage changes to monitoring requirements	ICAO EUR/NAT Office
e) ensure the maintenance of the RMA Handbook.		Ensure the maintenance of the RMA Handbook	ICAO EUR/NAT Office

ALLPIRG/5 Conclusions	Relationship with Strategic Objective & Global Plan Initiatives (GPIs)	Follow-up task	Follow-up to be initiated by
Conclusion 5/13 — Implementation of performance-based navigation concept			
That, to increase awareness and understanding of the performance-based navigation concept and its elements:	Increases efficiency (Strategic Objective D) Relates to GPI 5		
a) ICAO organize workshops and training activities; and		Organize workshops and training activities through the SIP mechanism	ICAO Headquarters
b) where area navigation (RNAV) or required navigation performance (RNP) implementations are required, these will be implemented by PIRGs and States according to the performance-based navigation concept.		Implement performance-based navigation concept	GREPECAS, States and international organizations
Conclusion 5/14 — A regional online database of air navigation deficiencies			
That, PIRGs consider establishing and maintaining a regional online database of air navigation deficiencies that ensures transparency and provides a secure access to authorized users.	Increases safety (Strategic objective A)	Establish and maintain a regional online database of air navigation deficiencies	GREPECAS
Conclusion 5/15 — Last resort action to resolve regional air navigation deficiencies			
That, when efforts to eliminate deficiencies prove unsuccessful after exhausting all alternatives, PIRGs adopt the following last resort action, which consists of the two parts:	Increases safety (Strategic objective A)	Implement last resort action when efforts to eliminate deficiencies prove unsuccessful after exhausting all alternatives Indicate the safety impact for every deficiency as soon as it is identified and publish in the table of deficiencies as well as in the regional on-line database	GREPECAS
a) propose the inclusion of an alternate facility/procedure in the air navigation plan (ANP); or			
b) when a corrective action as a) above cannot be recommended, provide the State(s)/Territory(ies)/users and ICAO with an analysis concerning risk associated with such a deficiency.			
Conclusion 5/16 — Implementation of very small aperture terminals (VSATs)			
That PIRGs:	Increases efficiency (Strategic Objective D) Relates to GPI 22		
a) discourage the proliferation of VSAT networks where		Discourage the proliferation of VSAT	GREPECAS, States and

ALLPIRG/5 Conclusions	Relationship with Strategic Objective & Global Plan Initiatives (GPIs)	Follow-up task	Follow-up to be initiated by
one/some of the existing ones can be expanded to serve the new areas of interest;		networks	international organizations
b) work towards integrated regional/interregional digital communication networks with a single (centralized) operational control and preferably based on the Internet Protocol (IP); and		Work towards integrated regional/interregional digital communication networks	GREPECAS, States and international organizations
c) give due consideration to managed network services (e.g. a virtual private network (VPN)), subject to availability and cost-effectiveness.		Give due consideration to managed network services	GREPECAS, States and international organizations
Conclusion 5/17 — Provisions for digital communication networks			
That ICAO:	Increases efficiency (Strategic Objective D) Relates to GPI 22		
a) expedite the development of provisions relating to the use of the Internet Protocol Suite (IPS) in the aeronautical telecommunication infrastructure; and		Expedite the development of provisions relating to the IPS in the aeronautical telecommunication infrastructure	ICAO Headquarters
b) initiate the development of provisions governing the end-to-end performance of digital communication networks, irrespective of the technologies and protocols utilized therein.		Develop provisions governing the end-to-end performance of digital communication networks	ICAO Headquarters
Conclusion 5/18 — Changes to the Regional Supplementary Procedures (SUPPs) (Doc 7030)			
That ICAO	Increases efficiency (Strategic Objective D) Relates to all GPIs		
a) restructure the SUPPs (Doc 7030) by the complete reordering and reorganization of the material;		Restructure the SUPPs by the complete reordering and reorganization of the material	ICAO Headquarters
b) align the area of application of the SUPPs with the area of application of the regional air navigation plans (ANPs); and		Align the area of application of the SUPPs with the area of application of the ANPs	ICAO Headquarters
c) make SUPPs available on a CD as well as on the ICAO website.		Make SUPPs available on ICAO website	ICAO Headquarters

Agenda Item 3 Assessment of Development of Regional Air Navigation and Security Infrastructure

3.1 Report of the Institutional Aspects/Task Force/3 Meeting (IA/TF/3)

3.1.1 Upon reviewing the results of the IA/TF/3 Meeting, the Group took note of the work done by the Task Force in relation to the Regional Strategy for the Implementation of Multinational Facilities, which would conform to the guidance material contained in the Global Plan. It also noted that the IA/TF/3 Meeting had considered the results of the Fourth Seminar on Institutional Aspects held within the framework of Technical Cooperation Project RLA/98/003. Appendix A to the Report on Agenda Item 1 of the IA/TF/3 Meeting summarises the seminar discussions.

3.1.2 It was noted that in keeping with its work programme, the IA/TF/3 had reviewed a generic document concerning an agreement for the establishment of a Regional Multinational Organization (RMO), which had been prepared within the framework of Regional Technical Cooperation Project RLA/98/003. This document contained the legal/institutional basis for the establishment of an RMO as the most appropriate option for the implementation/consolidation, management and provision of multinational facilities in the Regions. Upon reviewing this document, the Meeting agreed with the Task Force that it was consistent with the conceptual framework of an agreement for the implementation of a multinational system according to the guidance material contained in the FASID document of the CAR/SAM Air Navigation Plan (Doc. 8733). It also noted that the legal material for the aforementioned document had been extracted from material that GREPECAS had circulated pursuant to Conclusion 13/3.

3.1.3 In view of the above, the Meeting formulated the following conclusion:

CONCLUSION 14/5 GENERIC DOCUMENT CONCERNING AN AGREEMENT FOR THE ESTABLISHMENT OF A REGIONAL MULTINATIONAL ORGANIZATION

Whereas the most effective way to implement/consolidate multinational facilities, and manage and provide services is through the implementation of a Regional Multinational Organization (RMO), and that this requires a basic reference document to serve as basis for the States/Territories concerned to conduct the necessary studies:

a) it is recommended that the States/Territories that are interested in implementing an RMO use the summarised Draft Agreement for the establishment of a Regional Multinational Organization (RMO) shown in the attached **Appendix A,** the Draft Agreement for the Establishment, Operation, and Management of an RMO, shown in **Appendix B,** and the corresponding draft by-laws shown in **Appendix C** to this part of the Report; and

b) the ICAO NACC and SAM Regional Offices are requested to follow-up on action taken by the States with respect to the implementation of an RMO, as appropriate.

3.1.4 The Meeting went on to examine the proposals of the Task Force regarding the most appropriate mechanism to begin the implementation of an RMO. In this regard, it agreed with the Task Force in that it would be better to establish a regional project within the framework of the ICAO technical cooperation mechanism, with the necessary duration, until the RMO is established and responsibilities are transferred to this new international Organization. This project could manage the multinational systems agreed upon within the scope of the RMO.

3.1.5 It was noted that the proposed project for supporting the implementation of an RMO involved the planning, implementation, and operational management of multinational systems, which in turn required a specific design. In this respect, the Meeting approved a list of possible objectives for the regional project, as shown in **Appendix D** to this part of the Report.

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

CONCLUSION 14/6 TECHNICAL COOPERATION PROJECT TO FACILITATE THE IMPLEMENTATION OF A REGIONAL MULTINATIONAL ORGANIZATION (RMO)

Based on GREPECAS guidelines for the implementation of multinational facilities, the States interested in implementing RMOs should consider, in coordination with ICAO, the formulation of a technical cooperation project that includes an agreement for its establishment, operation, and management, taking into account the possible objectives contained in Appendix D to this part of the Report.

3.1.7 The Meeting also analysed the discussions of the Task Force regarding the recovery of costs by regional monitoring agencies. In this regard, it was noted that this topic had been addressed by ALLPIRG/5, which had referred to topic to the Sixth Meeting of the Air Navigation Services Economics Panel (ANSEP/6). In this regard, it seemed that Regional Monitoring Agencies (RMAs) should be established as multinational facilities, to which end the ANSEP developed a step-by-step procedure, as shown in **Appendix E** to this part of the Report.

3.1.8 The Meeting noted that the establishment of CARSAMMA followed a multinational scheme, and that Brazil, which is the State responsible for its management and operation, had not requested the establishment of cost-recovery or cost-sharing arrangements. It was also noted that all CARSAMMA expenses were fully covered by Brazil, which would continue for the foreseeable future. Nevertheless, it was recognised that considering the ANSEP procedure and the FASID guidance material, it would be useful to prepare a document equivalent to an administrative agreement in order to follow a step-by-step process for the aforementioned procedure. It was surmised that the future of CARSAMMA could be that of an RMO multinational facility.

3.2 Report of the AVSEC/COMM/5 Meeting

3.2.1 The results of the AVSEC/COMM/5 Meeting held in Buenos Aires, Argentina, from 11 to 13 May 2006, were presented to the Meeting.

3.2.2 The AVSEC/COMM/5 carried out a survey to validate five previous conclusions and determine the level of compliance by States regarding implementation of the Annex 17 provisions related to AVSEC international conventions. The Meeting adopted the following conclusion:

CONCLUSION 14/7[1] AVSEC IMPLEMENTATION SURVEY

That ICAO conduct an AVSEC Survey by **1 September 2006,** to determine compliance with Annex 17 Standards regarding the National Civil Aviation Security Programme, National Aviation Security Quality Control Programme, Cargo Security Programme and Operator Aviation Security.

3.2.3 The Meeting was informed of the importance of the *Recruitment of AVSEC Professionals* to support the Coordinated Assistance and Development (CAD) and Specifications and Guidance Material (SGM) Sections of the Air Transport Bureau, as well as to assist the Technical Co-operation Bureau (TCB). The Meeting adopted the following conclusion:

CONCLUSION 14/8 RECRUITMENT OF AVSEC PROFESSIONALS

That the States:

a) review the ICAO prerequisites and forward this information to AVSEC qualified individuals in their administrations; and

b) encourage qualified individuals to apply to ICAO to assist other States with the enhancement of their AVSEC Programmes.

3.2.4 The Meeting reviewed and discussed a proposal which highlighted the importance of training officials on MRTD using the ICAO TRAINAIR methodology and establishing a standardized Aviation Security Training Packages (ASTP) on MRTD for the CAR/SAM Regions. The Meeting adopted the following conclusion:

CONCLUSION 14/9 ICAO MACHINE READABLE TRAVEL DOCUMENT (MRTD) TRAINING INITIATIVE

That ICAO:

a) study the possibility of establishing a course for Machine Readable Travel Documents (MRTD) for aviation security personnel using TRAINAIR methodology in coordination with the Security and Facilitation Branch;

[1] AVSEC/COMM/5 Draft Conclusion 5/1 - Pre-approved by GREPECAS Members on 15 September 2006.

b) develop an Aviation Security Training Package for MRTD before 2010 to assist States with implementation; and

c) encourage States to support the implementation of MRTD using ICAO standards for effective aviation security countermeasures through an efficient boundary migratory control, to ease the exchange of database information of migratory movements and offer more reliability of the MRTD control by using biometric information and e-passports.

3.2.5 The Meeting reviewed the action plan for the negotiation, parts acquisition, maintenance and training in AVSEC screening equipment presented by the Committee, which is presented in **Appendix F** to this part of the Report. The importance of this Plan was emphasized as a document oriented to provide States with information and material on Hold Baggage Screening (HBS) issues.

3.2.6 Also, the technical details related to the functioning of HBS systems were included. Emphasis was placed on information related to advanced technology systems, detection of explosives and trace, among others. These technical details are included in **Appendix G** to this part of the Report.

3.2.7 After review of this material, the Meeting considered it necessary to forward the details to the ICAO SGM Section in order to be considered for inclusion in the *Security Manual for Safeguarding Civil Aviation Against Acts of Unlawful Interference* (Doc. 8973 – Restricted). Considering the aforementioned, the Meeting adopted the following conclusion:

CONCLUSION 14/10[2] HOLD BAGGAGE SCREENING (HBS) GUIDANCE MATERIAL

That the GREPECAS Secretary forward the technical details related to the functioning of HBS systems and the Action Plan for negotiation, parts acquisition, maintenance and training in AVSEC screening equipment for consideration for inclusion as guidance material in the *Security Manual for Safeguarding Civil Aviation Against Acts of Unlawful Interference* (Doc. 8973 – Restricted).

3.2.8 The Meeting acknowledged that the guidance material for a National Quality Control Programme (NQCP), which will be included in Doc 8973 – Restricted, was sufficient to have States develop their corresponding NQCP.

3.2.9 Likewise, the Meeting analyzed a proposal to encourage States to share information related to their NQCP, which would ease its implementation. This being considered, the Meeting adopted the following conclusion:

CONCLUSION 14/11 IDENTIFICATION OF COMMON CRITERIA IN QUALITY CONTROL PROGRAMMES

That ICAO study the feasibility of implementing a secure website within the existing communication system with the States in order for them to share their Quality Control Programmes with other States.

[2] AVSEC/COMM/5 Draft Conclusion 5/4 – Pre-approved by GREPECAS Members on 15 September 2006.

3.2.10 The Meeting considered some general guidelines of the contents for the development of a National Cargo Security Programme as well as the need for a training programme on this issue. The guideline is included in **Appendix H**. The Meeting approved the following conclusion:

CONCLUSION 14/12 CARGO SECURITY PROGRAMME WORKSHOP

That ICAO develop a Cargo Security Workshop as a matter of urgency to assist States in the development of their National Cargo Security Programme.

3.2.11 The Meeting was also informed about a list of qualified AVSEC instructors available in the Regions for future AVSEC training events. In this context, and in order to maintain an updated list of qualified AVSEC instructors, States were encouraged to identify instructors to be certified by ICAO.

3.2.12 The Meeting was informed that the AVSEC/COMM will develop a Passenger Screening Programme Model, and that a Passenger/Cabin Baggage Screening Seminar will be convened to provide States in the CAR/SAM Regions with current information on screening techniques and advanced technology to counter new and emerging threats against civil aviation.

3.2.13 The Meeting was informed about the AVSEC/PAX/BAG/TF Seminar/Meeting being held this year in Jamaica. This event will be supported by Phase II of the ICAO/Canada Training Awareness Programme for Civil Aviation Security in the CAR/SAM Regions. Therefore, the following conclusion was adopted:

CONCLUSION 14/13[3] PASSENGER/CABIN BAGGAGE SCREENING SEMINAR

That ICAO undertake the necessary coordination to guarantee the convening of the Passenger/Cabin Baggage Screening Seminar/Meeting to provide States with updated information on screening techniques and advanced technology.

3.2.14 The Meeting recalled that ICAO had established an Aviation Security Point of Contact (PoC) Network for the communication of imminent threats against civil aviation. The objective of the PoC Network is to have an international aviation security network of contacts within each State, who are designated as the appropriate authority to send and receive communications, at any time of the day or night, concerning imminent threat information, security requests of an urgent nature, and/or guidelines to support security requirements in the case of countering an imminent threat. Considering the aforementioned, the Meeting encouraged States to continue sending their PoC information to ICAO. In this regard, the Meeting adopted the following conclusion:

[3] AVSEC/COMM/5 Draft Conclusion 5/11 – Pre-approved by GREPECAS Members on 15 September 2006.

CONCLUSION 14/14[4] AVSEC POINT OF CONTACT (PoC) NETWORK

That the States:

a) review the criteria and designate the appropriate authority to receive and transmit imminent threats to civil air transport operations through this Network; and

b) before **30 September 2006,** provide ICAO with the aviation security Point-of-Contact (PoC) using the appropriate form.

3.2.15 The Meeting was informed that the LACAC Secretary advised that the Group of AVSEC Experts from LACAC will not be jointly meeting with the GREPECAS AVSEC/COMM this year due to the convening of a FAL/AVSEC Seminar from 5 to 9 November 2007, in Bolivia.

3.2.16 Likewise, the Meeting acknowledged the importance of providing Points-of-Contact (PoC) with the instrument that will allow them to perform their tasks efficiently. Thus, the need to implement a secure network to facilitate the communications between the PoCs in different States is essential.

3.2.17 The Meeting also reviewed the proposal to include preventive AVSEC measures and procedures in ATS personnel training as established by Annex 17.

3.2.18 After a broad exchange of opinions regarding the aforementioned proposals, the Meeting decided to refer these issues to the AVSEC/COMM as a specialized entity for corresponding analysis and the adoption of corresponding actions.

3.2.19 Finally, the Meeting was presented with information related to the responsibilities of ICAO and GREPECAS member States regarding Strategic Objective B – *Enhance Global Civil Aviation Ssecurity*.

3.3 Report of the AERMET/SG/8 Meeting

Implementation of the World Area Forecasting System (WAFS) in the CAR/SAM Regions

3.3.1 The Meeting reviewed the implementation status of Conclusions 1/2 and 2/2 – Amendment to WAFS-related regional procedures contained in the ANP/FASID, formulated by WAFSOPSG/1 (Lima, Peru, November 2003) and WAFSOPSG/2, (Bangkok, Thailand, March 2005) respectively, as well as the draft International Satellite Communications System (ISCS) User's Guide, related to Conclusion 2/5 of that same Group, in response to GREPECAS Conclusion 12/55.

[4] AVSEC/COMM/5 Draft Conclusion 5/12 – Pre-approved by GREPECAS Members on 15 September 2006.

3.3.2 The Meeting recalled that in keeping with paragraph a) of WAFOPSG/2 Conclusion 2/12, the WAFS provider States extended the provision of SIGWX forecasts in T4 format until 30 November 2006. Likewise, as a follow-up to paragraph b), the ICAO Lima and Mexico Offices circulated a survey to verify the implementation of effective reception and use of the BUFR code in SIGWX forecasts. Based on the results of the survey, the Meeting noted that very few CAR States had responded, and thus agreed to the following conclusion:

CONCLUSION 14/15 REVIEW OF AGREEMENTS BETWEEN CIVIL AVIATION ADMINISTRATIONS AND MET AUTHORITIES IN CAR STATES/TERRITORIES

That CAR States/Territories that have delegated the provision of aeronautical meteorological services to the national meteorological service review their agreements with the meteorological authorities in order to improve the service and the rate of response to aeronautical meteorology communications received from the NACC Regional Office.

3.3.3 The Meeting welcomed and acknowledged the information provided by the WAFS provider States regarding the Telecommunication Operations Centre (TOC) of the United States National Weather Service (NWS), which operates the ISCS Help Desk for solving problems with the VSAT receiver, satellite reception modem, and antenna.

Implementation of the International Airways Volcano Watch (IAVW) in the CAR/SAM Regions

3.3.4 The Meeting took note of the conclusions of the first and second meetings of the International Airways Volcano Watch Operations Group (IAVWOPSG), held in 2004 in Bangkok, Thailand, and in 2005 in Lima, Peru, respectively, concerning action to be taken by GREPECAS.

3.3.5 Regarding the presentation of the draft Guide for the Development of Emergency Plans for Aerodromes – Natural Disasters – Volcanic Ash in the CAR/SAM Regions, related to GREPECAS Conclusion 13/23, the Meeting agreed that, while the referred guide was being finalised for GREPECAS approval, CAR/SAM States should study the advisability of using the call plan diagram contained in said guide. It also agreed to submit the aforementioned diagram to IAVWOPSG/3. In this regard, the following conclusion was adopted:

CONCLUSION 14/16 CALL PLAN DIAGRAM OF THE AERODROME VOLCANIC ASH EMERGENCY COMMITTEE

That CAR/SAM States/Territories use the call plan diagram, which includes contact information (name, position, telephone and cellular phone) of all members of the Aerodrome Volcanic Ash Emergency Committee, as shown in **Appendix I** to this part of the Report.

3.3.6 Since Meteorological Watch Offices (MWO) are not receiving the special volcanic ash air-report (VAR) forms, despite the fact that copies of same are being included in flight documentation, the Meeting agreed to the following conclusion:

CONCLUSION 14/17 POST-FLIGHT RECORDING AND REPORTING IN THE CAR/SAM REGIONS

That IATA request airlines operating on CAR/SAM air routes to record and report special aircraft observations of pre-eruption volcanic activity, volcanic activity, or volcanic ash clouds on the special volcanic activity air-report (VAR) form, as specified in Annex 3 and PANS ATM, Doc 4444.

Implementation of the Issuance of SIGMETs in the CAR/SAM Regions

3.3.7 Upon reviewing this agenda item, the Meeting took note that although the Lima and Mexico Regional Offices had circulated the seventh edition of the Guide on the Preparation, Dissemination and Use of SIGMET Messages in June 2006, there continued to be deficiencies in the preparation and issuance of SIGMET messages, particularly in relation to volcanic ash. Consequently, it adopted the following conclusion:

CONCLUSION 14/18 USE OF THE TEMPLATE FOR SIGMET AND AIRMET MESSAGES AND SPECIAL AIR-REPORTS (UPLINK)

That CAR/SAM States/Territories update their procedures in order to make strict use of the template for SIGMET and AIRMET messages and special air-reports (uplink), particularly regarding the location indicator and the name of the FIR/CTA for which the SIGMET is being issued, at the beginning of the second line of the message.

OPMET Information Exchange in the CAR/SAM Regions

3.3.8 The Group took note of the results of OPMET exchange controls carried out from 10 to 16 June 2006, and OPMET controls conducted by the Brasilia International OPMET Data Bank from 2000 to 2006, which enabled the correction of deficiencies in their preparation and exchange at the national level. Within this context, the Meeting formulated the following conclusion:

CONCLUSION 14/19 OPMET EXCHANGE CONTROLS IN THE CAR/SAM REGIONS

That, in order to improve the quality and availability of OPMET information in the CAR/SAM Regions:

a) the Brasilia International OPMET Data Bank submit the results of OPMET studies and controls directly to those responsible for OPMET control in the CAR/SAM States/Territories; and

b) the States/Territories establish procedures for controlling the quality and availability of OPMET data in their aerodromes.

3.3.9 The Meeting took note of the list of OPMET data from CAR/SAM States/Territories which were missing during the global monitoring carried out by IATA in 2006, as submitted to the Eleventh Meeting of the SADIS Operations Group (SADISOPSG/11). The Meeting felt that the Group should study the possibility of identifying, in future global monitoring exercises, the aerodromes that do not issue OPMET data 24 hours a day and formulated the following conclusion:

CONCLUSION 14/20 GLOBAL OPMET DATA CONTROLS

That in order to improve the reliability of global periodic assessments of OPMET data availability, the SADISOPSG consider the possibility of identifying in Annex 1 to the SADIS User's Guide those aerodromes that issue OPMET data 24 hours a day.

3.3.10 In order to develop a transition plan for the migration from the traditional alphanumeric codes (TAC) to the binary universal form of representation (BUFR) of aeronautical meteorological messages, the Meeting formulated the following conclusion:

CONCLUSION 14/21 REVIEW OF THE TRANSITION TO THE BUFR CODE

That ICAO, in order to reduce the possible adverse impact of the transition from the traditional alphanumeric codes to BUFR-coded OPMET messages on the aeronautical community, invite WMO to review, as a matter of urgency, its plans to use BUFR-coded OPMET information.

Review of the CAR/SAM ANP/FASID, Part VI - MET

3.3.11 The Group noted that columns 6 (Areas of Coverage of Charts) and 7 (AFTN Routing Areas) of Table MET 1A of the CAR/SAM FASID were redundant since they did not reflect a RAN agreement and were no longer relevant since global WAFS forecasts and OPMET data were being provided through ISCS and SADIS broadcasts. Consequently, it agreed to delete said columns and maintain this table in the CAR/SAM ANP until a decision is made on the future of regional air navigation plans and their relationship to the new Global Plan. Accordingly, it formulated the following conclusion:

CONCLUSION 14/22 CAR/SAM FASID TABLE MET 1A

That Table MET 1A of the CAR/SAM FASID be amended, deleting column 6 (Areas of Coverage of Charts) and column 7 (AFTN Routing Areas).

3.3.12 The Meeting also agreed that the list of TAFs and TRENDs to be issued at CAR/SAM international aerodromes be reviewed annually in consultation with IATA and IFALPA; that the complete cycle not exceed nine months; and that the updated database be available at the end of each calendar year. Within this context, it formulated the following conclusion:

CONCLUSION 14/23 AMENDMENT PROCEDURES FOR TAF AND TREND REQUIREMENTS

That in order to ensure the currency of information related to the provision of TAF and TREND forecasts to be included in the global database, as of March 2007:

a) annual consultations with CAR/SAM States/Territories be carried out in March concerning the issuance of TAFs and TRENDs;

b) changes be submitted to the AERMETSG and GREPECAS;

c) formal consultations and amendments to the CAR/SAM FASID be made annually by November; and

d) the Lima and Mexico Offices forward the amendments to the ICAO MET Section for the updating of the global database annually in December, as appropriate.

3.3.13 The Meeting noted that Annex 1 to the SADIS User's Guide (SUG) provided a global list of requirements for METAR/SPECIs and TAFs to be disseminated by the aeronautical fixed service (AFS), applicable to both the ISCS and the SADIS. Consequently, it was agreed that for inter-regional exchange, there was no need to repeat the database in the CAR/SAM Basic ANP/FASID, and that a simple link (*e.g.,,* a URL) added to the global database below the title of Table MET 2A of the CAR/SAM FASID would suffice, while a new table could be added for regional exchange. Accordingly, it formulated the following conclusion:

CONCLUSION 14/24 CAR/SAM FASID TABLE MET 2A

That:

a) CAR/SAM FASID Table MET 2A be amended to only include a URL link to the global database with "Availability of OPMET information (METAR/SPECI and TAF) required in ISCS and SADIS," placed below the title; and

b) a new table with OPMET exchange requirements (METAR/SPECI and TAF) in CAR/SAM States/Territories be included in the CAR/SAM ANP.

3.3.14 It was considered that in order to ensure the currency of the information contained in Annex 1 to the SADIS User's Guide (SUG), specific action was required only with respect to OPMET data of aerodromes not included in the CAR/SAM FASID AOP Tables. In this sense, the following conclusion was adopted:

CONCLUSION 14/25 CURRENCY OF THE INFORMATION CONTAINED IN THE OPMET DATABASE (METAR/SPECI AND TAF)

That in order to ensure the currency of the OPMET database (METAR/SPECI and TAF) that needs to be available in ISCS and SADIS, as of March 2007, the Lima and Mexico Offices, on an annual basis, reconfirm with the relevant States/Territories their agreements for the provision of OPMET data contained in Annex 1 to the SADIS User's Guide (SUG) on aerodromes not included in Table AOP of the CAR/SAM FASID.

3.3.15 The Meeting recalled that there were no detailed SIGMET requirements listed in Annex 1 to the SADIS User's Guide (SUG). Nevertheless, the MWOs need to broadcast all SIGMETs to ISCS and SADIS uplink stations, in keeping with Annex 3, Appendix 6, 1.2.2. If the standard is fully implemented, it may be assumed that all States receive SIGMETs worldwide. Accordingly, the Meeting agreed that if SIGMET provisions are maintained in the CAR/SAM ANP (BORPC and MET provisions), Table MET 2B of the CAR/SAM FASID could be eliminated. Accordingly, it formulated the following conclusion:

CONCLUSION 14/26 CAR/SAM FASID TABLE MET 2B

That,

a) Table MET 2B of the CAR/SAM FASID be eliminated; and

b) an operational table listing SIGMET exchange requirements in CAR/SAM States/Territories be included as an Appendix to the CAR/SAM SIGMET Guide.

MET Training

3.3.16 Under this agenda item, the Meeting took note of the budgetary constraints of the WMO Aeronautical Meteorology Section and considered that the training of aeronautical meteorologists in CAR/SAM States was still the deficiency that required the greatest attention, not only from WMO and ICAO, but also from the States themselves. Therefore, it deemed that distance learning could be a solution to this growing problem. It also took note of the website containing the WMO aeronautical meteorology training modules: http://www.caem.wmo.int.

3.3.17 The Meeting took note that the WMO Executive Council had approved WMO Manual Supplement - No. 258, whose aeronautical meteorology training programme could be used as a checklist to verify compliance with Standard 2.1.5 of Annex 3 by the States. In this respect, it was felt that the Lima and Mexico Regional Offices should invite CAR/SAM States/Territories to take action, in close coordination with MET authorities, to implement the aforementioned standard of Annex 3 in order to meet the requirements concerning the certification and training of MET personnel, and study the possibility of implementing the distance learning systems mentioned in the previous paragraph.

3.3.18 Furthermore, the Meeting agreed on the need to organise a CAR/SAM ATS/AIS/MET/Pilot Coordination Seminar, and thus formulated the following conclusion:

CONCLUSION 14/27 ATS/AIS/MET/PILOT COORDINATION SEMINAR

That ICAO, in coordination with WMO, organise an ATS/AIS/MET/Pilot Coordination Seminar for the CAR/SAM Regions.

Identification, Assessment, and Reporting of MET Deficiencies

3.3.19 The Meeting took note that several States were not reporting their deficiencies on a regular basis and, as a result, GREPECAS AERMETSG meetings did not always have a reliable source of information. Therefore, it considered that there was a need to develop a continuous commitment process to increase and improve the collection of MET deficiencies, especially in relation to CAR States/Territories. Consequently, the Meeting felt the need to develop a SIP in this Region in coordination with WMO, in order to identify deficiencies and join efforts to propose solutions. Within this context, it formulated the following conclusion:

CONCLUSION 14/28 SPECIAL IMPLEMENTATION PROJECT (SIP) FOR THE CAR REGION

That ICAO consider the need of establishing a MET Special Implementation Project (SIP) for the CAR Region, in order to study and recommend measures for various CAR States/Territories with the purpose of specifically solving the problems affecting MET services.

Note: In order to join efforts for proposing solutions to aeronautical meteorology deficiencies, consideration could be given to the possibility of implementing the SIP in coordination with WMO.

3.3.20 The Group recalled that the AERMETSG was responsible for all aeronautical meteorology matters in the CAR/SAM Regions and that its meetings were the main forum where users could present their requirements to ICAO and the States. It also thanked IATA for recognising the work done in the past by the AERMETSG and its support to any future undertakings.

3.3.21 Likewise, the Meeting took note of IATA's concern regarding MET deficiencies in the CAR/SAM Regions and the lack of participation by CAR States in ICAO activities, taking into account the large number of flights in that area and the adverse weather conditions it faces, especially during the hurricane season. In view of the above, the Meeting supported IATA's proposal in the sense that the Lima and Mexico Regional Offices invite civil aviation administrations of CAR States/Territories to take urgent action to ensure that the meteorological authorities in said Regions comply with the standards, procedures, and recommendations emanating from current ICAO documents and join GREPECAS efforts to update and correct MET deficiencies.

3.4 Report of the AGA/AOP/SG/5 Meeting

3.4.1 The Meeting reviewed the work carried out by the Fifth AGA/AOP Subgroup Meeting and noted that the Subgroup had proposed changes to its composition, which appears under Agenda Item 5.2.

Review of the GREPECAS/13 Conclusions and Decisions

3.4.2 The Meeting reviewed the GREPECAS/13 Meeting conclusions and decisions, which are relevant to the AGA/AOP/SG, and considered those with pending actions in its deliberations throughout the duration of the Meeting. The status of the conclusions and decisions at the end of the Meeting is presented in Agenda Item 6 to this Report.

Review of AGA Deficiencies and Action Plans

3.4.3 The Meeting observed that the Subgroup examined the last version of the AGA/AOP database developed from aerodrome deficiency reporting forms from the CAR/SAM Regions. In this regard, the Meeting was informed that IATA confirmed its intention to exchange its database information with that of the ICAO NACC and SAM Regional Offices. According to IATA, its database information will be updated and sent to ICAO every three months.

3.4.4 The Meeting took note that the Subgroup encouraged the States/Territories to send, as soon as possible, their action plans to correct/mitigate each deficiency, the corrective actions to be taken, the completion date and the assignment of the respective necessary resources.

3.4.5 The Meeting was informed about the need to convene a workshop on runway end safety areas (RESA) and runway strips, in order for CAR/SAM States/Territories to have a forum to inform or present problems encountered and solutions provided to achieve regional consensus on the subject. The Meeting also took note of the Subgroup's concern with the use of the terms "aeronautical studies" and "where practical" when addressing these types of deficiencies, which are very common in the CAR and SAM Regions.

Airfield Maintenance/Translation of the Regional Manual on Airport Maintenance

3.4.6 The Meeting was informed that in compliance with the proposal of the AGA/AOP/SG/3 Meeting, on behalf of the Subgroup, Latin American and Caribbean Association of Airfield Pavement (ALACPA) revised the English and Spanish versions of the *ICAO Regional Manual on Airport Maintenance*, which were forwarded to the GREPECAS Secretariat.

Emergency Plans and Emergency Operations Centres (EOC)

3.4.7 The Meeting took note of the results presented in Tables 01 and 02 of **Appendix J** to this Report, regarding surveys carried out by the CAR/SAM States/Territories on emergency plans and EOCs. Note was also taken that a great number of States/Territories had not replied to the surveys. Based on the analysis of the referred tables, the Meeting was informed that since the last GREPECAS Meeting, the rate of implementation of emergency plans and emergency operations centres in the CAR Region had increased by 12% and 24%, respectively, while in the SAM Region it had increased by 15% and 11%.

3.4.8 The Meeting was informed about the CAR/SAM Workshop on Emergency Plans and Emergency Operations Centres held in Santiago, Chile, from 13 to 17 November 2006. This event was attended by 88 participants from 13 CAR/SAM States and one international organization. Because there is still a need for another workshop for English speaking States/Territories, the Meeting adopted the following Conclusion:

CONCLUSION 14/29 ENGLISH SPEAKING WORKSHOP ON EMERGENCY PLANS AND EMERGENCY OPERATIONS CENTRES (EOC)

That ICAO,

a) coordinate the convening of an English speaking workshop on Emergency Plans and Emergency Operations Centres (EOC) in accordance with GREPECAS Conclusion 13/33, to be conducted by the NACC Office, in view that most of their States are English speaking;

b) encourage States/Territories to reply to the Survey on Emergency Plans and Emergency Operations Centres and send said information to the ICAO NACC and SAM Regional Offices as soon as possible; and,

c) encourage States/Territories/International Organizations to participate in events of this type in a more active manner.

3.4.9 The Meeting took note of the discussions carried out by the Subgroup on possible data conflicts between CAR/SAM ANP FASID, Table AOP-1, Columns 3 and 9, and formulated the following conclusion:

CONCLUSION 14/30 PROPOSAL TO IDENTIFY POSSIBLE DIFFERENCES BETWEEN THE LEVEL OF PROTECTION FOR RESCUE AND FIRE FIGHTING SERVICES (TABLE AOP-1)

That,

a) ICAO study the possibility to modify and incorporate data for Column 3 in the *ICAO Air Navigation Plan, Doc 8733, Volume II - FASID, Part III – AOP* by including new text that the aircraft type, with its respective model, be used to determine the RFF CAT to be included as an additional data entry. That is, Column 3 will consider two data entries (RFF category and aircraft type/model), not one; and,

b) States/Territories review current data in Column 3 in the rescue and fire fighting category, taking into account the type and model of the aircraft.

Aerodrome Certification/Safety Management Systems (SMS)

3.4.10 The Meeting received information regarding the status of aerodrome certification implementation and Safety Management System (SMS) implementation, which is presented in **Appendices K** and **L** respectively, to this part of this Report. In addition, some inconsistencies were observed with regard to the aerodrome certification implementation tables in the CAR/SAM States/Territories, which may be due to communications, reception and/or remittance problems, etc. Therefore, the Meeting formulated the following conclusion:

CONCLUSION 14/31 AERODROME CERTIFICATION/SAFETY MANAGEMENT SYSTEMS (SMS)

That,

a) ICAO recirculate the surveys on Aerodrome Certification/Safety Management Systems (SMS) among States/Territories during the first semester 2007;

b) States/Territories duly complete and return the surveys on Aerodrome Certification/Safety Management Systems (SMS) as soon as possible, and **no later** than two months after the circulation date.

Annex 14 and the Audits of the ICAO Universal Safety Oversight Audit Programme (USOAP)

3.4.11 The Meeting received information that the Subgroup discussed Assembly Resolution A35-6, which establishes the development of a global transition to a comprehensive systems approach for audits in the ICAO Universal Safety Oversight Audit Programme (USOAP).

3.4.12 The Meeting was also informed that some States/Territories expressed concerns on how to resolve deficiencies related to airport physical characteristics such as RESAs, runway strips, obstacles, etc., before being audited by the USOAP Programme. It was identifed that many airports in both Regions were constructed in the 1950s and 1960s under less restrictive requirements than today. In this regard, Brazil shared information with the Subgroup regarding its experience with solving non-compliance with Annex 14, Volume I, Chapter 4, regarding obstacles based on aeronautical studies, which was provided to the Meeting. The Subgroup decided to create a Task Force on Aeronautical Studies in the AGA field that is specifically permitted by Annex 14. Furthermore, the Meeting emphasized that those aspects that are not permitted by Annex 14, Volume I, **shall not** be considered.

3.4.13 The Meeting also took note that the provision of training for States/Territories on the aspects discussed in 3.4.12 provides excellent assistance in addressing these problems. Based on that, the following conclusion was formulated:

CONCLUSION 14/32 SEMINAR/WORKSHOP ON AERONAUTICAL STUDIES FOR RESAs, RUNWAY STRIPS AND OBSTACLES.

That ICAO:

a) encourage CAR/SAM States/Territories to attend the Seminar/Workshop on Aeronautical Studies being planned by the ICAO NACC Regional Office, to serve as a forum to discuss aeronautical studies in the AGA area, mainly regarding RESAs, runway strips and obstacles.

b) study the possibility that the first two days of the Seminar/Workshop consider specific problems regarding RESAs and runway strips where specifically permitted by Annex 14.

Information on the Latin American and Caribbean Association of Airfield Pavement (ALACPA) Activities

3.4.14 The Meeting was informed that ALACPA presented a summary of its activities during the period 2005-2006 and that regrettably, ALACPA had not maintained coordination with the Secretariat even though this Association had been established by the AGA/AOP Subgroup.

Information on the CAR/SAM Regional Bird/Wildlife Hazard Prevention Committee (CARSAMPAF)

3.4.15 The Meeting received information that CARSAMPAF presented a report to the Subgroup regarding the main activities developed by the Committee between December 2004 and June 2006. The Report emphasized the success of the four international conferences on bird/wildlife hazard prevention already carried out by CARSAMPAF.

CAR/SAM Regional Air Navigation Plan Amendments

3.4.16 The Meeting took note of information provided to the Subgroup by the Secretariat about amendments made to the CAR/SAM Regional Air Navigation Plan in its Volumes I – ANP Basic and II – FASID between 2005 and 2006, and that the delegation from Brazil presented four working papers requesting amendments to the CAR/SAM Air Navigation Plan. In this respect, the Meeting formulated the following Conclusion:

CONCLUSION 14/33 AMENDMENTS TO THE CAR/SAM AIR NAVIGATION PLAN

That Brazil send its request to the ICAO SAM Office with the necessary supplementary data in accordance with CAR/SAM Air Navigation Plan, Volume II – FASID, Table AOP-1 requirements in order to circulate the corresponding proposal of amendment.

Runway Strips and Runway End Safety Areas (RESA) Task Force Report

3.4.17 The Meeting took note that the Rapporteur of the Runway Strips and RESA Task Force presented a summary with important statistical data on deficiencies regarding runway strips and RESAs in the CAR/SAM States/Territories.

Runway Incursion Prevention Task Force Report

3.4.18 The Meeting was informed that the Rapporteur of this Task Force drew the attention of the Subgroup to the need for a guide to be used by CAR/SAM States/Territories to solve regional problems with runway incursions. A preliminary guide was presented by the Task Force to the Subgroup, and the Task Force was asked to adjust the preliminary guide to reflect a more general nature.

Demand/Capacity Task Force Report

3.4.19 The Meeting took note that the Rapporteur of the Task Force informed on the implementation of measures to improve capacity management both in the area of air navigation and airport infrastructure, and on the need to carry out a study on the impact of upcoming New Larger Aeroplane (NLA) operations at CAR/SAM airports.

Review of other Technical Matters

The ICAO Global Air Navigation Plan (Global Plan)

3.4.20 The Meeting took note that the Secretariat provided information to the Subgroup on the Global Air Navigation Plan and aspects related to the draft Regional CNS/ATM implementation plan.

Application of Amendments 7, 8 and 9 to Annex 14

3.4.21 The Meeting was informed that the Secretariat also presented the contents of ICAO Annex 14, Volume I, Amendments 7, 8 and 9 to the Subgroup.

Progress of the AGA/AOP Subgroup on the RAN CAR/SAM/3 Meeting Conclusions and Other Important Issues for the CAR/SAM Regions

3.4.22 The Meeting observed that the Secretariat provided the AGA/AOP Subgroup summary of current compliance with CAR/SAM/3 RAN Meeting conclusions (Buenos Aires, 1999), as indicated in **Appendix M** to this part of the Report.

3.4.23 The Meeting took note of Subgroup concern regarding the importance of holding Task Force meetings. As a result, the Meeting recommended that States/Territories make every effort to facilitate participation of members of the Task Force in essential meetings convened by the Task Force Rapporteur.

3.4.24 IATA informed the Meeting that they will be unable to provide funding for the CAR/SAM Regional Bird/Wildlife Hazard Prevention Committee (CARSAMPAF) to support technical missions to assist States/Territories with reducing wildlife/bird hazards. As a result, the issue of funding was referred back to the Subgroup to explore alternative means of funding for CARSAMPAF work and to present their findings at the next GREPECAS Meeting.

Airport Environmental Management System

3.4.25 The Meeting observed that the Secretariat discussed the need to implement an airport environmental management system with the Subgroup. Emphasis was placed on the critical need for a combined, coordinated and effective effort among national, municipal, civil aviation and airport environmental authorities.

Relevant Aspects of Annex 14

3.4.26 The Meeting was informed that the Subgroup discussed the recommendations of ICAO Annex 14, Volume I, Chapter 3, paragraph 3.4.15, which clearly indicates the maximum allowable up slope in the area beyond the levelled portion of runway strips, but that no limit for the down slope is provided in this part of the strip. The Meeting deemed it relevant to establish a maximum down slope limit in a section of the runway strip located beyond the portion that has to be levelled, and formulated the following Conclusion:

CONCLUSION 14/34 DOWN SLOPE OF THE RUNWAY STRIP LOCATED BEYOND THE LEVELLED PORTION.

That ICAO study the indication of the maximum up and down slope to the segment located beyond the portion levelled in the runway strip, measured in the sense of runway distancing, contained in Annex 14, Volume I, Chapter 3.

3.4.27 The Meeting also considered the Subgroup discussion on the difficulty of finding the placement for aiming point marking on runways less than 30 m wide; this is due to the fact that if the standard contained in ICAO Annex14, Table 5-1 on placement and size of the aiming point marking were followed when leaving the internal lateral spacing between strips and assigning them the recommended width, there would be an overlap between this marking and the runway side marking. In this sense, the Meeting formulated the following conclusion:

CONCLUSION 14/35 AIMING POINT MARKING STRIP WIDTHS FOR RUNWAYS LESS THAN 30 m WIDE

That ICAO study the standard regarding aiming point marking strip widths that overlap with the runway lateral strip when less than 30 m wide.

Administrative Matters

3.4.28 The Meeting took note that according to GREPECAS Conclusion 11/67, El Salvador and Panama were no longer members of the Subgroup because they were unable to attend two consecutive meetings. On the other hand, Dominican Republic expressed its desire to become a member of the Subgroup. Therefore, Dominican Republic will be included in the composition of the AGA/AOP/SG presented under Agenda Item 5 of this Report.

3.4.29 The Meeting was informed that the Subgroup suggests that the AGA/AOP/SG/6 be held in June/July 2008, possibly in Cuba or Trinidad and Tobago, subject to approval of their respective authorities. In addition, Argentina and Costa Rica indicated their intention to be host States for the AGA/AOP/SG/7 Meeting.

3.5 Report of the AIS/MAP/SG/10 Meeting

3.5.1 The Meeting was informed on the results of the Tenth Meeting of the AIS/MAP Subgroup (AIS/MAP/SG/10) that was held in Caracas, Venezuela, from 26 February to 02 March 2007. The Meeting was attended by 47 participants from 16 States and two International Organizations. The Subgroup approved six draft conclusions and a draft decision.

3.5.2 The Meeting commented on electronic terrain and obstacles data, which require the convening of one training seminar with the application of a Special Implementation Project (SIP) that has been approved by the ICAO Council. The seminar is expected to be held during the second half of 2007, as it was not performed on the originally scheduled dates due to insufficient participation by the States.

3.5.3 The Meeting recognized that special attention is required on the urgent updating of Doc 7192, Part E-3, in accordance with the requirements and objectives of an AIM quality system in the transition to the new AIM concept. The Meeting deemed suitable that effective follow-up and continuity on Recommendation 4.2/1 (Amendment to Annex 1 – *Personnel Licensing*) of the AIS/MAP Divisional Meeting (AIS/MAP/98) be carried out.

3.5.4 The Meeting was informed of the results presented in the Quality Management Task Force Meeting held in Montevideo, Uruguay, from 14 to 18 August 2006, with participation of 13 States and COCESNA, totalling 23 participants. Six draft conclusions were presented, which were combined into one; therefore, the Meeting formulated the following conclusion:

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.

3.5.5 The Meeting received comments regarding the preparation of a Quality Management Implementation Plan developed by the AIM Subgroup, including specific actions and deadlines for implementation in the CAR/SAM States/Territories, which has not yet been accomplished. Nevertheless, **Appendix Q** to this part of the Report depicts the work performed so far on the matters of AIM quality and training.

3.5.6 It was indicated that the Aeronautical Charts Working Group presented its work regarding the ICAO/PAIGH Aeronautical Chart Project and a work plan that took into consideration efforts to integrate the production of VFR charts in the CAR/SAM States, on a technological basis, that will permit digital aeronautical chart production, and development and management of common geographical databases. Therefore, the following conclusion was formulated:

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

b) through the establishment of an ICAO technical co-operation programme funding mechanism.

3.5.7 The Meeting was informed on the AIM concept, which presents stages for the management of aeronautical information/data from the origin, storage, retrieval, exchange and submission of digital aeronautical information (AI) in the context of gate-to-gate flight operations from a strategic flight-planning phase until a post-flight phase. The Meeting noted the offer of Venezuela to hold an Aeronautical Information Management (AIM) seminar for the CAR/SAM States.

3.5.8 In addition, it was commented that Cuba presented the Meeting with information on the understanding and application of the AIM concept in the CAR/SAM States, indicating that currently, extended periods are needed to produce and distribute permanent information within the aeronautical information services of the Regions. This renders timely distribution difficult and reduces its degree of effectiveness. As a result, the manual process presents a risk to the integrity of data due to possible human errors. Therefore, the Meeting adopted the reference material presented, to be used as guidance in the development of strategic actions for AIM implementation by the CAR/SAM States, which is shown in **Appendix R** to this part of the Report.

3.5.9 The Meeting discussed the use of a tool developed by EUROCONTROL to carry out AIP audits, where the sequence of the AIP production process is followed step-by-step and thus all errors can be traced and the coherence of the information can be verified, so as to achieve integrity with the information contained in the AIPs. As part of a quality system in AIM services, this procedure would reduce errors and deficiencies to a desired level. In regard to the above, the Meeting proceeded to approve the following conclusion:

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**.

3.5.10 The Meeting commented that ICAO will continue promoting the implementation of automated AIM service systems in the CAR/SAM Regions with a view to allowing the electronic display, both of AIP information and aeronautical charts, based on the need for a common platform for processing and exchange of electronic aeronautical data. The Meeting took into account the need of the States to use Geographic Information Systems (GIS) for AIM services, which would contribute to reaching the objectives of aeronautical information digital processing. Therefore, it was considered appropriate to adopt the following conclusion:

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.

3.5.11 IATA commented to the Meeting regarding the significant progress made on this issue and mentioned that there already are AIPs posted on the Internet along with other aeronautical information services, which clearly denotes the progress in this area.

3.5.12 Furthermore, the Meeting proposed that the AIM Subgroup include tasks in its work programme to develop guidelines and technical specifications to facilitate the use of Geographic Information Systems (GIS) in AIM services, and examine the AIS-021 CAR/SAM Regional Training Programme in order to incorporate GIS.

3.5.13 The Meeting took note of the responsibility of States to ensure that the provision of electronic terrain and obstacle data should also be used in accordance with the areas of application, such as the entire State's territory (Area 1), terminal control area (Area 2), aerodrome/heliport area (Area 3) and Category II or III operations area (Area 4). States should take into account that the technical requirements of Areas 1 and 4 should be completed by **20 November 2008**, while the technical requirements of Areas 2 and 3 should be completed by **18 November 2010**. In order to comply with the requirements of Chapter 10 of ICAO Annex 15, the Meeting agreed to adopt the following conclusion, which supersedes GREPECAS Conclusion 13/44.

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.

3.5.15 The Meeting acknowledged that for the successful transition to the AIM concept, there are important matters in AIM services related to human resources. Human factors are an essential part of operational and aeronautical information/data quality requirements. Therefore, the Meeting considered that when human factors principles are implemented within AIM services and guidelines to facilitate their application in CAR/SAM States are established, the effects of human error in the AIM processes will be reduced.

3.5.16 The Meeting took note that some States/Territories still faced difficulties complying with the implementation of NOTAM databanks. Follow-up actions carried out by interested States regarding GREPECAS Conclusion 13/42 were taken into account concerning the development of operational agreements between States for the establishment of responsibility in storage and availability of NOTAM information in the CAR/SAM Regions, in accordance with the offer made by Brazil and Cuba, as well as COCESNA, to support States requiring aid in the establishment of their respective NOTAM databanks. This initiative has provided good results. In this regard, IATA expressed its concern regarding the inappropriate dissemination of NOTAM information at some airports, which at times is not distributed in a timely manner, creating risks to air navigation.

3.5.17 The Meeting noted that the Subgroup discussed deficiencies classified as "U," as well as "A" and "B," to determine their possible reclassification. The Meeting agreed that this matter would be included in the deficiencies review that will be performed by GREPECAS according to the discussions under Agenda Item 4.

3.5.18 In addition, IATA commented on reports received from airlines requesting their assistance in resolving infrastructure problems affecting flight operations and safety. The importance that States implement the AIRAC cycle for publication of amendments and AIS integrated information that involve operational changes within the periods demanded by the regulations and compliance with international safety standards was emphasized.

3.5.19 The Meeting took into consideration the CAR/SAM/3 RAN Meeting mandate (Recommendation 12/5) regarding the need to produce a table on the requirements of aeronautical information availability from other CAR/SAM States international aerodromes (FASID Table AIS-4) for inclusion in the FASID and the GREPECAS/13 Meeting Conclusion 13/49 - *Implementation and incorporation of FASID Table AIS-4 in the Air Navigation Plan*, that approved FASID Table AIS-4 to be forwarded to the Air Navigation Commission (ANC). Compliance with the second part of Conclusion 13/49 is still pending. Consequently, and considering the need to include Table AIS-4 in the FASID, the following conclusion was adopted:

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.

3.5.20 The Meeting considered that there is a need for gradual implementation of Aeronautical Information Management (AIM) in the CAR/SAM States/Territories, a capable and adequate AIM system to support the demands of CNS/ATM, and that all phases of flight should be covered. In this respect, the United States mentioned the need to make significant changes to Annex 15 regarding the inclusion and implementation of the Aeronautical Information Exchange Model (AIXM), as this system is already being implemented in the United States and Europe. Prompt implementation in the States of the CAR/SAM Regions was requested. The Meeting took note that it is necessary to coordinate the development of basic operational requirements and required objectives to adopt conceptual models and AIXM in the CAR/SAM Regions. This would ease the electronic exchange of digital aeronautical information/data between operational systems and their mutual inter-functionalities in the CAR/SAM Regions as well as in other ICAO Regions. Likewise, the United States delegate made reference and invited the Meeting to the AIXM Seminar that will be held in Lima, Peru, from 21 to 23 May 2007.

3.5.21 The Meeting considered that in order to adapt the AIS/MAP Subgroup to emerging technical and operational requirements and face the new challenges and responsibilities with the implementation of global ATM, it was deemed necessary and appropriate to restructure the AIS/MAP/SG and its contributory bodies by establishing new terms of reference and work programmes (refer to Appendix G of Agenda Item 5.2 of this Report), and to rename the AIS/MAP/SG to frame it within the conceptual environment of electronic exchange of digital aeronautical data. As a result of the above, the Meeting agreed to the following decision:

DECISION 14/42 NAME CHANGE OF THE AIS/MAP SUBGROUP TO AERONAUTICAL INFORMATION MANAGEMENT (AIM) SUBGROUP

That in order to frame it within the conceptual environment of electronic exchange of digital aeronautical data, the name of the AIS/MAP Subgroup is changed to **Aeronautical Information Management (AIM) Subgroup (AIM/SG),** whose terms of reference and work programme are shown in Appendix G to Agenda Item 5.2 of this Report.

3.5.22 Another aspect that the Meeting took into consideration was information presented by Cuba regarding a NOTAM service anomaly experienced by a European customer involving an alteration to the content of a NOTAM issued by the NOF Havana databank made by an unknown source. The NOTAM was initially prepared in accordance with standards and formats established by ICAO and the databank processes are certified in accordance with a quality management system ensuring that available aeronautical information meets required accuracy, resolution and integrity.

3.5.23 In this regard, the Meeting, as well as Cuba, requested States and IATA to alert their operators that NOTAMs received from other existing databanks with altered aeronautical information/data, at regional levels or by the operators, may lead to erroneous decisions in the planning and execution of their flights. The Meeting also requested ICAO to be aware of the situation. States should perform a crosscheck of sensitive information generated through NOTAMs to identify possible alterations. The Secretariat took note of the situation and urged the States and International Organizations to investigate any similar circumstances and provide all pertinent information to the regional offices for analysis and corresponding action if required.

3.6 Report of the ATM/CNS/SG/5 Meeting

3.6.1 Report of the Fifth Meeting of the ATM/CNS Subgroup

3.6.1.1 The Meeting was informed by the Secretariat that the ATM/CNS Subgroup received a briefing regarding action taken by the Air Navigation Commission on Subgroup issues from the GREPECAS/13 Report. It also took note of the review made by the ACG/6 Meeting regarding the terms of reference and work programme of the Subgroup.

General Report on Specific Issues of the ALLPIRG/5 Meeting to be taken into account by the ATM/CNS Subgroup

3.6.1.2 Under Agenda Item 2, the Meeting also noted that the Subgroup had received information on the Fifth Meeting of the Consultative Group/ALLPIRG (ALLPIRG/5), and specifically those conclusions that required action/support by the regional planning and implementation groups.

3.6.1.3 It was noted that the Subgroup had recognised the role of the ALLPIRG in coordinating the implementation of regional plans and in providing advice to the ICAO Council on CNS/ATM system implementation matters conducive to a global air traffic management (ATM) system.

3.6.1.4 Regarding the Global Air Navigation Plan, it was also noted that the Subgroup was apprised of the elements that the ALLPIRG had requested the Secretariat to address when finalising the revision of Global Plan: a) the establishment of a mechanism to ensure integration of the Global Plan into the regional plans; b) that the overall planning and implementation processes be kept as simple as possible; c) that ICAO Headquarters ensure maximum transfer of knowledge; d) that aircraft operations be integrated into relevant initiatives; e) that the frame of reference be finalised so that partners may have a better understanding of how to meet performance objectives; and f) that safety be addressed in the Global Plan Initiatives (GPIs). In particular, it was noted that an approach to the implementation of GPIs should include a review at each PIRG.

3.6.1.5 The Meeting noted information from the Subgroup that ICAO would conduct a series of workshops on the Business Case Model that had been developed for implementation of CNS/ATM systems. Likewise, the development of a searchable on-line Air Navigation Plan (ANP) database, using the ICAO GIS website, was recognised as a means to improve efficiency and expedite the electronic updating and timely provision of up-to-date Global ANP information to all users to ensure the dissemination, coordination and implementation of regional air navigation systems, and to contribute to the development of national, inter-regional and global air navigation plans. (Conclusion 5/5).

3.6.1.6 Regarding the environmental benefits of CNS/ATM systems, the Meeting noted that the Subgroup received, with much interest, information on the work of the ICAO Committee on Aviation Environmental Protection (CAEP) and on the methodologies for the assessment of such benefits at global and regional levels. The Meeting recognised that it was important to support Conclusions 5/7, 5/8 and 5/9, which require the States to review route system and terminal control area improvements by mid 2008.

3.6.1.7 It was noted that the Subgroup was informed of the results of the DGCA Conference on Safety and corresponding follow-up. It was specifically recognised that PIRGs could play an important role in ensuring that the recommendations of the Conference were implemented more efficiently. The Meeting reviewed the action resulting from Conclusion 5/11, and agreed to support it. The Subgroup also had noted the implementation of the European Coordination Centre for Aviation Incident Reporting Systems (ECCAIRS) software to encourage States to share safety data.

3.6.1.8 The Meeting noted that the Subgroup was also informed that ICAO was in the process of reviewing the Required Navigation Performance (RNP) concept to meet the growing demand for performance-based navigation (PBN) by airspace planners and aircraft operators. It agreed to the action contained in Conclusion 5/13 b), concerning RNAV and RNP implementation where required and in keeping with the work of GREPECAS on the subject.

3.6.1.9 Regarding Uniform Methodology, the Secretariat reminded the Meeting that the Subgroup was informed about the lack of responses by the States/Territories regarding the development of action plans to eliminate air navigation deficiencies and their lack of access to the GREPECAS on-line deficiency database to update the information contained therein.

3.6.1.10 The Meeting welcomed the information received in advance and presented by the Subgroup on the Global Plan and its amendments, which provided the ATM and CNS Committees with a clear idea about the relationship of the present Global Plan Initiatives to the tasks of the Committees and the development of the strategic objectives in areas coordinated between industry and ICAO. Likewise, a list of transition documents being developed at ICAO Headquarters was provided, including air navigation plans and their relationship with the ICAO GIS website.

General Report on the Activities of Regional Project RLA/98/003 – Transition to the CNS/ATM Systems in the CAR/SAM Regions

3.6.1.11 Regarding Regional Technical Cooperation Project RLA/98/003 – Transition to CNS/ATM Systems in the CAR/SAM Regions – note was taken that the ATM/CNS Subgroup had recognised the importance of this ICAO mechanism for implementation of air navigation multinational facilities, in order to improve safety and provide necessary support in terms of training, meetings/seminars and workshops, with a view to strengthening and/or establishing regional implementation mechanisms.

3.6.1.12 It was also recognised that throughout the years, the ICAO technical cooperation mechanism had proven to be an effective tool for the development of regional/national plans for CNS/ATM transition in the CAR/SAM Regions.

3.6.1.13 It was finally noted that the Subgroup had recognised that Project RLA/98/003 was an important tool for implementation and training on critical CNS/ATM aspects, and that it had provided active leadership in the coordination, planning and implementation of CNS/ATM systems. Therefore, Project RLA/98/003 should continue to receive support in order to carry out its objectives.

Review of the ATM Committee Meeting

3.6.1.14 The Meeting took note that, when reviewing Agenda Item 4 of the Report of the ATM Committee, the ATM/CNS Subgroup had discussed a draft conclusion that called for the approval of a document amending the CAR/SAM Regional Plan for the Implementation of CNS/ATM Systems. This document was entitled Plan for the Transition to the ATM Operational Concept, and was presented to the ATM Committee in WP/10.

3.6.1.15 The Meeting noted that the Subgroup had considered of great value the efforts made to develop a framework document for updating the CAR/SAM ANP that also envisaged the ICAO Strategic Objectives and Roadmap elements collaborated with industry, taking into account the changes being made to the Global Air Navigation Plan.

3.6.1.16 The Meeting noted that after the Subgroup reviewed the document, it was deemed advisable that the ATM Committee continue to review and update it and send it to the other GREPECAS Subgroups for their contribution, with the understanding that approval of the final document would have to wait until all the supplementary parts had been received. This would provide time for final changes to be made to the Global Plan and the electronic documentation resulting from updates made by ICAO Headquarters, as shown in the information presented.

Review of the Report of the CNS Committee Meeting

3.6.1.17 Regarding the Report of the CNS Committee, the Meeting took note that all draft conclusions therein had been approved by the Subgroup with no changes.

Organization of the Future Work of the ATM/CNS Subgroup

3.6.1.18 The Meeting was informed that the Subgroup, in considering the Terms of Reference and the Work Programme of the ATM/CNS Subgroup, as approved by GREPECAS/13 and later reviewed by ACG/6, were considered appropriate. However, note was taken that the Subgroup's Steering Committee concluded that it was necessary for the Subgroup to take over the Automation Task Force with the existing terms of reference, work programme and composition in order for the conclusions presented to the Subgroup by the ATM and CNS Committees having different numbering could emerge as being of the Subgroup. The Meeting was informed of the following considerations on automation by the Subgroup:

a) The Group recognised that various States/Territories/International Organizations had started bilateral talks to conduct studies and reach agreements for the exchange of flight information among existing automation systems, taking into account the Interface Control Document (ICD). The Meeting agreed that the work on data exchange in the CAR and SAM Regions should continue, specifically among those facilities whose systems were ready and capable of handling the interface.

b) It was agreed that the ICD should be submitted to GREPECAS for approval and be kept as an updated evolving document, to be expanded as necessary when new requirements were identified and new technologies implemented. (See **Appendix U** to this part of the Report).

c) The Meeting felt that the best way of achieving a seamless and inter-functional ATS system among the States/Territories/International Organizations was through the establishment of bilateral or multilateral agreements among adjacent ATS units, which would provide guidance for the implementation of CNS/ATM applications wherever feasible and required. As experience is gained from successful implementation, knowledge, advantages and benefits will be shared among all parties involved. Therefore, the Meeting formulated the following conclusion:

CONCLUSION 14/43 AGREEMENTS FOR ATM AUTOMATED SYSTEM INTERFACE

That CAR/SAM States/Territories/International Organizations:

a) take into account technical feasibility studies and operational benefits, and coordinate the establishment of bilateral and multilateral agreements for the interface of automated systems between adjacent units;

b) use guidance material specified as the "*Interface Control Document for Data Communications between ATS Units in the Caribbean and South American Regions (CAR/SAM ICD),"* included in Appendix 4A to this part of the Report, keeping in mind that:

i) ICAO guidance material contained in said document is applicable at the regional level;

ii) material within the document that does not comply with ICAO guidelines should be used only as a reference and should be agreed to on a bilateral or multilateral basis as required; and

c) the automated facilities that have another interface can use this advantage in order to link their systems under bilateral or multilateral agreements.

3.6.1.19 Considering the above, it was also agreed that States/Territories/International Organizations should formulate an action plan based on the performance objective for the interface of ATM automated systems and approved the following conclusion:

CONCLUSION 14/44 ESTABLISHMENT OF AN ACTION PLAN FOR THE INTERFACE OF ATM AUTOMATED SYSTEMS

That CAR/SAM States/Territories/International Organizations formulate an action plan to interface ATM automated systems, which includes:

a) the assignment of an expert as point-of-contact to carry out regional coordination for the interface of ATM automated systems;

b) the analysis of the current service level provided by ATS automated systems, as well as requirements to satisfy future operational applications of the ATM community using the Table of ATS Operational Requirements for Automated Systems included in Appendix 4B to this part of the Report; and

c) document the action plan and share best practices and experiences with other States/Territories/International Organizations, as required.

3.6.1.20 Likewise, it was concluded that it would be appropriate to add an additional task to the Subgroup regarding the supervision of the Automation Task Force work. This item is reported under Agenda Item 5.2.

3.6.2 Report of the ATM Committee

3.6.2.1 The Meeting took note of the activities carried out by the ATM Committee and its Task Forces in relation to the operational use of RVSM in the CAR/SAM Regions, performance-based navigation (PBN), air traffic flow management (ATFM), ATM automation, ATS contingency plans, the review of deficiencies and outstanding GREPECAS conclusions/decisions concerning ATM and SAR, the transition plan to the ATM system in the CAR/SAM Regions, and other ATM matters.

Operational use of RVSM in the CAR/SAM Regions

Safety assessment following RVSM implementation in the CAR/SAM Regions

3.6.2.2 The Meeting recalled that RVSM was implemented in CAR/SAM airspace on 20 January 2005. CARSAMMA conducted the post-implementation safety assessment after one year of operations. The complete report of this assessment is contained in the AP/ATM/12 Meeting Report, which can be found on the SAM Regional Office website **www.lima.icao.int**.

3.6.2.3 The assessment took into account the technical risk plus the risk from all other causes, and showed that the total risk for the CAR/SAM Regions was higher than the agreed Target Level of Safety (TLS). It should be noted that large height deviations (LHD) have a significant impact on total risk. Upon analysing the LHDs, the Scrutiny Group (GTE) noted that errors were not caused by RVSM operation, but rather by common aircraft handover procedures between ATC units. Therefore, new short and medium-term corrective actions were proposed. These measures supplement those contained in Conclusion 13/61.

3.6.2.4 The proposed short-term actions encourage the States and International Organizations to continue presenting monthly LHD reports to CARSAMMA, to distribute copies of same to the adjacent ACCs involved and, if applicable, to hold bilateral meetings to resolve the identified LHDs.

3.6.2.5 In the medium term, States and International Organizations are urged to implement a safety management system and, insofar as possible as a technological protection, to gradually implement ATS Inter-facility Data Communication (AIDC).

3.6.2.6 The Meeting considered that in order to significantly reduce the occurrence of this type of error, CAR/SAM States/Territories/International Organizations should commit themselves to the adoption, as a matter of urgency, of the measures contained in GREPECAS Conclusion 13/61 "*Measures to reduce operational errors in the ATC coordination loop between adjacent ACCs"* and, in particular, the programme for the prevention of errors in the ATC coordination loop between adjacent ATS units associated to the cited conclusion, as well as the aforementioned additional measures.

Safety Monitoring in RVSM Airspace

3.6.2.7 Taking into account the need for a new safety assessment of RVSM operations in the CAR/SAM Regions using the collision risk model, new data was collected on air traffic movements between 15-19 January 2007. A new airspace assessment is expected to be presented at the next meeting of the ATM/CNS Subgroup.

Training of GTE members

3.6.2.8 The Meeting deemed it advisable to train air traffic management and flight operation experts, so they can participate in the GTE on a permanent basis. In this respect, the Meeting adopted the following conclusion:

CONCLUSION 14/45 TRAINING ON THE ANALYSIS OF LARGE HEIGHT DEVIATIONS (LHD)

That in view of the need to have qualified experts for the activities of the Scrutiny Task Force (GTE), the CAR and SAM States/Territories/International Organizations:

a) support training on the analysis of Large Height Deviations as part of regional activities;

b) send technical experts to training sessions with a view to their regular participation in the GTE; and

c) that ICAO take the necessary action to coordinate GTE training sessions in each Region.

Performance-Based Navigation (PBN)

CAR/SAM Performance-Based Navigation (PBN) Roadmap

3.6.2.9 The Meeting noted that in order to plan and implement performance-based navigation, detailed information was needed on several aspects related to CNS infrastructure and the navigation capability of the fleet operating in the CAR/SAM Regions. To this end, an RNAV and RNP questionnaire was developed and used to prepare a roadmap, which was considered to be a fundamental document for the harmonisation of PBN implementation in the CAR/SAM Regions.

3.6.2.10 As a result of this analysis, the Meeting established a short-term (until 2010) and a medium-term (2011-2015) implementation strategy as shown in the PBN Roadmap. In view of the above, the Meeting approved the following conclusion:

CONCLUSION 14/46 CAR/SAM ROADMAP FOR PBN

That States/Territories/International Organizations adopt and apply the CAR/SAM PBN Roadmap shown in **Appendix W** to this part of the Report.

3.6.2.11 The Meeting took note that ICAO had established a series of tentative goals for PBN implementation en-route and in the terminal area (wherever RNAV operations may be required):

a) **Area of operation: Oceanic and remote airspace (RNP-X)**
- Applicable navigation specifications: RNP 10 and RNP 4
- Implementation strategy: 100% implementation by 2010

b) **Area of operation: En-route continental (RNAV-X and RNP-X)**
- Applicable navigation specifications: RNAV 5, 2, and 1, RNP 2 and 1
- Implementation strategy: 70% by 2010; 100% by 2014

c) **Area of operation: Terminal area (RNAV-X and RNP-X)**
- Applicable navigation specifications: RNAV 1, 2 and RNP 1 (basic and advanced)
- Implementation strategy: 30% by 2010; 60% by 2014; 100% by 2016

Area of operation: Approach (RNP-X)

- Applicable navigation specifications:
  - APV: RNP 0.3 , RNP 0.3-0.1,
  - LNAV only: RNP 0.3
- Implementation strategy:
  - International aerodromes: APV at all runway ends: 10% 2008; 30% by 2010; 70% by 2014 and 100% by 2016.
  - Domestic aerodromes (where operations with a weight category of more than 5 700 kg take place):
- Only LNAV at all runway ends: 10% 2008; 30% by 2010; 70% by 2014 and 100% by 2016.
- APV at all runway ends: 10% 2010; 30% by 2012; 70% by 2016 and 100% by 2018.
  - Domestic aerodromes:
- Only LNAV at all runway ends: 10% 2010, 30% by 2012, 70% by 2016 and 100% by 2018.

3.6.2.12 In view of the above, and since a PBN Roadmap had already been developed, it was agreed that the reference material presented during the Meeting be reviewed by the ATM Committee.

RNAV and RNP Training Requirements

3.6.2.13 The need for courses on topics such as airspace planning, design of PANS/OPS procedures, and safety assessment was identified. Therefore, a request was made for the States and International Organizations that had this material, to make it available to other States and International Organizations of both Regions, and that all available reference material to be posted on the websites of the ICAO Regional Offices.

Aircraft Operations and Airworthiness

3.6.2.14 A review was completed on PBN information and its two categories, RNAV and RNP, and the guideliness and directives for CAA inspectors to approve the following type of operations: RNP 10, RNP 4, RNAV 5; RNAV 2 and RNAV 1. These documents appear in the Report of the AP/ATM/12 Meeting.

Safety Assessment Seminars and Methodology

3.6.2.15 In order to implement the PBN concept in a harmonious manner, a safety assessment of different parts of the airspace, applying different methodologies, will be required. It was also considered that there were a limited number of professionals involved in the area of safety assessment. In this respect, the Meeting took note that ICAO had scheduled two PBN seminars to be held in both Regions, and that the second part of the Airspace Safety Assessment Course would take place in 2007. It was also noted that there was no common methodology for terminal area safety assessments, it being understood that the Separation and Airspace Safety Panel could address this issue. In view of the above, the Meeting reached the following conclusion:

CONCLUSION 14/47 SAFETY ASSESSMENT SEMINARS AND METHODOLOGY

That ICAO:

a) promote seminars on safety assessment to train personnel for working in the future implementation of PBN;

b) encourage the Separation and Airspace Safety Panel (SASP) to develop a common terminal area safety assessment methodology.

Operational Errors in a PBN Environment

3.6.2.16 It is obvious that with the implementation of RNP there is a close connection between the criteria for the design of en-route and terminal area operational procedures and airspace, and the assurance that only those aircraft, systems, and operators with certified performance be authorised to conduct such operations. Altogether, aircraft certification and operator approval requirements represent a specific safety aspect that needs to be addressed and approved.

3.6.2.17 Consequently, the Meeting deemed it advisable that when developing operational risk assessment requirements as well as national regulations for PBN approval of aircraft and operators, consideration be given to the guidance and operational criteria developed by the ATM Committee at its fifth meeting. Furthermore, it requested that States/Territories/International Organizations analyse the importance of operational errors in a PBN environment, and use all possible resources for training air traffic controllers and pilots in order to reduce these errors, bearing in mind the future implementation of this concept in the CAR/SAM Regions.

Air Traffic Flow Management (ATFM)

3.6.2.18 The Meeting agreed that ATFM implementation should be accomplished in stages in order to allow for a gradual evolution and to build desired system capabilities, by applying strategic, pre-tactical and tactical phases. The Meeting also acknowledged that States should establish cost-benefit studies to define non-required measures for implementation.

3.6.2.19 It was also felt, inasmuch as possible, that airspace should be free of operational discontinuities and inconsistencies in terms of standards and procedures. Likewise, the alignment of airspace classifications should be encouraged, data link communications developed and used more extensively, flight plan processing improved, and ATFM message exchange capabilities developed. Colombia raised a concern regarding the procedures to establish demand and capacity balancing, which was aimed at avoiding generation of additional operational costs to air transport.

3.6.2.20 In order to improve the efficiency of air operations, the Meeting considered that in the short term, operational agreements should be updated or established between ATS units as appropriate. To this end, it formulated the following conclusion**:**

CONCLUSION 14/48 ATFM OPERATIONAL AGREEMENTS

That CAR/SAM States/Territories/International Organizations that so require and that have not yet done so, revise their bilateral operational agreements between ATS units by **30 November 2008,** to include demand/capacity balancing measures.

ATFM Operational Concept for the CAR/SAM Regions (CAR/SAM ATFM CONOPS)

3.6.2.21 The CAR/SAM ATFM Operational Concept is a high-level document. Its main objective is to define and regulate the homogeneous implementation of ATFM in the CAR/SAM Regions. It should be noted that although ATFM planning will be done jointly for both Regions, the implementation of the system *per se* will be done in keeping with the needs of each Region involved.

3.6.2.22 In this respect, a single ATFM operational concept for both Regions will permit harmonised implementation and ensure effective and equitable service. The operational concept will define the minimum functions and requirements with which the implementation of the service and the required ATFM units would be based.

3.6.2.23 The Meeting analysed the draft ATFM Operational Concept and considered that said document could be adopted for the CAR/SAM Regions, with the understanding that it was a living document that could be amended as necessary. Accordingly, it formulated the following conclusion:

CONCLUSION 14/49 ADOPTION OF THE CAR/SAM ATFM OPERATIONAL CONCEPT

That CAR/SAM States/Territories and International Organizations:

a) adopt the CAR/SAM ATFM Operational Concept (ATFM CONOPS) shown in **Appendix X** to this part of the Report; and

b) establish a work programme for the implementation of the ATFM CONOPS.

3.6.2.24 The delegation from the United States made a presentation on the main lessons learned, based on the work and coordination activities carried out to date by the Federal Aviation Administration (FAA) Air Traffic Control System Command Centre (ATCSCC), the NAV CANADA National Operations Centre (NOC), and the Flow Control Centre of Mexico (CCFMEX).

3.6.2.25 The main lessons learned during ATFM development and implementation by the ATCSCC, the NOC, and the CCFMEX include: involving customers, airport authorities, and other system stakeholders in the ATFM development process from a very early stage; using a common set of ATFM tools for the assessment of air traffic flow, meteorological conditions, and demand and capacity balancinng; developing ATFM with neighbouring States first and then developing a regional ATFM approach; and having flexible timetables for the implementation of the various aspects of ATFM.

3.6.2.26 The Meeting agreed that the ATM Committee should take into account the operational benefits that the NAM Region had derived from ATFM implementation, and that at its next meeting it should: assess the CAR/SAM ATFM CONOPS; discuss the lessons learned in areas related to the objectives and functions of the centralised ATFM; determine the principles on which ATFM will be based, the equipment and personnel required by the Flow Management Unit/Flow Management Position (FMU/FMP) and for the centralised ATFM; and operational procedures.

Common Air Traffic Flow Management Terminology

3.6.2.27 The Meeting took note of the work carried out in other ICAO Regions, using as a basis the "Phraseology for the Exchange of ATFM Messages Handbook" dated February 2003, developed by the ATFM Task Force of the Multi-Agency Air Traffic Services Procedures Coordination Group (MAPCOG), which is a joint effort between EUROCONTROL, NAV CANADA and the FAA. It also took note of the work carried out by the FAA Air Traffic Control System Command Centre (ATCSCC) and the Japan Civil Aviation Bureau (JCAB) Air Traffic Management Centre (ATMC).

3.6.2.28 It further recognised that the establishment of common terms and phrases that have not yet been standardised by ICAO are an essential element for the elimination of language barriers. Differences in air traffic flow management terminology and phraseology could be a potential source of confusion during communications between international traffic management units.

3.6.2.29 Terminology will be a key element for the development of clear and concise communications and a pattern for the exchange of standard and consistent messages between international ATFM units. This work should go hand-in-hand with the effort by ICAO to standardise ATFM terms.

3.6.2.30 The Meeting reviewed the document presented, which was based on the Phraseology for the Exchange of ATFM Messages Handbook developed by the MAPCOG, and considered that it could be used as a guideline for the exchange of ATFM messages. The document also contained ATFM-related abbreviations used by the ATCSCC and the ATMC, which are not defined in ICAO Doc. 8400 (PANS-ABC).

3.6.2.31 In view of the foregoing, the Meeting considered that in order to have common and standard terminology for ATFM, the ATM Committee should review the aforementioned guidelines on terminology and phraseology, and use it as a basis for the development of guidelines for ATFM communications in the CAR/SAM Regions.

Cost-Benefit Analysis

3.6.2.32 The Meeting noted that one of the tasks that States and International Organizations had to accomplish before ATFM implementation was a cost-benefit analysis. Consequently, guidance material for data collection was developed by the States for use in this task. The Meeting also considered that this material should be taken into account by the GREPECAS Institutional Aspects Group when reviewing the business case model for CNS/ATM implementation. This material is contained in Appendix I to Item 2 of the ATM/COMM/5 Meeting Report.

Advances in the ATFM implementation in the CAR/SAM Regions

3.6.2.33 COCESNA presented a report on the progress of tasks contained in their Action Plan for ATFM implementation in Central America. Said Action Plan has been prepared based on the guidelines issued by the GREPECAS/13 Meeting and contains a series of tasks planned for developement in a logical sequence and in line with the planning activities fostered and coordinated by ICAO on the matter.

3.6.2.34 Likewise, the Cuban Institute of Civil Aviation presented information on activities carried out to manage the air traffic flow within the Havana FIR aimed at maintaining acceptable safety levels within its FIR. Also noted was the work started for the automatic exchange of flight plans and radar data between the Havana ACC and adjacent ACCs.

ATS Contingency Plans

3.6.2.35 It was noted that in addition to commending GREPECAS on the development of the plan for drafting ATS contingency plans, and considering that Conclusion 13/68 was consistent with Strategic Objective E: *Continuity – Maintain the continuity of aeronautical operations*, the Air Navigation Commission had requested GREPECAS to develop a regional catalogue of ATS contingency plans in support of the aforementioned Strategic Objective.

3.6.2.36 It was noted that some CAR/SAM States had already harmonised their respective ATS contingency plans with Attachment D to Annex 11, and that others were in the process of preparing them. However, this would not prevent the development of a regional catalogue on this topic. Consequently, the Meeting reviewed the model presented and formulated the following conclusion:

CONCLUSION 14/50 CATALOGUE OF CAR/SAM ATS CONTINGENCY PLANS

That:

a) the model Catalogue of CAR/SAM ATS Contingency Plans, shown in **Appendix Y** to this part of the Report be adopted; and

b) CAR/SAM States/Territories/International Organizations forward updated information to ICAO by 1 July 2007, on the current status of their contingency plans, point of contact, and a general description of facilities and services guaranteeing continuity for inclusion in said document.

Plan for Transition to the ATM System in the CAR/SAM Regions

3.6.2.37 The Meeting took note of the initial activities being carried out for the development of a plan for the transition to the ATM system in the CAR/SAM Regions, based on the Global Air Navigation Plan (Doc 9750). The objective of this transition plan is to implement the Global Plan Initiatives (GPIs) in order to begin transition to the ATM Operational Concept.

Re-Organisation of Work Programmes, Based on Performance Objectives

3.6.2.38 Based on performance objectives approved by the ATM Committee, States/Territories/International Organizations should prepare their own national implementation strategy or action plan containing a work programme, timetable, responsible parties, and status of implementation, in order to monitor and report on progress achieved. In turn, ICAO should continue coordinating said ATM programmes in keeping with the new GPIs and in support of ICAO Strategic Objectives. Consequently, it was agreed:

CONCLUSION 14/51 RE-ORGANIZATION OF WORK PROGRAMMES TO SUPPORT ATM PERFORMANCE OBJECTIVES FOR THE CAR/ SAM REGIONS

That to support the transition from a system-based to a performance-based approach for the planning and implementation of air navigation infrastructure:

a) CAR/SAM States/Territories/International Organizations take the necessary action to develop and implement national ATM work programmes in accordance with the performance objectives of the ATM Committee ; and

b) ICAO continue coordination of the re-organization of CAR/SAM ATM Work Programmes in accordance with the new Global Plan Initiatives (GPIs), and in support of ICAO Strategic Objectives.

3.6.3 Report of the CNS/Committee

Communication System Developments

Review of the Integration/Interconnection and Development Status of the Regional Digital Networks

3.6.3.1 The Meeting took note of the status of digital VSAT networks REDDIG and MEVA II, and that the new REDDIG node in Piarco (Trinidad and Tobago) entered into operation in late September 2006, and the Network Control Centre (NCC) was transferred from Lima, Peru, to Manaus, Brazil, in mid-December 2005. In addition, all MEVA II nodes were installed by November 2006.

3.6.3.2 As a result of the studies carried out during the MEVA II/REDDIG coordination meetings, it was concluded that the integration of the MEVA II and REDDIG networks under one control unit represented the best option, but due to the impossibility of changing the current administrative and operational schemes of both VSAT networks, it was agreed that this option would be implemented after a five-year period starting in 2006. During this five-year period, the interconnection of the mentioned VSAT networks will be established and will consist of the installation of one MEVA II MODEM in the REDDIG nodes of Colombia and Venezuela, and the installation of one REDDIG MODEM in the MEVA II node of Honduras (COCESNA). Under the interconnection solution, the two networks would continue operating independently, managed by their respective control centres.

3.6.3.3 The Meeting was informed that the Fourth MEVA II / REDDIG Coordination Meeting (MR/4) held in Lima, Peru, from 7 to 9 March 2007, reviewed the following technical-operational related aspects for the implementation of the interconnection solution:

a) Interconnection communications service requirements.
b) Premises, equipment and required devices for the interconnection.
c) Requirements for the Bogota REDDIG node.
d) Requirements for the Caracas node.
e) Impact on the Guayaquil, Lima and Manaus REDDIG nodes.
f) Requirements for the COCESNA MEVA II node.
g) Impact on the Aruba, Curaçao, Kingston, Miami, Panama and San Juan MEVA II nodes.

3.6.3.4 Additionally, the MR/4 Meeting drafted the MEVA II / REDDIG Memorandum of Understanding (MoU), which has been circulated by the NACC and SAM Regional Offices to member States/Territories/COCESNA of both VSAT networks for review and endorsement. In this regard, Cuba informed that they have sent a proposal for amendment essentially proposing that the scope of the MoU be limited only to interconnection issues, and that if it is decided to proceed with the integration, agreement on the remaining provisions considered pertinent could occur at a later date.

3.6.3.5 Likewise, taking into account a recommendation made by the CNS Committee, the Meeting reviewed the Action Plan for the *MEVA II / REDDIG Interconnection* prepared by the MR/4 Meeting; the results of this review are presented in **Appendix Z** to this part of the Report. All actions related to this Plan are expected to be carried out before 30 November 2007, eventually implementing the MEVA II / REDDIG interconnection. Taking these results into account, the Meeting drafted the following conclusion:

CONCLUSION 14/52 REVIEW FOR THE ADOPTION OF THE MEMORANDUM OF UNDERSTANDING AND IMPLEMENTATION OF THE ACTION PLAN FOR THE MEVA II / REDDIG INTERCONNECTION

That in order to implement the interconnection of the VSAT MEVA II and the organization of the REDDIG networks, the Member States/Territories/International Organizations of these networks:

a) study and review the feasibility to adopt the Memorandum of Understanding (MoU); and

b) approve and implement the tasks related to the Action Plan presented in Appendix Z to this part of the Report.

Review of the Air-Ground Data Links Implementation Plan

Initiative of the Global Air Navigation Plan on Air-Ground Data Links

3.6.3.6 The Meeting took note that recently the ANC reviewed Amendment 2 to the Global Air Navigation Plan (Doc 9750 – AN/963), which approved Global Plan Initiative (GPI-17) – *Implementation of Data Link Applications*, regarding air-ground data links. The Meeting noted that the *Regional strategy for the evolutionary update and implementation of the Air-Ground Data Links Plan*, formulated by GREPECAS through Conclusion 13/72, is harmonised with GPI-17 of Amendment 2 to the Global Air Navigation Plan.

Review of the Air-Ground Data Links Implementation Plan

3.6.3.7 The Meeting noted the revision the CNS Committee made to the *CAR/SAM Aeronautical Mobile Service (AMS) and the Aeronautical Mobile Satellite Service (AMSS)* contained in Table CNS 2A of the CAR/SAM Air Navigation Plan, Doc 8733, Volume II (FASID). In addition, Argentina presented some proposals to amend the table. The updated Table CNS 2A of the FASID is presented in **Appendix AA** to this part of the Report. The Table contains information available from the CAR and SAM Regions including VHF, HF, satellite and Mode S data implementation requirements for ATC units. Consequently, the Meeting formulated the following conclusion:

CONCLUSION 14/53 UPDATING OF THE AMS AND AMSS REGIONAL PLAN

That ICAO forward the proposal for amendment to the *CAR/SAM Regional Plan for the Aeronautical Mobile Service (AMS) and the Aeronautical Mobile Satellite Service (AMSS)* included in Table CNS 2A of the FASID, as presented in Appendix AA to this part of the Report.

3.6.3.8 COCESNA provided information on the development and implementation of echo suppression systems in the AMS VHF communication equipment in the Central American (CA) FIR, which resolves the echo effect problem that results from the simultaneous use of several transmission sources.

Review of the ATN Regional Implementation Plan

SARPs Development Status and ICAO Guidance Material on ATN

3.6.3.9 The Meeting noted that the CNS Committee received detailed information from the ICAO Aeronautical Communications Panel (ACP) related to the inclusion of ATN SARPS, which foresees the use of Internet Protocols (IPS). The ACP is in the process of finalizing the necessary amendments to Annex 10, and when agreed upon by the Air Navigation Commission (ANC), the relevant proposals for amendment will be forwarded to States by mid 2007. It is expected that the SARPS will be approved by the Council in February/March 2008, to be effective by November 2008.

ATN Routers and Ground-Ground Application Implementation Plans

3.6.3.10 The Meeting was informed that as a result of the responses received and follow-up made by the ICAO NACC and SAM Regional Offices to GREPECAS Conclusion 13/75, **Appendix AB** to this part of the Report presents an update of Table CNS 1Bb of the FASID, which contains information on ground-ground application implementation plans in the CAR Region. **Appendix AC** presents similar information from the SAM Region.

3.6.3.11 The Meeting noted the information presented by States and International Organizations regarding their corresponding ATN/AMHS implementation programmes. Argentina, Trinidad and Tobago, the United States and COCESNA provided information on already implemented AMHS systems. Paraguay informed about their implementation plans; COCESNA also provided information regarding their AMHS system development.

3.6.3.12 Based on the information presented on the progress of the ICAO ACP and on discussions regarding ICAO Doc 9705, concerning AMHS implementation, the Meeting noted that the goal is to use the proposed AMHS Implementation Plan using the Internet Protocol Version 6 (IPv6) as the network protocol. However, considering the recent analysis made by the Third Meeting of the ATN Task Force of the CNS Committee held in Miami, United States, from 21 to 23 March 2007, a Preliminary IP Implementation Approach has been developed for the CAR/SAM Regions. This will be reviewed at the next meeting of the CNS Committee of the ATM/CNS Subgroup.

3.6.3.13 The proposed approach is to initially implement IP version 4 (IPv4) within the Regions to expedite the implementation of AMHS service in the CAR/SAM regions in the initial stage and IP version 6 (IPv6) for inter-regional connectivity. A transition phase is proposed using a dual stack transition mechanism where both IPv4 and IPv6 are implemented in AMHS systems. This will lead to an eventual all-IPv6 network where all routers and hosts are only IPv6 based and IPv4 is disabled.

AMHS Addressing Regional Plan

3.6.3.14 As a follow-up to ICAO State Letter Ref. SP 54/1-03/39, dated 30 May 2003, and based on the responses given by some States, the ICAO ACP has developed the first draft of the AMHS Addressing Global Plan, available since January 2007. Furthermore, in accordance with GREPECAS Decision 13/76, an AMHS Addressing Plan for the SAM Region has been developed; the AMHS Addressing Plan for the CAR Region is in development.

3.6.3.15 According to the coordination between the CNS Section and the ICAO Regional Offices, the parts relevant to each Region within the AMHS Addressing Global Plan will be updated by each Regional Office. After this, ICAO will publish an updated AMHS Addressing Global Plan.

Table Format for the ATN Air-Ground applications Regional Plan

3.6.3.16 According to the guidance given by GREPECAS Decision 13/77, the Meeting prepared a proposal in table format for the ATN Air-Ground Applications Regional Plan, which is presented in **Appendix AD** to this part of the Report.

National Plans to prioritise AMHS and AIDC Implementation contributing to ATM Automation

3.6.3.17 Taking into account the information provided to the Meeting, the AMHS implementation outlook in the CAR and SAM Regions is shown in **Appendix AE** to this part of the Report.

Study of a Communication System to Support the Migration towards the Meteorological Message Exchange (METAR/SPECI and TAF) in BUFR Format Code

3.6.3.18 The Meeting recalled that two stages had been determined for the migration towards the meteorological message exchange in BUFR code format. The first starting in 2007, where the exchange would operate in the traditional format based on alphanumeric codes as well as in BUFR code format, and the second stage starting in 2015, when BUFR code will be used exclusively. In this regard, the Meeting noted several communication aspects related to this item, but considered that they should be analysed in depth by the ATN Task Force of the CNS Committee and by the COM/MET Task Force, the latter created by the AERMET Subgroup and the CNS Committee. In this regard, the Meeting formulated the following decision.

DECISION 14/54 COMMUNICATION ASPECTS FOR THE MIGRATION TOWARDS THE METEOROLOGICAL MESSAGE EXCHANGE IN BUFR CODE

That the ATN Task Force of the CNS Committee, as well as the COM/MET Task Force of AERMET Subgroup, analyse in detail the following communication aspects considered necessary for the migration towards the meteorological message exchange in BUFR format in the CAR/SAM Regions for possible implementation for first and second transition stages:

a) use of terminals with coding/decoding capacity;

b) use of AMHS systems with extended service; and

c) development of an Interface Control Document (ICD) to integrate AMHS and MET systems, establish standards for presentation systems and specifications for the conversion of templates and security aspects.

3.6.3.19 Additionally, the United States presented their AMHS BUFR Code Implementation Plan. Information on this plan is presented in Appendix 1M of the CNS/COMM/5 Meeting Report.

Navigation System Developments

Review of the Results of the SBAS Augmentation Trials carried out in the CAR/SAM regions

3.6.3.20 Based on the Reports of Projects RLA/00/009 and RLA/03/902, the Meeting considered that GNSS implementation, including SBAS and GBAS, will have to be based on operational requirements, as well as on technical and cost/benefit analyses that support the decision making process for implementation. Decision making must be carried out from a common perspective where political aspects acquire a vital importance, taking into account that the commitments of States/Territories/International Organizations who provide facilities, especially from the point of view of the legal responsibilities associated with the installation of a specific SBAS element in a determined State. GNSS implementation must take the concept to a global level. To do this, it will be necessary to study the operations and contingency plans in case of local degradation of service.

Results of the RLA/03/902 Project Activities

3.6.3.21 The Meeting noted information related to Project RLA/03/902 – *Augmentation Solution for Central America, Caribbean and South America* – (*SACCSA*). The Project presented the SBAS architecture and a preliminary analysis, which was based on the POLARIS tool using nominal and flat ionosphere models. A summary of this analysis is shown in Appendix 2A of the CNS/COMM/5 Meeting Report. Based on the SBAS solution with APV I performance being studied by SACCSA, the Meeting agreed that this is a technically feasible project for the CAR/SAM Regions.

3.6.3.22 Based on project preliminary results, the Meeting noted that the proposal of SBAS solutions for the CAR/SAM Regions should be capable of reaching at least APV I capacity. In this regard, the Meeting drafted the following decision:

DECISION 14/55 APV I CAPABILITY AS A MINIMUM PERFORMANCE REQUIREMENT FOR CAR/SAM REGIONAL SBAS IMPLEMENTATION

That in order to coordinate the initiatives and projects for the SBAS solutions proposed for the CAR/SAM Regions, the CNS Committee must keep in mind that they be capable of achieving at least APV I capability.

3.6.3.23 The Meeting noted that the ICAO Navigation Systems Panel (NSP) is reviewing the SBAS SARPS, including the issues related to Category I. In the forthcoming year, ICAO is expected to update the relevant SARPS The Meeting also noted that Chile joined the RLA/003/902 – SACCSA Project, and that the Dominican Republic and Venezuela are in the process of joining it formally.

3.6.3.24 The Meeting recalled that the invitation made through Conclusion 13/84 – *Studies for a CAR/SAM Regional SBAS solution*, to join the RLA/03/902 Project, is still open for those States/Territories/International Organizations who have not yet done so. The Meeting also noted the invitation to visit the website of the SACCSA project: www.rlasaccsa.com

3.6.3.25 Additionally, the Meeting was informed that within the programmed activities of the RLA/03/902 Project, there will be an Advanced Course on GNSS in the NACC Regional Office in Mexico City from 21 to 25 May 2007. This course will be given in Spanish only and invitations were forwarded not only to Members of the Project, but to all States, Territories and International Organizations in the CAR/SAM Regions.

Final Results of the RLA/00/009 Project

3.6.3.26 When reviewing the analysis carried out by the CNS Committee from the RLA/00/009 Project final report, the Meeting considered that important aspects were contemplated, such as the availability of the data collected through the CAR/SAM Augmentation Test Bed (CSTB), as well as GNSS procedures analysis for non-precision operations by lateral navigation (LNAV). For three years (2002-2005), the data was collected from the thirteen reference stations that form the CSTB and transmitted to the FAA Technological Centre in Atlantic City through the CSTB communications bed. The data is available upon request for States/Territories/International Organizations participating in the RLA/00/009 Project, as well as other participants of the GREPECAS mechanism.

3.6.3.27 The Meeting noted that according to the RLA/00/009 Project final report, the SBAS solution for the CAR/SAM Regions is not practicable as it is not cost effective and the GNSS signals are subject to ionospheric affectations. These findings are according to studies and trials carried out by the Project based on the available technology used in its development. Appendix 2B to the CNS/COMM/5 Meeting Report contains the final report of the RLA/00/009 Project.

3.6.3.28 Likewise, the Meeting took note that the RLA/00/009 Project had reached its final stage and that during its four-year term it had worked hard to implement a trial platform, carry out trials and provide support and training to member States/Territories/International Organizations.

Infrastructure to Support GNSS Procedures for Non-Precision Approaches for LNAV Operations

3.6.3.29 The Meeting took note that for the implementation of GNSS Non-Precision Approach (NPA) – Lateral Navigation (LNAV) procedures, CAR/SAM States/Territories/International Organizations should initially use GPS with RAIM, the WAAS signal in space, or those of other SBAS available systems, as well as the proper avionics capacity, and the continuous availability and accessibility that providers of these signals must guarantee.

Other Aspects of the SBAS/GBAS Regional Implementation System Studies

3.6.3.30 The Meeting was informed of the ATA, IATA, AEA and AAPA's positions (representing 94 per cent of the world's airlines) presented at the last NSP Meeting where they requested that any fees, taxes or charges generated by their members not be used for future development, operation or maintenance of any current or future SBAS systems. Other means of funding should be sought to support this technology, including current users. The aforementioned associations committed to have user requirements that help dictate the performance requirements of the system. Therefore, the Meeting noted that in order to meet user requirements, the CNS Committee Secretary should forward an invitation to IATA to participate in future meetings of the GNSS Task Force as a member. The Representative from IATA agreed to participate in the work of the GNSS Task Force.

3.6.3.31 The Meeting noted that Chile published an AIC approving RNAV/GNSS for standard approach and departure procedures. The Meeting took note of the information and considered that this experience could benefit other States/Territories with their decision-making, publication, and obtaining early benefits from GNSS. This AIC is presented in Appendix 2C to the CNS/COMM/5 Meeting Report.

3.6.3.32 Brazil informed that they are considering the implementation of a GBAS network in order to improve the capacity of some terminal areas, as well as manage conventional navigation aid obsolescence in a cost-efficient manner. Trials will be performed to guarantee that GBAS can work properly in the Brazilian ionospheric environment and to acquire knowledge about the system's behaviour in the geomagnetic equatorial zone in order to provide guidance material that will support implementation in similar regions.

3.6.3.33 The Meeting was informed about CELESTE Project (GALILEO Cooperation Project for Latin America) activities. This initiative is in accordance with the need to have other potential non aeronautical users involved in GNSS implementation. Also, the Meeting was updated on the progress of other SBAS initiatives being applied in other regions, including EGNOS, GAGAN, MSAS and WAAS systems. Regarding WAAS, the Meeting received detailed information on WAAS progress, and taking into account that the WAAS space signal coverage area also includes the CAR/SAM Regions, the information was important for both Regions. This information is included in Appendix 2D to the CNS/COMM/5 Meeting Report.

3.6.3.34 The Meeting found a study presented on the advantages, possibilities and guidelines for GNSS implementation in the CAR/SAM Regions to be quite useful, and that it should be taken into account by other studies being carried out by the CNS Committee. The study is contained in Appendix 2E to the CNS/COMM/5 Meeting Report. Furthermore, the Meeting received information regarding the status of technology research and development for the United States/FAA ground-based augmentation system (GBAS), which also proved useful information for the Regions. This information is contained in Appendix 2F to the CNS/COMM/5 Meeting Report.

3.6.3.35 The Meeting took note that the ICAO Navigation Systems Task Force recently issued a report on GNSS ionospheric effects and noted that the content is useful, important, and that it should be kept in mind as a reference for studies on GNSS regional implementation. The NSP Final Report is presented as Appendix 2G to the CNS/COMM/5 Meeting Report.

Progressive Deactivation of NDB Stations

3.6.3.36 As a result of the analysis made to the SARPS and ICAO guidelines, as well as other considerations, the Meeting agreed on the need to develop a plan for the progressive deactivation of NDB stations using the format presented in **Appendix AF** to this part of the Report. Therefore, the Meeting formulated the following conclusion:

CONCLUSION 14/56 PROGRESSIVE DEACTIVATION OF NDB STATIONS

That in order to develop progressive deactivation of NDB Stations without affecting safety, States/Territories/International Organizations and airspace users:

a) analyse the service provided by each NDB station, its function, and procedural existence with other aids such as VOR/DME, GNSS-RNAV, as well as aircraft capacity/development operated in serviced airspace;

b) based on the analysis described in item a) above, and in the Table included in Appendix AF to this part of the Report, develop a plan for the progressive deactivation of NDB stations; and

c) inform the corresponding ICAO NACC or SAM Regional Office regarding their respective plan for the progressive deactivation of NDB stations before **30 November 2007**.

3.6.3.37 Likewise, the Meeting considered that the CNS Committee should follow-up on the development of a regional plan for the deactivation of NDB stations taking into account the responses received from States/Territories/International Organizations and airspace users to Conclusion 14/56. Therefore, the Meeting drafted the following decision:

DECISION 14/57 DEVELOPMENT OF A REGIONAL PLAN FOR THE PROGRESSIVE DEACTIVATION OF NDB STATIONS

That the CNS Committee:

a) prepare a regional plan for the progressive deactivation of NDB stations, taking into account the responses received from States/Territories/International Organizations and airspace users to Conclusion 14/56 and the Table presented in Appendix AF to this part of the Report; and

b) based on the results of item a) above, propose the corresponding amendments to Table CNS 3 of the FASID.

Surveillance System Developments

Follow-up on the Development of Surveillance Systems and the Regional Implementation Study of the SSR in Mode S

3.6.3.38 The Meeting took note of the development of multilateration and its growing number of worldwide installations for the surveillance of vehicles and aircraft at airports, as well as in terminal and en-route areas. Multilateration would have the potential of fulfilling many roles for aeronautical surveillance, such as the main surveillance system for ATM for airports or specific airspace (en-route, approach and ground); an alternate surveillance system where another surveillance technique, such as ADS-B, is used as the primary surveillance system; and to validate ADS-B information in order to confirm the position of aircraft. Likewise, the Meeting noted that currently, ICAO does not have SARPs regarding multilateration systems, but that a proposal for a high-level standard for its review and acceptance would be carried out by the Aeronautical Surveillance Panel (ASP).

3.6.3.39 The Meeting took note that ground implementation of Mode S secondary surveillance radars (SSR) should be prioritized in the en-route and terminal areas with high traffic density, and that each State/Territory/International Organization should assess current traffic density in their respective terminal and en-route areas, traffic expected for the next ten years and the useful life of the SSR currently installed in terminal areas.

3.6.3.40 Regarding Mode S transponder capability of aircraft operating in the CAR/SAM Regions, the Meeting noted that States/Territories/International Organizations of both Regions apply the procedure established by ICAO for aircraft identification (24-bit address allocation according to Annex 10, Volume III, Part I, Appendix to Chapter 9 - *A World-wide Scheme for the Allocation, Assignment and Application of Aircraft Addresses*). However, it was considered that it would still be beneficial to implement a national database with standardized information of aircraft having 24-bit addresses. This would facilitate the surveillance service providers with updated information on aircraft identification, especially in radar processing systems. In this regard, the Meeting agreed that in order to assist CAR/SAM States/Territories/International Organizations in the standardization of the 24-bit address allocation to identify aircraft using Mode S transponders, the CNS Committee incorporate a new task related to this issue within its work programme as presented under Agenda Item 5.2 of this Meeting.

3.6.3.41 In order to continue developing the update of the Regional Implementation Plan, including SSR in Mode S, as well as the use of Mode S for ADS-B applications, and provide follow-up to studies of multilateration systems and contribute to necessary coordination, the Meeting proposed to initiate further actions by the ATM/CNS Subgroup and its Committees. These actions could be integrated into the strategy for the implementation of ADS-C and ADS-B in order to develop a general surveillance plan containing all required surveillance applications, harmonised with the Global Air Navigation Plan. **Appendix AG** to this part of the Report contains preliminary elements for a regional consolidated strategy for the implementation of surveillance systems.

3.6.3.42 COCESNA informed on a plan to renovate monopulse SSR systems using Mode S applications.

Study of the Regional ADS Systems Implementation

Global Air Navigation Plan Initiative on Data Link-Based Surveillance

3.6.3.43 The Meeting took note that the Global Air Navigation Plan (Doc 9750 – AN/963), established GPI-09 – *Situational Awareness*, which provides guidelines for the application of data link-based surveillance (ADS-C, ADS-B and SSR in Mode S).

Revised Strategy for ADS-C and ADS-B Deployment

3.6.3.44 As a follow-up to the work performed by the CNS Committee, considering GREPECAS Decision 13/54 and based on the guidelines set forth in the Global Air Navigation Plan, specifically GPI-09, **Appendix AH** to this part of the Report presents the revision to the preliminary CAR/SAM Regional Strategy for ADS-C and ADS-B system implementation in the short, medium and long terms. When reviewing this strategy, the Meeting agreed it would be convenient to integrate the elements into a unified regional strategy for surveillance system implementation.

ADS-C and ADS-B Implementation Initiatives

3.6.3.45 Considering the potential airspaces for ADS-C and ADS-B implementation, which were identified by the GREPECAS/13 Meeting, as well as other recent initiatives, the updated table of initiatives for ADS-C and ADS-B deployment in the CAR/SAM Regions is presented in **Appendix AI** to this part of the Report.

ADS-B Trials Programme in the CAR/SAM Regions

3.6.3.46 The Meeting recalled that GREPECAS, through Conclusion 13/87, directed States/Territories/International Organizations, in collaboration with airspace users, to establish and execute an ADS-B trials programme using available services and technology in order to improve knowledge on ADS-B and to assess the benefits for air traffic management in the CAR/SAM Regions. In this respect, it was agreed that the proposed task should involve different activities and that representatives of international organizations and industry need to collaborate in order to carry out technical and operational assessments to establish optimized solutions for implementation options.

3.6.3.47 The result of the ADS-B trials would provide more accurate information about the operational use of the system as a support for surveillance, giving new perspective to States' implementation plans. These trials and the related aspects (necessary infrastructure, specific ATC procedures, applied technologies, statistics, etc.) should be monitored under project methodology in order to provide results that can be properly assessed and presented for the consideration of GREPECAS.

3.6.3.48 The Meeting noted that according to experience in the Asia/Pacific Region with promoting the development of ADS-B, it has been shown that the significant results achieved by the States in that region came from the adoption of clear deadlines for the implementation, as well as the creation of a dedicated Task Force to evaluate all aspects connected to this development. The Meeting noted that the CAR/SAM Regions can obtain full benefits from this experience. In this regard, the Meeting agreed to the creation of a Surveillance Task Force by the CNS Committee and also agreed on the terms of reference, work programme and composition of said Task Force.

3.6.3.49 The Meeting was informed about the Regional ADS-B Service Concept and FANS developments in the CAR/SAM Regions. Also, the Meeting noted information about the United States' ADS-B programme, which is being carried out in domestic airspace, applying this technology as a surveillance solution for air traffic control and users, in a cost effective manner, and with improved surveillance performance. Cuba informed that they are performing reception trials of ADS-B signals from aircraft overflying the Havana FIR and presented the ADS-B data collected by the Havana ACC.

Updating of the Regional Surveillance Plan

3.6.3.50 IATA informed the Meeting that member airlines are providing support for ADS-B implementation, and information on fleet capability for ADS-B and GNSS in accordance with their operating routes in the CAR/SAM Regions.

3.6.3.51 Considering the implementation initiatives for ADS-C and ADS-B systems, as well as the results of the study on the Regional implementation of other surveillance systems, the Meeting updated Table CNS 4A of the FASID – Surveillance Systems**. Appendix AJ** to this part of the Report presents the results as a proposal for amendment. Notwithstanding, the Meeting agreed to continue with the review of this plan, essentially to add more details relevant to the planning of new surveillance systems.

Surveillance Systems Seminar

3.6.3.52 The Meeting was informed that ICAO, with the collaboration of Trinidad and Tobago, is organizing a CAR/SAM Surveillance Systems Seminar, which will be held in Port of Spain, from 18 to 20 June 2007, targeted for States/Territories/International Organizations from the NAM, CAR and SAM Regions. The seminar will provide updated information and explanations on ICAO standardized surveillance systems, as well as new surveillance systems in the process of being studied and standardized, to increase and improve the knowledge for implementation of these systems according to required performance depending on different scenarios.

3.6.3.53 Additionally, SITA informed the Meeting about the Safety in the Air Seminar held in San José, Costa Rica, from 12 to 13 April 2007, which addressed issues related to ADS-B implementation and the use of air/ground data links to improve air traffic services.

Development and Integration of Automated ATM Systems

3.6.3.54 According to the ATM/CNS Subgroup Report, and as a result of the joint efforts of the ATM and CNS Committees, the Meeting adopted the *Interface Control Document for Data Communications between ATS Units in the Caribbean and South American Regions (CAR/SAM ICD),* which is presented in Appendix 4A to the CNS/COMM/5 Meeting Report, as well as a *Table on ATS Operational Requirements for Automated Systems,* which is also included in Appendix 4B to the CNS/COMM/5 Meeting Report.

SUMMARY OF THE CONTENT OF THE DRAFT AGREEMENT FOR THE CREATION OF A REGIONAL MULTINATIONAL ORGANISATION (RMO)

The Whereas clauses would be the preamble of or introduction to the agreement, and they mention and explain the legal background and foundations supporting it, namely:

a) The Convention on International Civil Aviation (Chicago Convention,) and, specifically, articles 28 and 15

b) Standards and recommended practices on the Convention on International Civil Aviation (Chicago, 1944)

c) ICAO Assembly Resolutions, namely:

1.- Resolution A32-19: Letter on the rights and obligations of States with respect to GNSS services.

2.- Resolution A32-20: Development and drafting of an appropriate long-term legal framework to govern GNSS implementation.

3.- Resolution A35-3: Practical way to further the legal and institutional aspects of communication, navigation, and surveillance and air traffic management (CNS/ATM) systems.

4.- Resolution A-35-15: Revised statement of ongoing ICAO policies and practices regarding a global air traffic management system (ATM) and the communication, navigation, and surveillance and air traffic management (CNS/ATM) systems.

5.- Resolution A35-7: Unified strategy to resolve safety-related deficiencies.

d) Conclusions 13/2 and 13/3 of the CAR/SAM Regional Planning and Implementation Group (GREPECAS), thirteenth meeting, held in Santiago – Chile, on 14-18 November 2005.

As to the clauses of the draft agreement for the creation of Regional Multinational Organisation (RMO), we can make the following remarks:

Creation:

The so-called originating or founding States are the ones that will negotiate the treaty that will create the RMO; they will become member States of the Organisation, once the Legislative Branch of each of them has ratified the agreement, and will have full participation therein, in the sense that they shall be entitled to all the rights and obligations arising from the constituent provisions.

The legal existence of RMO will result from a multilateral legal act, prior and outside of the Organisation, emanating from sovereign States, that will take the form of a multilateral treaty, which is generally agreed upon within the framework of an intergovernmental conference and based upon the standards of the law of treaties (Vienna Convention on the Law of Treaties – 1969).

The starting point could be a meeting of Directors of Civil Aeronautics of the States concerned, who will recommend that a diplomatic conference be summoned to create the RMO, to be attended by plenipotentiaries of said States.

Name: The specific name given to the constituent act or instrument is Agreement, and the RMO should also be given a special name and an abbreviated denomination, if applicable, usually expressed by its acronym. In this sense, we would have an agreement with a specific nature, with conventional and constitutional attributes, considering that a new international legal entity is being created.

Scope: The scope is the definition and description of the RMO, which, in this case, will be the provision and management of international facilities, in order to implement the ATM operational concept with a view to the global ATM, supported by communication, navigation, and surveillance and air traffic management (CNS/ATM) systems, and to provide assistance on safety oversight, pursuant to ICAO standards and recommended practices. These services will be rendered in the territory of the contracting Parties and in all those zones or areas of responsibility pursuant to Regional Air Navigation Agreements and of other States to whom the responsibility could be assigned by virtue of bilateral or multilateral agreements.

Nature: The RMO will be a legal entity different from the States and necessary to comply with the purposes it was created for, and therefore limited to meeting the objectives set out by the founders. Although the performance of the RMO will depend upon the presence of its member States, it shall be capable of developing and expressing an autonomous will within the scope of its competence, in such a way that the decisions taken by any of its bodies will be considered as decisions of the Organisation and not of its Members.

Therefore, the representation of the States is delegated in such a way that their expressed will is identified with the legal entity (RMO) of which both –assignor and assignee- are parties to.

Consequently, the RMO shall have sufficient legal capacity to be a holder of duties and obligations for the pursuit of its objectives and the fulfilment of its duties within the territory of the contracting Parties and in its relationships with other international entities.

In principle, the scope of its legal status will emanate from its constituent instrument, and will be evolutionary and non-static.

In summary, the main characteristics of the RMO will be:

a) It will have special legal status because it will be limited to its assigned objectives and functions;

b) It may exercise certain rights and undertake certain obligations within the framework of concrete legal systems both within the States and internationally;

c) It will have managerial and financial autonomy to hire, purchase and dispose of goods and service; and

d) It will be empowered to bring about lawsuits, appear in trial and to be represented out of court.

Purpose: The purpose of the RMO will be limited, since it will be the one stated in the Agreement. Thus, we can state that it will have a functional status in keeping with the specialty that inspires it.

Thus, the purpose of the Organisation will be to provide and manage the following facilities:

a) those foreseen in the ICAO Regional Plan, in keeping with the corresponding bylaws;

b) assistance for the effective fulfilment of safety oversight responsibilities by the States; and

c) other services not foreseen in the CAR/SAM Regional Air Navigation Plan, through bilateral or multilateral contracts or agreements (for example, overflights).

Rights, duties and responsibilities of States:

The guiding principle concerning the status of RMO member States will be that of equal rights and obligations.

The basic and essential right will consist in the participation in the bodies of the Organisation and in their decision-making process, through representatives appointed by the governments of the respective member States.

In general, the obligations derived from membership consist in cooperating with the Organisation for the achievement common objectives; achieving financial balance for its proper operation, and respecting the independence of RMO officials.

RMO liability:

Since the RMO will be an international legal entity, it will be liable for damages resulting from the operation of the facilities and/or services under its responsibility and vis-à-vis third parties. These risks shall be covered by the appropriate insurance.

Functions and authority: The rights and powers of the RMO are related to all those subject matters covered by the objectives set forth in the constituent instrument.

As the Organisation starts operating, it will be generating its own legal order, which will have an impact within the organisation, since it will govern the relationship among its bodies and with the outside, since it will govern the relationship between member States and the RMO, between the RMO and other international entities, and also with the users.

RMO operations will be based on an autonomous regulatory power, in light of the competencies it will be given by its founders--the States--in the Agreement, and will be implemented based on the decisions that it makes, in writing and in practice, aimed at regulating its own operation and management. Some examples of this are: the appointment of officials or agents, budget approval, the creation of technical, operational, and administrative offices, and the approval of bylaws and internal regulations.

The functions and duties of the RMO will expressly and implicitly emanate from the provisions of the Constituent Agreement, and will have the characteristics of its specialty, while the achievement of its concrete objectives defines the scope of the competencies established by member States.

The express or explicit duties shall be those listed in the constituent agreement or in subsequent agreements.

The specific function of the RMO that will be created will be to exercise exclusive rights in connection with the provision, definition, reception, and management of the services described in the respective article, in keeping with the standards and recommended practices of the Annexes to the Convention on International Civil Aviation (Chicago, 1944).

On the other hand, the implicit duties are those that are not formally or expressly listed, but emanate from the agreement because they can be inferred from an extensive interpretation of that text, and are indispensable for a more complete completion of the tasks vested upon the RMO.

In this sense, the international doctrine has established that implicit duties are legitimate if they fall within the general duties foreseen in the constituent agreement and are compatible with its spirit.

As an example, we can mention the following duties that were included in the draft:

a) To conduct the necessary technical, operational, and administrative studies and take the necessary action to meet its objective, taking into account the development of civil international aviation and compliance with the standards of The Convention on International Civil Aviation (Chicago Convention,).

b) To study, advice, recommend, facilitate, decide on, and implement all those issues connected with the normal or regular operation of the Organisation.

c) To carry out any other activity requested by member States that is connected to its purpose and falls within its capacity.

Organisational chart: The RMO will have a permanent institutional structure, made up by various administrative, technical, and operational bodies that will permit the continuous and stable operation of the Organisation and will be capable of expressing an independent legal will.

These bodies would be different and independent from those of member States, will be set out to last, and will be responsible for managing the collective and common objectives and interests of the RMO. Accordingly, they shall be provided with the appropriate and necessary means.

Notwithstanding the above, the organisational chart of the RMO must not be static but rather be subject to the dynamism of the aeronautical activity and allow for the introduction of changes in order to adapt to the new international technical and operational circumstances.

Based on a functional criterion, the organisational chart of the RMO will be as follows:

a) A deliberative and decision-making body, working as a plenary assembly in which all member States will participate through their delegates or representatives; it will be intergovernmental and can take various names: governing body, governing board, or board.

b) An executive body in charge of overall and day-to-day management and administration, which may be called Executive Director or General Manager, to be performed by an international official or agent.

c) Various technical, operational, and administrative bureaus or managerial offices.

In summary, the Organisation would be made up and managed by:

a) A governing body

b) An executive director, and

c) The necessary and appropriate technical, operational, and administrative bureaus (headed by managers) to carry out the entrusted duties, notwithstanding the offices or station agencies that could be located in the territory of each of the contracting Parties.

- The governing body shall be made up by a representative of each contracting Parties and a substitute to replace that representative in case of absence; they shall both be appointed by said member State, and it would be very important and convenient if they were proficient in aeronautical matters.

They will be officials holding elected positions and their representation will be functional in nature, since they will be part of bodies that are independent from the States that appointed them.

The governing body will have a president and a vice-president; their term in office will be time-limited, and they will be elected from among its members on a rotational base.

All the members of the governing body can learn about and voice their opinions on the activities of the Organisation, and, therefore, it shall be in charge of setting the direction of the Organisation, approve budgets, and perform financial management, and decide over all those matters that are significant and indispensable for its general operations.

This body will get the support of other bodies that report to it, that have a different composition, with experts on its subject matter.

In absence of a universal nature, its small number of participants will facilitate work continuity and decision-making on regulatory, technical, and operational matters.

- The Executive Director, appointed by the deliberative body, to which he/she shall report, will be a national of any of the contracting parties. The duration (usually from three to six years) and conditions (whether or not it can be extended) of tenure will be determined, together with the type of election, and the position requirements.

A detailed list of the duties of both the governing body and the executive director may be included in the bylaws of the RMO and may be supplemented with one or several internal operational regulations.

- The technical, operational, and administrative bureaus or managerial offices will express the dynamic nature of the aeronautical activity and their adaptation to its practical evolution. Consequently, they could be merged, or existing ones be eliminated, or new bodies be established.

The competence for the creation of these new bureaus will emanate of the powers vested on the governing body, as the main decision-making body of the RMO.

Control bodies: The control function means that the bodies that supplement it are different from both the Organisation and the governments of members States.

These bodies shall basically perform the technical, operational, and financial control of the Organisation. Since the RMO will have its own budget, it will have to be subject to economic control mechanisms.

The RMO will be subject to the following audits, in order to control its activities:

a) internal audit

b) annual external to be performed by someone proposed by the Executive Director and approved by the Governing Body

c) security and safety foreseen by ICAO

Determination of will: The RMO shall be guided by a democratic principle; that is, all of its members are equal in the sense that each member will have one vote.

The legal will of the RMO is expressed in the decisions approved by the internal bodies, for which the Organisation is directly responsible and at the same time they would be binding for all member States.

In its constituent agreement, the RMO shall establish the voting procedures and modalities to be applied and the internal bodies that must participate in it.

The decision-making modality that has been foreseen is a qualified majority (i.e., to require a majority that exceeds the so-called simple or absolute majority, which, in this case, would be the favourable vote of two thirds) as a general rule, and unanimity, for exceptional circumstances.

Indeed, the unanimity rule shall be the exception, because, although related to the respect for State sovereignty upon considering the principle of equality among members, is has the problem that it would be very difficult to make decisions and it would lead to a certain standstill of the RMO.

On the other hand, the qualified majority procedure will expedite the approval of resolutions, without detriment to the fact that efforts would be made to reach a general agreement if interests at stake are very important and could affect any of the member States.

Staff: In order to fulfil its functions, the RMO--as a corporation--, must have human resources, i.e., international officials or agents through which it will act.

The existence of a body or group of international officials or agents working for the Organisation on a continuous and exclusive, or temporary, basis will enable it to carry out its technical, operational, and administrative activities.

Particularly, the Organisation will hire—directly--employees who are citizens of the member States, except in duly justified exceptional circumstances or situations, like, for instance, technical or operational qualifications, which shall be assessed and decided over by the governing body on a case-by-case basis.

Due to the international nature of his/her work, the official will be independent from the member State from which he/she is a citizen, and will have functional protection granted by the Organisation through the so-called jurisdictional guarantees.

The RMO internal bodies will also control the appointment and performance of the staff.

Notwithstanding certain specific provisions of the constituent agreement, the staff would have its own labour regime, to which end, the respective bylaws must be drafted and approved, taking as a legal basis those of the United Nations Organisation.

This statutory regime will define most aspects of its legal condition and shall consider the set of standards that will define the rights and obligations of the officials and the RMO in relation to the following topics or issues:

Citizenship, origin, quantity, distribution, selection requirements and modalities, hiring conditions, categories, inabilities and incompatibilities, rights and obligations, compensation or salary scheme, tax exemptions, bonds, sanctions, causes for dismissal, work hazard coverage, and retirement scheme.

On the other hand, and if necessary, the RMO may hire external experts, from time to time or on a temporary basis, to carry out specific functions.

Financial regime: Also, for the achievement of its objectives, the RMO shall have the financial means to cover the expenses derived from its operations (equipment, maintenance of facilities, personnel, administration, meetings of its bodies, travel, publications, etc.).

In relation to a given period—generally, one year--and given the need to establish programmes that must be implemented within a given term, income and expenditures must be reflected in the budget of the RMO, the draft of which will be prepared by the executive director, and will be approved by the decision-making body (the governing body).

Income will be derived from the resources generated by the RMO. To this end, it shall establish a financial policy that will allow it to achieve a financial balance, trying to avoid bureaucracy.

The financial regime is divided into two stages:

a) the establishment and initial operation of the Organisation, to which end ICAO may provide assistance through a Technical Cooperation Project to be funded by the States.

b) subsequent operation, to be funded through the generation of its own resources. This will allow the RMO to ensure its regular operation, achieve a higher level of financial autonomy, and strengthen its independent legal status.

The resources of the Organisations could be derived mostly from the rates paid by individuals or corporations that operate aircraft at the time when the flight has taken place.

The RMO will be subject to financial control mechanisms, aimed at reviewing the accounts, regularity, and good management of income and expenditures.

Term or duration: In general, this type of international organisation is characterised by its permanence, i.e., it is intended to last, and often the agreement is for an indefinite period of time.

In this case, it has been foreseen that it will have a limited duration, to be determined, and the possibility of automatic and successive extensions for equal periods of time or for a different term, also to be agreed upon.

In this respect, the continuity of the RMO should not be affected by possible changes resulting from its composition (increase or reduction in the number of members) or its adjustment to new international circumstances, such as technical or operational aspects, or the revision of its constituent agreement.

Headquarters: In absence of its own territory, the RMO will be forced to establish its headquarters in one of the contracting States.

The headquarters may be defined in the constituent agreement or during the initial stage of the RMO, and could vary during the life of the Organisation. This circumstance should be contemplated in the respective bylaws, including the possibility for the Governing Body to change it.

The legal consequences of the physical establishment of the RMO are specified in the so-called “Headquarters Agreement”, signed by the Organisation and what might be called the “host” State.

Legal capacity, privileges and immunities: Since the RMO will have to operate in the territory of the States to perform its assigned functions, it will be granted legal capacity within the internal legal system of each of its member States, supplementing such recognition with a number of the facilities, privileges, and immunities required to achieve its objective, which must be mentioned in the constituent agreement.

The legal capacity of the RMO in the local legislations will be limited to the specialisation principle; that is, it will be inferred from its own rules and it will operate within the scope of the assigned objectives and functions, like, for instance, the hiring capacity that is limited to the services required for its customary, normal and regular operation.

Some of these matters need to be taken into account at such time when the so-called Headquarters Agreement is signed between the RMO and the State in whose territory it will be established.

In this sense, it must also be taken into account that, even though national State legislations acknowledge the legal capacity of the RMO, they might contain certain limitations or requirements that are incompatible with the performance of this capacity.

The privileges and exemptions granted to international organisations, their equity, income, acts, and contracts, in order to enable its operation include those in connection with financial, tax, and customs issues.

In turn, RMO representatives and officials must also be entitled to the privileges and immunities necessary for them to perform their duties independently. This is a functional protection granted by the Organisation.

Jurisdiction immunity: Jurisdiction immunity is a general and very common clause that is included in practically every constituent agreement of international organisations. Is specifies that only when they expressly waive such immunity can they be brought before the courts of the States that are party to it or member States.

RMO officials and agents can also enjoy this immunity with regard to all the acts they carry out in performing their official duties.

The goods and salaries can also enjoy immunity against any legal procedure, unless there is an express waiver. Nevertheless, this waiver will not apply to the execution of court rulings.

Infringement: According to article 12 of the Convention on International Civil Aviation (Chicago, 1944), the Organisation shall undertake to report to the relevant national authorities, which shall in general be those related to aviation, any alleged infringement of air navigation standards that occurs within its jurisdiction, and it shall send to the relevant State, the background information evidencing the infringement or omission which makes up the infringement, so that the corresponding action may be taken.

Dispute resolution: Although the interpretation and enforcement of the provisions of the constituent agreement and the RMO bylaws is a constant and regular activity of its internal bodies, whenever a conflict or dispute arises in this respect, the dispute resolution mechanisms foreseen in the same agreement will have to be applied. These could be:

a) mediation by the Executive Director, that is, the intervention of a third party, whose decision shall not be legally binding; and, if no solution is reached:

b) final decision by the Governing Body; or, arbitration at the request of any of the conflicting parties.

The form and procedures to resolve these issues can be included in the text of the bylaws.

Final provisions:

Signature: It is the signature and expression of the name and last name of the individual who is vested with plenipotentiary powers, together with the identification of the State he/she represents, which will be placed at the end of the agreement to prove that whoever signs is duly authorised and can bind to the agreement.

Before entering into force, the agreement will be available for signing by any other State interested in participating.

Ratification: This is the approval or confirmation of the agreement that was signed by a State representative in connection with the rights and obligations to be undertaken.

It means that the State concerned accepts as its own the legal act or agreement executed by a proxy on its behalf.

All in all, it is the decision whereby each of the competent State authorities, normally the Legislative Branch, Congress or Parliament, acknowledges the agreement signed by its representative.

The entry into force of the international agreement that creates the RMO defines its birth, and the conditions for its effectiveness must be established in this text, in the sense of determining the number of ratifications required.

In this case, it will require the ratification of a minimum number of signatory States to the constituent agreement, since it is a regional or restricted organisation where cooperation and integration links prevail.

This ratification involves the deposit of the respective ratification instrument of the signatory parties, where the depository must be identified. It may be ICAO, the State where the agreement is signed, or any of the States party to the agreement.

As of the entry into force of the constituent agreement, the States party to the agreement become member States of the Organisation being established.

Registration: This is the annotation or recording of the agreement; in this case, it shall be the act by virtue of which ICAO records the treaty, pursuant to article 83 of the Convention on International Civil Aviation (Chicago, 1944).

Accession: This is the act whereby a State agrees to, approves or accepts the terms of the agreement after it has entered into force; in other words, it is the admission of a State after the Organisation has been established.

Unlike the founding States, the participation by new States will be subject to the admission rules and procedures defined in the agreement, and will require the intervention of RMO institutions.

In this regard, the plenary body of the Organisation will review the application, and will make a unanimous decision.

To become a new member, two wills have to agree: that of the State submitting the candidacy and that of the Organisation which will eventually accept the application; and compliance of the formal aspects regarding the submittal of the accession instrument to the designated depository.

Moreover, the accession will require negotiations with the candidate, resulting in an agreement between said State and the Organisation, addressing the technical, operational, financial, and administrative issues that will enable its accession.

Amendment: It is any change that any of the contracting parties may propose in order to modify the agreement, and shall be submitted to the governing body for preliminary review and, if applicable, approved unanimously by said contracting parties.

Notice of termination: All members have the inherent right to withdraw from the RMO, which is equivalent to a unilateral termination of the constituent agreement and its possible modifications. This will be done in keeping with the provisions of the agreement itself.

The possibility that a member State withdraws from the Organisation may be subject to some conditions: minimum time of effectiveness of the RMO and prior notice to the depository, who shall in turn inform this to the other contracting States.

For this termination to be valid, it should involve a notice of at least one year in advance, calculated from the date when the last contracting party received the corresponding notice from the depository.

Consideration should also be given to settling the accounts of the State that will lose its membership.

The dissolution is the act whereby a legal relationship is terminated or ended; in this case, it will be the annulment, liquidation or conclusion of the agreement as a result of the principle of freedom that also inspires the creation of, and participation in, the Organisation.

The dissolution of the RMO could be due to the specific duration of the constituent agreement, to a major change of circumstances whereby the common interests that gave rise to its creation are eliminated, or to serious financial difficulties in its operation.

Since this is an exceptional assumption, the dissolution of the RMO will require a unanimous decision by the governing body, i.e., the body where all the member States are represented.

The Organisation must keep on existing until its final or definitive dissolution; therefore, a transition period and mechanisms need to be foreseen to facilitate the distribution and transfer of the goods, rights, and obligations of the RMO to a new organisation or to the contracting parties.

In summary, in case of dissolution, the following issues must be considered:

a) the continued provision of CNS/ATM and safety oversight services;

b) the situation of the members of the Organisation;

c) the situation of RMO officials and agents;

d) the succession of the functions, competencies, and equity of the dissolving Organisation since this could create difficulties; for example, the financial compensation of contracting Parties in proportion to their contributions, like, for instance, in connection with the host State.

Transitory provisions: If any, these should be contained in the constituent agreement. In this case, the initial operation and the financial scheme of the RMO have been envisaged.

Initial issues prior to the start-up of the RMO:

a) Determine the headquarters for the Organisation

b) Appoint the representatives to the governing body

c) Designate the executive director

d) Draft or plan the bylaws (general and for staff) and internal regulations; this can be done through an ICAO technical cooperation project

e) Have available the initial budget

f) Hire the personnel required for the Organisation

DRAFT CONSTITUENT AGREEMENT FOR THE CREATION, OPERATION AND MANAGEMENT OF A REGIONAL MULTINATIONAL ORGANISATION (RMO)

Whereas none of the aspects inherent to the communication, navigation, and surveillance/air traffic management (CNS/ATM) systems is incompatible with the Convention on International Civil Aviation (Chicago 1944) and the standards and recommended practices thereof, and therefore there are no legal obstacles for its establishment and operation pursuant to Resolutions A32-19, A32-20, and A35 of the Assembly of the International Civil Aviation Organization (ICAO);

Whereas the States have the authority and responsibility over air navigation control and compliance of safety oversight standards within the airspace under their sovereignty, in accordance with Article 28 of the Convention on International Civil Aviation (Chicago 1944);

Whereas ICAO Assembly Resolutions A32-19, A32-20, and A-35-15 on this subject matter urge for cooperation and mutual assistance among the States in order to achieve the highest possible level of uniformity in the provision of CNS/ATM services;

Whereas regional initiatives concerning the development and planning of international air navigation principles and methods, the enhancement of international civil aviation safety to prevent and reduce the negative impact of operational failures of CNS/ATM systems and effectively fulfill with safety responsibilities, are important;

Whereas regional cooperation is effective for implementing and consolidating CNS/ATM systems with a view to the Global ATM, and the safety system, taking into account ICAO standards, recommendations, and guidance, and in particular, Assembly Resolutions A35-3 and A35-7;

Whereas ICAO Assembly Resolution A35-7 encourages the States to promote the creation of regional and sub-regional partnerships to collaborate in the development of solutions to common problems, in order to strengthen their individual safety oversight capacity;

Whereas it is necessary to establish international agreements at the regional level in order to facilitate the establishment, operation, and management of the communication, navigation and surveillance/air traffic management (CNS/ATM) and safety systems in the SAM and/or CAR Regions;

Whereas CNS/ATM systems are of a regional/global scope and the investment required for their implementation and operation is significant, and in order to achieve greater efficiency and savings, avoiding duplication of human and material resources, it is essential to seek international regional cooperation in light of the benefits to be derived from the sharing of facilities, services, and costs, and the possibility of obtaining common funding and benefits.

Whereas cost distribution among users must be reasonable, its implementation and the recovery of costs will be done in keeping with Article 15 of the Convention on International Civil Aviation (Chicago 1944).

Whereas an appropriate legal framework is required to regulate the operation of CNS/ATM systems and safety oversight cooperation, giving access to as many States as possible in order to apply the principle of uniformity to the standards and procedures regarding international air navigation and safety.

Whereas the meetings of the Civil Aviation Authorities (RAACs) of the SAM Region have acknowledged the need to create a regional mechanism to study and decide upon the feasibility of implementing the CNS/ATM systems (RAAC/6, RAAC/7 y RAAC/9).

Whereas the CAR/SAM regional planning and implementation group (GREPECAS), at its thirteenth meeting, held on 14-18 November 2005, concluded that the CAR and/or SAM Regions be considered as potential operational scenarios for the establishment and management of multinational facilities and that there were sufficient legal principles to implement some systems in the short and medium term (Conclusions 13/2 and 13/3);

The following has been agreed upon:

CONSTITUENT AGREEMENT FOR THE CREATION OF A REGIONAL MULTINATIONAL ORGANISATION (RMO)

Article 1 – Scope

The contracting States agree to establish a Regional Multinational Organisation **(RMO)** for the provision and management of multinational facilities, in order to implement the ATM operational concept with a view to the Global ATM, supported by communication, navigation and surveillance/air traffic management (CNS/ATM) systems, and for the provision of assistance on safety oversight, in accordance with the standards and recommended practices of the International Civil Aviation Organization (ICAO) that will be called … and hereinafter referred to as … (in this document "the Organisation").

Article 2 – Nature

The Organisation will have legal capacity, it will exercise its rights and undertake obligations and will have the financial and managerial autonomy required to hire, purchase and dispose of the goods and services of the Organisation, and to promote legal action, appear in trials, and be represented out of court.

Article 3 – Purpose

The purpose of the Organisation is to provide and manage the multinational facilities foreseen in the ICAO Regional Plan, in keeping with the provisions set forth in the respective bylaws, and to provide assistance for the effective fulfilment by the States of their safety responsibilities in the territory of the Contracting Parties and in all those areas of responsibility according to the Regional Air Navigation Agreements and those of other States which have been assigned to it by virtue of a bilateral or multilateral agreement.

The Organisation may also provide public air navigation services not foreseen in the CAR/SAM Regional Air Navigation Plan, as well as advisory services on safety oversight in keeping with the respective bylaws and through bilateral or multilateral contracts or agreements.

Article 4 – Duties and powers

The Organisation will have the following duties and powers:

a) Exercise exclusive rights in connection with the provision, establishment, reception, and management of the services mentioned in the previous article.

b) Establish an economic policy that permits the achievement of a financial balance, through the raising of its own resources.

c) Obtain loan in the financial markets, which can be guaranteed by Contracting Parties or others, if necessary.

d) Propose to Contracting Parties the standardisation of national regulations, rules, and procedures concerning air navigation and safety oversight services, in accordance with the standards and recommended practices contained in the Annexes to the Convention on International Civil Aviation (Chicago, 1944).

e) Conduct the necessary technical, operational, and administrative studies and take the corresponding action for the achievement of its objective, taking into account the evolution and development of international civil aviation and compliance of the standards of the Convention on International Civil Aviation (Chicago, 1944).

f) Propose to Contracting Parties the relevant modifications to the ICAO Regional Air Navigation Plan, if necessary.

g) Provide appropriate training to its staff on an ongoing basis.

h) Establish the required links with the States and International Organisations in order to perform its duties.

i) Request from, and report to, the competent national authorities all relevant information and alleged infringements to air navigation standards occurred within its jurisdiction.

j) Assess the standardisation of systems within the territory of contracting parties.

k) Study, advise, recommend, facilitate, decide over, and implement all matters related to the normal and regular operation of the Organisation.

l) Undertake any other activity required by member States that is related to its purpose and which falls within its capacity.

Article 5 – Liability and insurance

The Organisation shall cover all risks derived from any liability for damages resulting from the operation of facilities and/or services *vis-à-vis* third parties, by hiring the appropriate insurance.

Article 6 – Structure

The Organisation will be structured with a Governing Body, an Executive Director, and the appropriate technical, operational, and administrative offices required to carry out the assigned duties. The Executive body shall not be complicated so that the daily and regular operation of the RMO will be agile. The tasks to be carried out by the officials shall include technical, operational, and administrative aspect related to implementation and representation.

Article 7 – Governing body

The Organisation will be managed by a Governing Body composed of one representative of each Contracting Party, who will have an alternate to replace him/her in case of absence, both being designated by the Contracting Party and they should both be proficient in aviation.

The Governing Body will have a President and a Vice President, who will be elected among its members on a rotational basis, and for the period of time established in the bylaws.

Article 8 – Duties of the Governing Body

The Governing Body will have the following functions:

a) Adopt a common policy regarding the operation and management of multinational systems.

b) Set the rates and fees to be paid by service users.

c) Designate the Executive Director and the technical, operational, and administrative Directors following the proposal of the Executive Director.

d) Approve the hiring of the insurance defined in article 5 from the companies it deems appropriate.

e) Approve the annual budget, before (specify the date or period of time) of the year prior to its application, and its possible modifications.

f) Approve the bylaws and Internal Regulations of the Organisation, and generate amendments thereto, based on the proposals of the Executive Director.

g) Approve the amount and conditions of loans obtained in the financial markets to pursue its objectives.

Article 9 – Executive Director

The Governing Body will appoint an Executive Director who will be a citizen of any of the Contracting Parties, with a tenure of … (at least four) years.

Article 10 – Duties of the Executive Director

The Executive Director will have the following functions:

a) Sign all the documents required for the operation of the Organisation, within the scope of his/her competence.

b) Submit all the reports required by the Governing Body.

c) Set the policy concerning the staff to be hired, in terms of number and qualifications.

d) Hire the staff required by the Organisation, and present nominations to the Governing Body for the technical, operational, and administrative Directors, in order to hire them.

e) Submit the draft modifications to the bylaws and Internal Regulations of the Organisation.

f) Forecast the rates and fees to be collected by the Organisation.

g) Prepare the annual budget and give advise to the Governing Body on that matter.

h) Act as Secretary to the Governing Body.

i) Perform any other task assigned by the Governing Body.

Article 11 – Decision-making modalities

Each Contracting Party is entitled to one vote in the Governing Body through its representative.

Governing Body meetings will require a quorum of two thirds of its members.

Decisions will be adopted by a majority of two thirds of the members present, except for those cases expressly defined in the Bylaws that require a unanimous decision, and will be binding for each State or Contracting Party.

Article 12 – Personnel

The Organisation will hire individuals who are citizens of the Contracting States, except under duly justified exceptional circumstances or situations.

The personnel will be subject to their own labour regime, and, to that end, the respective bylaws will be drafted and approved, based on those of the United Nations Organization.

Article 13 – Financial regime

For the establishment and initial operation of the Organisation, ICAO could provide assistance through a Technical Cooperation Project to be funded by the States.

Following this initial stage, the Organisation should try to achieve financial balance by charging and recovering costs, based on the first budget approved and in keeping with article 15 of the Convention on International Civil Aviation (Chicago 1944).

Article 14 - Duration

This agreement shall remain on force for … years, and may be automatically and successively extended for … years (or an equal period).

Article 15 – Headquarters

The headquarters of the Organisation will be in a city to be determined in a Party State, according to the advantages offered for its establishment. The respective Headquarters Agreement will be signed with said State.

Article 16 – Audits

The Organisation shall be subject to internal, external, and ICAO audits, as defined in the respective bylaws.

Article 17 – Tax and customs exemptions

Within the territory of each Contracting Party, the Organisation, its equity, income, acts, and contracts will be exempt from taxes, fees, contributions and/or any other lien, as well as from any restriction or prohibition derived from the import and export of that required for its operations.

Article 18 – Privileges and immunities

Within the territory of the Contracting Parties, the Organisation and each of its internal bodies will have the legal capacity required to perform its duties, and the facilities, privileges, and immunities necessary to meet its objectives, as long as they are consistent with the constitution, the international law, and the laws of the particular State.

Its representatives and officials will also have the privileges and immunities necessary to carry out the duties derived from this agreement in an independent manner.

Goods and salaries are protected from any legal procedure, unless a waiver is expressly provided regarding such protection. Nevertheless, such waiver will not apply to any court judgment.

Article 19 – Infringements

The Organisation will report to the competent national authorities any alleged infringement to air navigation standards that has occurred within its jurisdiction, and will send the background information evidencing the perpetration or omission that constitutes the breach so that the corresponding measures may be taken.

Article 20 – Dispute resolution

Any conflict or dispute arising from the interpretation or application of this agreement will be submitted to the Governing Body for its resolution. The Party States agree to accept the final decision of the Governing Body.

Article 21 – Signature and ratification

This agreement will be signed and ratified by each of the Contracting Parties and the respective ratification instrument will be deposited with ICAO.

Before its effective date, this agreement will be available for signing by any other interested State that is admitted by unanimous decision of the other signatory States.

ICAO will inform the Governments of the other signatory States of any other signature or deposit of a ratification instrument.

Article 22 – Entry into force

This agreement shall enter into force sixty days after at least….. Contracting States have deposited their ratification instruments, to which end ICAO will advise of this date to each of the respective Governments.

For each State that deposits its ratification instrument after the effective date of this agreement, this agreement will enter into force sixty days after said ratification instrument has been deposited.

Article 23 – Registration

This agreement will be registered with the International Civil Aviation Organization (ICAO), according to the terms set forth in article 83 of the Convention on International Civil Aviation (Chicago, 1944).

Article 24 – Accession

Non-signatory States may adhere to this agreement once it has entered into force, by submitting an accession instrument to ICAO.

Before a State adheres to the agreement, the unanimous approval by the Contracting Parties will be required, and the State and the Organisation will enter into an agreement addressing the technical, operational, financial and administrative matters concerning its admission.

Accession shall become effective … (days, month or months) after the respective instrument has been deposited.

Article 25 – Amendments

Any Contracting Party may propose amendments to this agreement. These will be submitted to the Governing Body, and approved unanimously by the Contracting Parties.

Article 26 – Termination

Contracting Parties may terminate this agreement after… years have lapsed since its entry into force through a notice to ICAO. In turn, ICAO shall advise the other Contracting Parties of this event.

The termination of the agreement shall become effective ... (at least one year) after the last Contracting Party has received the respective notice.

Article 27 – Dissolution

The Organisation may be dissolved by unanimous decision of the Governing Body and will continue to exist until its final settlement. An agreement must be reached with regard to the distribution and transfer of the goods among the Contracting Parties, and the continued provision of CNS/ATM and safety oversight services.

Article 28 – Transitory provisions

During its initial phase, the Organisation will operate based on the assistance provided by ICAO through a Technical Cooperation Project, until such time when its operations are consolidated.

The Technical Cooperation Project will last a period of five years, and it may be extended for an equal period of time. During this time, the Governing Body will establish the financial regime of the Organisation, by raising resources of its own in order to achieve a financial balance.

DRAFT BYLAWS OF THE REGIONAL MULTINATIONAL ORGANISATION (RMO)

I.- General provisions

Definitions:

For the purposes of these bylaws, the following terms and expressions will have the following meaning:

- Organisation (insert the name given to the RMO and the abbreviated designation or acronym, if any).

- Agreement: The multilateral treaty or constituent agreement of... (insert the name of the RMO), signed by the States on ..., in the city of..., Republic of... and ratified by the Contracting Parties.

- Contracting Parties: Are the founding member States that ratified the agreement and the States that adhered to it.

- Representative or delegate: The regular representative--and the alternate--of each Contracting Party to the Agreement before the Governing Body, appointed by each one of such Contracting Parties.

- Bylaws or general bylaws: Is the set of legal norms or provisions that govern the relationship between the government and RMO operations.

- Personnel bylaws: Is the set of legal norms or provisions that govern the relationship between the RMO and its personnel.

- Internal regulation/s: Is the set of provisions that govern the operation of the RMO on technical, operational, financial, managerial and auditing matters.

- Governing body: Is the plenary body of highest rank in the RMO.

- President: The person leading the Governing Body.

- Executive Director: The international official or agent that leads, enforces legal provisions, and represents the RMO.

- Offices: The units that will be in charge of the technical, operational and administrative management of the RMO.

- Auditor/s and audit/s: The officials and/or agents in charge of the technical, operational, financial and administrative supervision or control or the RMO through the procedures set forth in the bylaws, internal regulations, Governing Body decisions, and by the International Civil Aviation Organisation (ICAO).

- Headquarters: (Insert the place where the RMO will be established or leave as follows) The domicile of the RMO, or the place that may be established as such in the future.

- Qualified majority: The favourable vote of two thirds of the Contracting Parties in the Governing Body.

- Unanimity: The favourable vote of all the Contracting Parties in the Governing Body.

- Currency: The value symbol in which the budget will be prepared and which allows for exercising the rights and fulfil the obligations of the RMO (define: it could be US dollar).

- Dissolution: Legal act whereby the extinction or termination of the RMO is decided.

- Liquidation/settlement: The set of operations carried out in order to determine what corresponds to each of the stakeholders in the assets and liabilities of RMO equity.

Article 1 – Applicable legal regime or law

The legislation that will govern the RMO is:

a) The constituent agreement, which constitutes international law, and ranks above the national laws of member States

b) The bylaws

c) The internal regulations

d) International law regulations and the laws of Contracting States, as applicable

Article 2 – Legal status

... (name of the RMO) is a Regional Multinational Integration Organisation, with legal status and capacity, even to litigate, and which has its own equity.

Within the territory of each one of the contracting parties, the RMO will be entitled to the privileges, immunities and exemptions required for the fulfilment of its functions and in keeping with its international legal status.

Article 3 – Members

The original or founding States that have ratified the constituent agreement, and the States that adhere to it, will be members of the RMO, as established in said agreement.

Article 4 – Purpose

In those areas of its competence, the purpose of the RMO, in the initial stage, is to provide and manage the following public services:

- Aeronautical telecommunications

- Aeronautical information

- Air traffic flow management (ATFM)

- Assistance for safety oversight

- Any other activity related to and compatible with the cited services

Article 5 – Functions and powers

In order to meet its objective, the RMO will have the following functions and powers:

- To exercise exclusive rights regarding the provision, establishment, reception and management of the services cited in the previous article.

- To provide the public services stated in the previous article, as foreseen in the ICAO Regional Plan, in the territory of the Contracting Parties and in other areas under its responsibility pursuant to Regional Air Navigation Agreements and in any others assigned to it pursuant to bilateral or multilateral agreements.

- To provide other States with the public services stated in the previous article, as foreseen in the ICAO Regional Plan, in those areas assigned to it pursuant to bilateral or multilateral agreements.

- To provide the public services stated in the previous article and not foreseen in the CAR/SAM Regional Air Navigation Plan, in the territory of the contracting Parties and in other areas assigned to it, pursuant to bilateral or multilateral agreements.

- To provide the public services foreseen in the ICAO Regional Air Navigation Plan other than those stated in the previous article, subject to the prior consent of the Contracting Parties.

- To advise, facilitate and provide assistance to the contracting parties for the effective fulfilment of their safety oversight responsibilities.

- To study and propose to the Contracting Parties the standardisation of national rules, regulations and procedures concerning air navigation and safety oversight services, pursuant to the standards and recommended practices of the Annexes to the Convention on International Civil Aviation (Chicago, 1944).

- To propose to the Contracting Parties, if necessary, relevant modifications to the ICAO Regional Air Navigation Plan.

- To conduct the necessary technical, operational and administrative studies, and decide over, and take, the corresponding action to achieve its objective, taking into account the compliance of the standards of the Convention on International Civil Aviation (Chicago, 1944) and its respective Annexes.

- To establish and apply an economic policy that will allow for a financial balance, by raising resources of its own.

- To obtain loans in the financial markets, which could be guaranteed by the Contracting Parties or others, as necessary.

- To hire individuals who have the citizenship of the contracting states, except in duly justified circumstances or situations, to be decided on a case-by-case basis.

- To properly train personnel on an ongoing basis.

- To require from, and to communicate to, the competent national authorities all the relevant information and report any alleged infringement to air navigation regulations occurred within its assigned jurisdiction.

- To establish, together with the States and International Organisations, the necessary links to perform its functions.

- To facilitate the consultation and participation of service users on technical and rate-related matters.

- To study, advice, recommend, facilitate, decide over, and implement all those matters related to the normal and ordinary operation of the Organisation.

- To develop any other activity related to its purpose and which falls within its legal capacity.

II.- Financial aspects

Article 6 – Equity

The equity of RMO is composed of:

- real estate

- movables

- facilities and equipment that have been assigned to it

- real, personal, and equity rights

- loans

- payments and contributions by Contracting Parties and other persons or organisations

- payments for services rendered

- any other good that is subsequently included

Article 7 – Rates

Setting rates: Rates will be set taking into account the principles set forth in article 15 of the Convention on International Civil Aviation (Chicago 1944) and the following costs:

- those incurred by Contracting States on account of air navigation facilities and safety oversight

- those related to the operation of RMO systems

- those related to the management of RMO systems

Origin: Own resources could come mainly from the rates to be owed by the individuals or corporations operating aircraft at the time of the flight.

If the identity of the operator is unknown, it will be assumed that the owner of the aircraft is the operator until such time when the operator is identified.

Execution: If the debtor has not paid the sum owed, it may be collected through an administrative or court proceeding.

This execution procedure will be filed within the jurisdiction of the Contracting State where:

- the debtor has its domicile or main office

- the debtor has a commercial establishment, if its domicile or main office is not located in the territory of a Contracting State

- the debtor holds property, in the absence of the two previous assumptions

- the RMO has its headquarters, in the absence of the three previous assumptions

The RMO has the capacity to take action with the relevant authorities of the States that are not parties to the Agreement.

The relevant authorities of the Contracting States will cooperate with the RMO in collecting the rates.

III.- Internal organisational structure

Article 8 – Governing body

Type of organisation and integration:

The Governing body is the highest-ranking body; it makes decisions and is made up by a representative or delegate of each State or Contracting Party, who shall have an alternate who shall replace him/her in case of his/her absence. They will both be appointed by the Contracting Party and they shall both be proficient in aeronautical issues.

Tenure: The delegate--regular and alternate--who represents each Contracting Party will remain in office during the entire time of his/her appointment. The instrument of appointment will be deposited before the Secretary of the RMO, which will in turn present it to the Governing Body.

Functions**:**

The Governing Body will have the following functions:

- Adopt a common hiring policy and procedures regarding the operation and management of multinational systems

- Agree to provide public air navigation services not foreseen in the CAR/SAM Regional Air Navigation Plan.

- Approve the technical, operational, and administrative organisation of the RMO.

- Approve the bylaws and Internal Regulations of the Organisation and their respective modifications.

- Set the fee or distribution formula for Contracting Parties, in order to determine their annual payment or contribution for the funding of the RMO.

- Establish the principles that shall govern costing for setting rates.

- Approve the cost recovery percentage and the formula to estimate rates.

- Determine the units to express rates.

- Approve the rates and charges to be paid by service users.

- Establish the period of application and payment conditions for rates.

- Approve the annual budget and its modifications, if any, before (set date) of the year immediately prior to its application.

- Set and/or change RMO headquarters, and sign the Headquarters Agreement with the State in whose territory it will be established.

- Approve the hiring of liability insurances to cover risks derived from the operation of facilities and vis-à-vis third parties.

- Create, modify, merge, or eliminate technical, operational, and administrative offices.

- Designate, dismiss, and penalise the Executive Director, in connection to matters related to his/her administration and responsibilities.

- Authorise, on a case-by-case basis, the hiring of individuals who are not citizens of the Contracting States under duly justified exceptional circumstances or situations.

- Approve the hiring of external audits (or authorise the performance of external audits).

- Decide upon or resolve conflicts and disputes that may arise among the Contracting Parties in connection with the interpretation or enforcement of the constituent agreement.

- Accept or admit a new State to the RMO, before and after the entry into force of the constituent agreement.

- Review all amendments or modifications to the constituent agreement before submitting them for the final approval by the Contracting Parties.

- Decide upon the dissolution of the RMO and the conditions under which it shall be carried out.

- Carry out any other activity in accordance with the constituent agreement, bylaws and internal regulations.

Meetings or sessions:

It will hold regular annual meetings or sessions and all the extraordinary meetings that are necessary for the discussion and resolution of concrete and urgent problems or topics. Minutes will be taken for each meeting or session.

The Governing Body will set the date and time for the meetings and the Secretary will call the meetings through a notification at least 60 days before the meeting is to take place, except in the case of an extraordinary meeting, where this term can be shortened.

Vote, quorum, and decisions

Each Contracting Party shall be entitled to one vote through its representative.

Governing body meetings will require a quorum of two thirds of its members.

Decisions will be binding for Contracting Parties and will be adopted by a majority of favourable votes from the two thirds attending the meeting.

A unanimous decision is required only in the following cases:

- to agree on the provision of public air navigation services not foreseen in the CAR/SAM Regional Plan.

- set or change the quota of Contracting Parties in order to determine their contribution to finance the RMO.

- approve the bylaws and Internal Regulations

- accept or admit a new State after the agreement has been signed, and before and after its effective date.

- approve all proposed amendments or modifications to the constituent agreement.

- decide upon the dissolution of the RMO and the conditions under which this will be carried out.

- obtain loans in the financial markets.

Chair:

The Governing body will be presided over, or will have, a President, who will be elected among its members on a rotational basis, and will remain in office for.... (at least one year) year/s. The chair will be held successively and in alphabetical order by each of the member States.

In the absence of the President, the Governing body will be chaired by the Vice President, and in the absence of the latter, a person will be elected among its members to chair that meeting.

Functions of the President:

The President will have the following functions:

- Monitor compliance with the constituent agreement, the bylaws, the internal Regulations and the decisions of the Governing body.

- Issue general directives for the fulfilment of the functions of the Governing Body.

- Preside over, and suspend, with proper justification, Governing body meetings.

- Carry out any other activity assigned to it by the constituent agreement, its bylaws or internal Regulations.

Secretary:

The Executive Director will act as Secretary of the Governing Body.

Article 9 –Executive director

Type of body and representation**:**

The Executive Director is the executive manager and representative of the RMO.

Designation:

The Executive Director will be elected through public contest and will be appointed by the Governing Body, reporting directly to this body.

Requirements:

In order to become Executive Director, the individual must meet the following requirements:

- to be a citizen of any of the Contracting Parties

- to be at least.... years old and maximum .... years old

- to hold a university degree in ...., with a major in .... (or preferably with a major in ...)

- to have.... years of experience (or broad or considerable experience), having held high ranking or managerial positions within its area of expertise and in international civil aviation (or in international civil aviation administration and management)

- proficiency in Spanish and English, written and spoken, would be desirable

- broad knowledge of air navigation and safety oversight services

- demonstrate qualifications and the highest degree of efficiency, professional competence, and integrity to carry out duties

- ability to hold personal interviews

- initiative, mature judgment, and tact to maintain harmonious relationships at work and with civil aviation administrations

Tenure of position:

The Executive Director will stay in office for … (could be a minimum of 4 or 5) years and can be re-elected for the position.

In case of absence, incapacity, resignation or dismissal, the director (or manager) in charge of.... (determine the office or unit that will replace him/her) will temporarily and transitorily perform the functions of the Executive Director,

Functions:

The Executive Director will have the following functions:

- Represent the RMO, even in and out of court

- Sign all the documents necessary for the regular (or normal) management and operation of the RMO, within its scope of competence

- Manage, enforce, and monitor the implementation of the systems under the responsibility of the RMO

- Report regularly to the Governing body on the operation of the systems under the responsibility of the RMO

- Forecast rates and fees to be collected by the RMO

- Adopt the necessary measures to ensure the collection of rates

- Prepare the draft annual budget before (specify date) of the year immediately prior to its application, submit it to, and advise the Governing body on the issue.

- Forecast (or propose draft) bylaws and internal Regulations and their possible modifications, at the request of the Governing body

- Act or perform as Secretary to the Governing body.

- Propose to the Governing body the designation of operational, technical, and administrative Directors (or Managers); and the hiring of external audits (or for the last part: authorise the performance of external audits, prior approval by the Govening body).

- Set the policy for the personnel to be hired, in terms of number and qualifications.

- Hire, penalise, and dismiss the technical, operational and administrative personnel required by the RMO, except Directors (or Managers) and internal auditors. They shall be citizens of a Contracting State

- Hire liability insurances to cover the risks derived from the operation of facilities, and *vis-à-vis* third parties, with companies considered to be appropriate

- Submit the reports required by the Governing body as soon as possible

- Perform any other task entrusted to it by the Governing body.

Article 10 – Offices

RMO will have the following technical, operational, and administrative offices: .....

The Organisation could have one Station Office (or Agency) (or give it a different name) in the territory of the Contracting parties, in keeping with the characteristics set forth in the respective Regulations.

IV.- Final provisions

Article 11 – Audits

The RMO will be subject to the following audits:

a) internal audit, which comprises:

- administrative and financial aspects, in order to review the accounts, regularity and good financial management of income and expenditures of the RMO

- technical and operational aspects, in order to perform quality control and ensure an effective provision of safety-related services

b) annual external audit, to be performed by someone proposed by the Executive Director and approved by the Governing body

c) security and safety audits, as foreseen by ICAO

Article 12 – Language

The official language of the RMO will be Spanish, notwithstanding the use of both Spanish and English in air navigation operations.

Article 13 – Publications

The RMO will publish manuals, guidelines, circular letters, bulletins, directives, and all other documentation it may deem necessary and convenient for its operation.

Article 14 – Dispute resolution

The conflicts or disputes arising among the Contracting Parties in connection with the interpretation or enforcement of this constituent agreement, and the statutory and regulatory norms, will be submitted to the Governing body for their resolution. The participating States undertake to accept the final decision of the Governing body. The Parties involved in the dispute may not vote.

Article 15 – Dissolution and settlement

In case of dissolution and settlement of the RMO, the following issues will also be resolved:

a) continued provision of CNS/ATM and safety oversight services;

b) situation of the Contracting Parties;

c) situation of RMO officials, agents, and personnel;

d) the distribution and assignment of the functions, rights, obligations, and equity of the RMO to a new Organisation or to the Contracting Parties, including financial compensation to Contracting States, including financial compensation to member States in proportion to their contributions.

Article 16 – Entry into force

These bylaws will become effective on (or … days) after its approval by the Governing Body.

V.- Transitory provisions

If any.

This section could deal with:

1) the drafting and approval of the various internal regulations within a given period of time, as of the approval of this Bylaw

2) initial budget and effectiveness

PROPOSAL OF POSSIBLE OBJECTIVES OF THE REGIONAL TECHNICAL COOPERATION PROJECT THAT COULD SUPPORT THE IMPLEMENTATION OF AN RMO

1. Establish the necessary studies for the implementation of an RMO as an international organisation responsible with managing multinational facilities and, if possible, providing air navigation services in the long term.

2. Within the scope of the new regional project, establish and conduct the necessary studies for the consolidation of already implemented multinational facilities as part of the RMO.

3. Within the scope of the new project, and in coordination with other technical cooperation projects, establish the necessary studies for the implementation of new systems, such as ATFM and others.

4. Throughout the life of the new project, manage the implementation of the RMO, developing and implementing plans for the transition period to an international/multinational body, and analysing all the technical, operational, administrative, institutional, legal, financial, and economic aspects related to the implementation of the RMO.

5. For the personnel of the RMO and the States/Territories/International Organisations that participate in it, develop plans concerning human resources and training in all the areas required, and begin their implementation as necessary.

6. Throughout the life of the project, implement, as necessary, new multinational systems/facilities to achieve ATM improvements based on performance objectives, attainable benefits and business case study results.

7. Conduct a business case analysis to be submitted to the civil aviation authorities, showing the advantages/disadvantages of implementing an RMO.

IMPLEMENTATION OF A COST RECOVERY ARRANGEMENT FOR THE RMA: A STEP-BY-STEP PROCEDURE

Based on ICAO guidelines for the establishment of a multinational air navigation facility, the implementation of an RMA and the corresponding cost recovery arrangement could include the following steps:

a) define, at a PIRG meeting, the RVSM monitoring function as an ICAO multinational air navigation facility, in keeping with the guidelines for the establishment and provision of ICAO multinational air navigation facilities, contained in the corresponding regional air navigation plan;

b) adopt a cost sharing arrangement based, for instance, on the distance flown or the number of flights within the airspace under the responsibility of each of the respective States, understanding that the distance flown may offer more precision, while the number of flights is easier to manage;

c) find and designate a State or existing organisation or agency to establish and operate the RMA (responsible party: PIRG);

d) draft and establish an administrative agreement to regulate the establishment and operation of the RMA, including the cost sharing arrangement and the procedures for the collection of contributions from the participating States (the PIRG, supported by the ICAO Regional Office);

e) sign the administrative agreement (the DGCA or other authorized person in the participating States);

f) establish and operate the RMA as an ICAO multinational air navigation facility, in keeping with the administrative agreement (the assigned operator);

g) recover the contributions for funding the RMA, by adding to the cost base of route charges, and transfer the amounts to the RMA operator (each State).

NO.	ACTION ITEM	PROPOSED ACTION(S)	ACTION OFFICE	COMPLETION TIMELINE	CONSTRAINTS	IMPLEMENTATION DATE(S)
1.	**Formation of Regional Committee(s)**	1. Obtain ICAO agreement for involvement in setting up & assisting in the formation of a Regional Committee for AVSEC equipment negotiation and acquisition. 2. Promulgate HBS system research and proposal for Regional negotiation and acquisition of AVSEC screening equipment. 3. Letter to ICAO registered State Authorities responsible for AVSEC in the CAR/SAM/NAM Regions requesting formal acceptance of the Regional proposal by a set date. 4. Identify and decide on a central location(s) to hold meeting(s) of the interested States, to select persons to sit on the committee (Committee to comprise of or have available: AVSEC specialists, certified screening equipment technicians, an int'l aviation lawyer, a financial expert/negotiator, consultant versed in HBS screening systems & airport design). 5. Committee should request manufacturers to include the Regional Committee when advising States and companies of screening equipment upgrades or modifications. 6. Consider a sub-committee to assist States that lack technical expertise to determine their needed HBS screening system based on the accepted standard of peak passenger bag throughput plus 30. 7. (a) Recommendations of the sub-committee goes directly to the Regional Committee who forwards the proposal to the State's Authority that is responsible for aviation security, with a copy to the relevant airport operator(s). (b) This proposal includes all financial and operational details for State's to make informed decisions.				

NO.	ACTION ITEM	PROPOSED ACTION(S)	ACTION OFFICE	COMPLETION TIMELINE	CONSTRAINTS	IMPLEMENTATION DATE(S)
2.	**Screening Equipment Manufacturers**	1. Establish a list with contact information of screening equipment manufacturers for each type of equipment: conventional X-ray, ATX, EDS, ETD, WTMD, HHMD. 2. Establish list of conveyor providers, contact information and cost for each. 3. Obtain maintenance costs for procurement, depreciation costs, lifespan of the equipment till withdrawn from service. 4. Obtain equipment upgrade capability information and how purchasers are alerted, including costs. 5. In negotiations, factor in the need for equipment redundancy to ensure standards are maintained at all times. 6. New equipment technology and proposed timelines for obtaining State certification should be obtained. **Note**: Factor in equipment weight and size and the possible need to have airport expansion plans to facilitate the HBS system.				
3.	**Security Equipment Maintenance**	1. Establish a model maintenance training programme. 2. Establish a model equipment maintenance programme. 3. Establish a model preventive maintenance programme to minimize equipment failure. 4. Establish a model sub-contractors contract detailing requirements for airport operators that don't have personnel for in-house maintenance. 5. Establish a model equipment service record keeping form(s). 6. Establish a "parts inventory" of replacement equipment model ***Note***: A Regional data base should be established to track equipment parts with a high replacement need, manufacturer's timeline for order and delivery of replacements.				

NO.	ACTION ITEM	PROPOSED ACTION(S)	ACTION OFFICE	COMPLETION TIMELINE	CONSTRAINTS	IMPLEMENTATION DATE(S)
4.	**Screening Equipment Operational Test Pieces**	1. Identify the type of Operational Test Pieces (OTP) that are available from each manufacturer. 2. Obtain manufacturers manual on how the equipment is to be used. 3. Obtain cost of purchasing additional OTP or combined test piece equipment. 4. Consider drafting guidance or standards that States, without technical expertise can use to establish and meet calibration, testing and increase threat level standards.				
5.	**Security Equipment Training**	1. Determine ideal number of staff needed for the implementation of various HBS screening systems for small/medium/large airports: That is: (a) fully automated HBS system; (b) automated system linked with airport CCTV systems; (c) manual system 2. Show the pros and cons for staffing each system. 3. Show the Committee recommendation(s) for type of system and staffing. 4. Show training times for each equipment, who provides the training, who approves the training, etc. 5. Consider developing or having ICAO develop a model equipment training programme.				
6.	**Airports (small/medium/ large) with HBS Systems**	1. Establish a list of airports meeting the IATA categorization for small/medium/large that recently implemented a HBS screening system. 2. Establish contact persons, etc. with these airports and determine the pros and cons of each equipment type in the operational environment. 3. Determine the equipment training syllabi and times that is given by each manufacturer. 4. Query any negotiated omissions that could have been helpful to the airport. 5. Query airport expansion needs based on the type(s) of equipment being installed. 6. Query electrical voltage needs & impact for contingency planning.				

ANALYSIS OF THE ACTION PLAN PROPOSAL FOR REGIONAL AVSEC EQUIPMENT NEGOTIATION, ACQUISITION, PARTS, MAINTENANCE, TRAINING

The Ad Hoc Group for Hold Baggage Screening was chaired by ACSA (COCESNA), and supported by Argentina, Canada, Colombia, Jamaica, Peru and IATA. The Group validated six action items on the proposed action plan which contained 1) Formation of Regional Committee, 2) Security Equipment Manufactures, 3) Security Equipment Maintenance, 4) Screening Equipment Operational Test Pieces, 5) Security Equipment Training and 6) Airports with HBS Systems (small, medium and large operations).

Item 1) Committee

The Group suggested that the LACAC Working Group together with AVSEC/COMM jointly prepare the HBS Report and Chile volunteered to coordinate matters between the both groups. The Group agreed that the States should be provided with information on the Group of Experts on Aviation Safety, Security and Assistance (GEASA) www.itho-gespaa.org/es/plantilla.htm, to facilitate information on equipment, acquisition of equipment and funding.

Item 2) Manufacturers, 3) Maintenance, and 5) Training

The Group recommended that that the HBS Task Force provide a list of HBS manufacturers to States, include parameters on the maintenance contract in the NCASP, States accept the state of manufacture certification or provide their own certification to be incorporated into the NCASP.

Item 4) Test Pieces

The Group noted that LACAC Group had an established group to purchase equipment which include test pieces from the manufacturers.

Item 6) Airport Categories

The Group recommended that the States use IATA's matrix for Category A, B and C which using the "Peak Baggage through Put Plus 30" concept.

HBS SYSTEMS

1.1 Conventional x-ray equipment

1.1.1 More recently X-ray equipment has increased imaging and detection capabilities and is now used more widely. Hold baggage X-ray equipment is a fast and convenient way of seeing inside without the need to unpack or damage items, as well as, unnecessarily aggravating the already anxious traveller.

1.1.2 The equipment can be bought with various tunnel sizes depending on the types of X-ray screening to be conducted, such as, passenger carry-on baggage, hold baggage and air cargo. This flexible capability allows most objects to be passed through the equipment and produce an X-ray image.

1.1.3 In all modern equipment, independent of size, the image is built up using the linescan principle. As the baggage passes through the tunnel of the X-ray system, the conveyor moves at a constant speed and as each portion of the bag passes through the X-ray beam its image is taken and stored. The image is built up and panned onto the display monitor.

1.1.4 Nearly all modern baggage X-ray equipment has the capability to display material types in different colours. Typically, some explosives, drugs, etc. are displayed in orange; metals such as steel and copper are displayed in blue; and a mixture of organic and metallic, as well as, aluminium and glass are displayed in green. Some items like thick metal absorb a lot of the X-rays and appear black on the image. The indication of the material type helps the system operator decide if certain objects present a threat or could be potential contraband.

1.1.5 Nearly all baggage X-ray equipment and explosive detection systems have several built-in image enhancement features that help the operator to examine the image more effectively. These features allow the operator to modify the contrast of the image allowing it to be tuned for viewing light or dark regions; edge enhancements can be used to define things like wires; and it is possible to view just the organic content or non-organic content. Individual manufacturers will have a range of such features available and more. These can be specified and set on the equipment control console depending on the equipment's intended use.

1.1.6 As with any X-ray system, detection depends on the operator's ability to recognize the components of a bomb, therefore, operators must be given suitable training.

1.2 Advanced Technology Systems

1.2.1 Advancements in X-ray screening technology is steadily improving so that conventional X-rays have been superseded by Advanced Technology (AT) X-ray systems. AT X-ray systems process bags at a high rate and make explosive detection decisions by the addition of Computed tomography of the X-ray (CTX) image. Some AT systems use multiple transmission views and dual energy to help with the explosive detection decisions.

1.2.2 AT is usually placed at Level 1 of an in-line hold baggage screening system which is completely automated. The "Bags per hour (Bags/h) throughput" ranges from a high of 1,800 bags/h to a low of 1,500 bags/h. Manual feed of the bags for X-ray screening, if used as a stand-alone in an airport lobby or basement is drastically reduced to approximately, 160 bags/h. The stand-alone equipment or manual system is labour intensive, slow, and prone to contributing to personnel injuries from their having to lift heavy bags.

1.2.3 This type of equipment cost can run from a high of US$800,000 to 900,000 – 1800 bags/h with multi-view/dual energy, or a low of US$400,000 – 160 bags/h, manual operation. An AT system with dual energy alone can cost between US$350,000 – 1500 bags/h to a low of US$250,000 – 1800 bags/h.

1.3 Explosive Detection Systems (EDS)

1.3.1 Some types of baggage X-ray equipment are known as explosive detection systems (EDS). This category of system can discriminate, to a degree, between explosives and other materials and indicate this visually, by a number of means, to the operator. These systems, when used in the airport in-line hold baggage screening system, are operated in the "automatic mode" where a detection of an explosive-like material in a bag will activate a diverter and allow the image to be examined by an operator.

1.3.2 These systems are extremely heavy, and costly starting from a high of US$1.5 million with a 600 bag/h throughput to a low of US$1 million with a 300/350 bags/h throughput, dependent on the manufacturer. These machines weigh approximately 10,000 pounds and large, measuring on average 24' x 6' x 6'. The advantage of using an EDS over Explosive Trace Detection (ETD) machine is that the threat detection is automated and their throughput rate is much higher. The EDS, however, produces higher false alarms and operators must resolve those alarms by either using on-screen alarm resolution or by using ETD.

1.3.3 Thus far, there is one manufacturer that has recently produced and obtained TSA certification for an EDS which is smaller, light weight, less expensive and uses dual energy and computed tomography. This recently produced EDS costs between US$300,000-400,000 with a 100 bag/h throughput. Additional advantages of this EDS includes the ability to be used in an automated system as well as a stand-alone unit, needs no airport structural strengthening of floors and runs on single phase power.

1.4 Trace Detection

1.4.1 Trace Detection equipment is capable of detecting explosives and drugs from the vapours they give off or the particulate traces spread when they are handled. As some explosives and drugs are more volatile than others, vapour detection is more appropriate to some materials while trace detection is more appropriate for others. Plastic explosives, for example, are best detected sampling particulate traces.

1.4.2 It is important to note that vapour detecting equipment relies on the presence of explosive vapour and is not capable of detecting explosives which do not vaporize, or if the vapour is contained.

1.4.3 There are three main components in the process when using a vapour and trace detector, which includes: the sampling through vapour gathering or searching for particulate traces by wiping surfaces with a small piece of paper or cloth; an analytical system; and the data processing system which is carried out automatically by computer software which allows an alarm to be generated and the type of drug of explosive to be indicated.

1.4.4 False alarms can occur from a non-target substance, however, it must be noted that the effect of raising the detection threshold is to reduce sensitivity, decreasing both false alarms and detection performance.

1.4.5 Whichever analysis technique is selected, it needs to be able to cope with the dirt and debris that is collected along with any explosive or drugs traces. It needs to be sensitive enough to detect very small quantities of any explosive or drug that are available in many operational scenarios.

1.4.6 Generally, drugs and explosives are too different to allow the same instrument to detect them at the same time. It was be noted, however, that ion mobility spectroscopy-based instruments can often be fairly easily switched from explosives detection to drugs detection.

1.4.7 Several companies offer trace detection equipment that are capable of narcotic and explosive detection. They range in cost from as high as US$60,000 to as low as US$29,000 and all have a 30-60 bag/h throughput.

1.5 Equipment Maintenance

1.5.1 The correct maintenance of explosive detection equipment is essential if the equipment is to continue to provide the ultimate detection capabilities it is designed for. Maintenance will keep the operational integrity of equipment and ensure a constant performance level.

1.5.2 A strict maintenance management programme should be implemented and adhered to. The programme should include the preventive maintenance schedule to minimize equipment failure through periodic and systematic equipment inspections. Corrective maintenance should also be conducted to repair or remedy any failure, incident or accident that has adversely affected the functioning of the equipment.

1.5.3 Technicians trained and equipped by the manufacturer of the equipment are to be used to conduct maintenance in keeping with the manufacturer's instructions and guidance. Ideally, a maintenance training programme should be included in the sales contract for the equipment, with its content and duration forming part of the initial contract specifications. Where an airport does not have personnel or material resources to organize in-house equipment maintenance, use should be made of a sub-contractor bound by a maintenance contract which includes: a warranty period for the equipment, components, repair work and parts; a minimum response time between the time of the call and the arrival of trained technicians on site; a maximum permissible equipment down time; a preventive maintenance inspection programme (nature and description of associated warranties); identification of the subcontractor's suitably trained and accredited maintenance personnel; and equipment manufacturer's certification issued to the subcontractor and associated warranties.

1.5.4 Equipment service records need to be maintained in keeping with international practices and local laws. A parts inventory of replacement equipment is also required as this will effectively reduce the equipment down time.

1.5.5 Equipment maintenance costs must be factored into the procurement of security equipment systems. The manufacturer and other users of the equipment should be contacted regarding the level of investment needed to ensure the equipment remains serviceable and operationally effective. Provision should be made for the depreciation costs with the expected lifespan of the equipment until it is withdrawn from service or becomes technologically obsolete.

1.5.6 With the rapid growth in technology, security equipment manufacturers usually advise operators and the State's civil aviation authority about modifications or improvements that they have made to their equipment.

1.6 Research & New Development

1.6.1 Manufacturers and States that certify security screening equipment for hold baggage are constantly working to improve the equipment capabilities. Through the United States Transportation Security Administration (TSA) research and development, a software upgrade that enhances the capability of one manufacturer's EDS received certification in 2005. The upgrade provides improved detection, increased throughput capacity, improved reliability and reduced false alarm rates. As mentioned before, another manufacturer has received TSA certification for a lighter, and smaller EDS machine.

1.6.2 In looking ahead, both the United States and Canada are conducting research for improving technology in security-related areas. In the area of screening equipment, upgrades to provide improved detection, increased baggage through put capacity, improved reliability and reduce false alarm rates are presently being achieved.

1.6.3 Emerging and revolutionary new technologies for the "New Generation" equipment are been encouraged and industry and academia are being challenged to apply innovation in the development of new screening systems. This is a long-term project that would not be deployable in the immediate future.

1.7 Draft Conclusions

1.7.1 A Regional approach to hold baggage screening equipment acquisition is proposed. This can be achieved through the umbrella of the International Civil Aviation Organization (ICAO) to which our States are contracted members. Through the ICAO Technical Cooperation Bureau, screening equipment can be purchased at reduced costs because of the organizations link with the United Nations. It is perceived that with ICAO assistance this facility can be further extended to the Regional acquisition of security screening equipment. If at all possible, this should mean an additional reduction in equipment acquisition costs.

1.7.2 To achieve this end, consideration should be given to establishing Regional Aviation Security Screening Equipment Acquisition Committees in the respective Regions. These Committees should be comprised of, or have available to the committee, AVSEC specialists, certified screening equipment technicians, an international aviation lawyer, a financial expert, and possibly a consultant who is versed in all aspects of hold baggage screening systems and airport design.

1.7.3 A negotiating strategy, central, easily accessible location for meetings and establishment of equipment supplier's Regional office for ease of obtaining replacement parts or gaining service assistance should also be considered.

1.7.4 A sub-committee could possibly be formed to assist States that lack equipment expertise in determining their equipment needs. They could also formulate the proposals that would go from the official Acquisition Committee to the authority responsible to ICAO for civil aviation in the State.

1.8 The most critical aviation security issues facing States today is the quickly approaching deadline for 100% percent hold baggage screening, which is to be implemented by January 1st 2006. The requirement is a result of Amendment 10 to Annex 17 and the expectation is to meet this requirement by employing realistic, reliable mechanisms for screening every bag that is loaded onto an originating international passenger flight.

1.8.1 The challenge is to ensure that the most effective means of baggage screening is used to protect the traveling public. States should be encouraged to consider the probability of detection when evaluating the various means available to achieve 100% hold baggage screening.

1.8.2 Besides that, States from South America and the Caribbean face serious budget constraints that lead them to search for a solution to achieve 100% hold baggage screening that fits with their particular problems. In order to help States choose the best technology available to be implemented, the discussion below presents an overview of each way or technique to best perform this task.

1.9 Hold Baggage Screening Techniques

1.9.1 The screening of hold baggage is a challenging process requiring a high commitment of manpower and resources to detect a small quantity of explosives that may be well concealed among the millions of hold bags that are flown daily.

1.9.2 As defined in Annex 17, the screening process means the use of "technical or other means" to detect prohibited items in hold baggage. This definition is very broad and allows different interpretations. Different types of equipment and methods, such as, Conventional X-ray, canines, Advanced Technology (AT) X-ray, Explosive Detection Systems (EDS), Explosive Trace Detection (ETD), physical searches which depend on high manpower usage, and Computer Tomography (CT) meet the requirements.

1.9.3. As mentioned before, even with the severe financial limitations of the Regions, it is strongly recommended that the adopted solution can provide the warrantee with its effectiveness. Below is an overview of the various technical options available to States with a discussion of their respective strengths and weaknesses. Attachments 1, 2 and 3 show some equipment used in screening, carry-on baggage, hold baggage and people, respectively, and their characteristics.

1.10 Conventional and Dual Energy (Colour) X-ray Equipment

1.10.1 The use of Conventional X-ray equipment to screen hold baggage continues and is much improved from its development in the 1970s. Dual-energy X-ray models use dual levels of X-Ray energy to distinguish organic materials (low atomic number) that may be explosives from inorganic materials (higher atomic numbers and display each in a different colour. Thick objects that are not fully penetrated are identified to the screener in third colour (typically black). The specific colours used can vary between equipment manufacturers. Some X-rays add Computed tomography (CT) which provides maximum sensitivity and accuracy for material detection and identification. CT can be used to specifically identify explosives and discriminate them from most other innocuous materials. CT images also have improved density resolution compared to Conventional X-ray images. The disadvantages of present CT system designs are their complexity, very high cost, higher package X-ray dose (current models are not film safe) compared to Conventional X-ray and slower operation.

1.10.2 Although advances in technology make it easier to separate metallic clutter from the subtler image of a bomb, the limitations of Conventional X-ray technology remains significant and its use as the main tool to protect civil aviation is limited.

1.10.3 Unlike weapons, bombs have no pre-determined shape. The challenge facing regulators is that the hold baggage screening process is dependent on the training, motivation, perception, and vigilance of the screeners. Performance of the screening system is difficult to measure, and unannounced, random testing often reveals that the system does not attain a level of effectiveness needed to detect explosives. The use of this option as a stand-alone system is not recommended.

1.11 Explosive Trace Detection (ETD)

1.11.1 In the late 1990s, Canada, the United Kingdom, and the United States conducted tests on the expected contamination levels when a careful terrorist builds a bomb, conceals it in an object designed to evade visual inspection, and places the object in a hold bag.

1.11.2 Based on lessons learned from these tests and situations in which explosive trace detection is used for primary screening, the United States devised a strategy that requires a certain portion (percentage) of bags to be inspected on the exterior only; another portion (percentage) of bags to be inspected on both the exterior and interior; and, another portion requiring a complete screening of all objects large enough to conceal a bomb. High labour costs and slow processing times of explosive trace detection equipment limit this mixed strategy.

1.11.3 The challenge is not the speed of the equipment, which provides detection and the identification of the explosive in ten seconds, but rather in bag handling and sample acquisition by the screener. Experts have found that if the sampling process is not done systematically, detections will be missed.

1.11.4 The major trace detection technology involves detection by the technology Ion Mobility Spectrometry (IMS). The collection and analysis of minute, invisible amounts of organic material, called traces, that are microscopic amounts left through contamination or direct contact with explosives. A sample of interest is heated and vaporized; positive and negative ions are formed. Ions of the corresponding polarity are allowed to move into the drift region. The various ions travel at different, but characteristic, speeds according to the ions weight and size. The time required for ions to drift down the tube is precisely known and pre-programmed. So, target substances are detected and identified.

1.11.5 One example of the explosive trace detection using IMS is the Itemiser 3, from General Electric (GE), with a switching system that delivers simultaneous positive and negative ion detection from a single sample for the most comprehensive explosives and narcotics detection available. It achieves this through a proprietary ion “trap” that increases ionisation efficiency, the main factor determining detection sensitivity.

1.11.6 Traditional IMS instruments operate, in general, in either positive or negative mode, but not both modes simultaneously. While negative mode operation detects the majority of explosives, peroxide explosives (TATP) are among the substances more readily detected in positive mode. Therefore to rule out the presence an expanded list of target explosives, conventional IMS detectors require operators to sample and test in one mode, then switch modes and resample and test again.

1.11.7 Another example of ITMS is the VaporTracer2, from GE, where vapours are drawn through a nozzle directly into the detector for analysis or by a detachable vacuum sample wand draws vapours into a sponge-like sample trap, which is then inserted into the equipment for analysis. (RDX and PETN have very low vapour, and are hard to detect with this equipment).

1.11.8 ETD technology should be considered as a complementary tool and its use may be recommended as a second or third technical means to increase the effectiveness of the hold baggage screening process.

1.11.9 The table below shows some available equipment:

Table 1 - Trace Detection Equipment

Model	*Company*	*Technology*	*Detection*	*Estimated Bags/h*	*Estimated Price US$ x 1,000*
Itemiser3	GE	Ion Trap Mobility Spectrometer (ITMS)	Narcotics and Explosives	30-60	45
VaporTracer2	GE	Ion Trap Mobility Spectrometer (ITMS)	Narcotics and Explosives	30-60	29
Ionscan 400B	Smith Detection	Ion Trap Mobility Spectrometer (ITMS)	Narcotics and Explosives	30-60	50
Ionscan 500DT	Smith Detection	Ion Trap Mobility Spectrometer (ITMS)	Narcotics and Explosives	30-60	60
Defender	Thermo Electron	High Speed Gas Chromatography with Differential IMS	Narcotics and Explosives	30-60	60

1.11.10 **Advanced Technology (AT) Systems**

1.11.10.1 Equipment manufacturers have developed Advanced Technology (AT) X-ray systems that process bags at a high rate and make explosive detection decisions by the addition of Computer Tomography of the X-Ray (CTX) image. Several equipment manufacturers have attempted to achieve automated detection with AT.

1.11.10.2 Note that the term Advanced Technology as used in this paper does not infer that the equipment has been purchased or approved by any state and in particular, should not be confused with same term when used to describe equipment purchased several years ago by the US Federal Aviation Administration for use at US airports.

1.11.10.3 Some of the AT systems employ multiple transmission views and dual energy to help with the explosive detection decisions. Several States have deployed these AT systems as the first level of hold baggage screening followed by on-screen alarm resolution and certified EDS Computed Tomography-based technology.

1.11.10.4 The United States has repeatedly tested this technology and determined that it does not meet the U.S. detection standards for all threat explosive categories. The vulnerability created by undetected critical threats leaves an exploitable gap in explosive detection. A system relying on AT as the first stage contains this vulnerability.

1.11.10.5 Generally, X-ray devices operate by passing X-rays through screened items and projecting an image of the contents being examined on a monitor. Potentially explosive materials are identified by their density, average atomic number, and appearance. The detection capabilities of these devices vary in terms of how the X-ray systems function - for example, by providing cross-sectional images or by using “reflected” energies know as backscatter. The devices also vary in terms of whether the presence of potential explosives is signalled by an automatic alarm or is manually identified by an operator.

1.11.10.6 The use of Advance Technology X-ray as the main resource in the screening process should be considered. The use of AT equipment in conjunction with an ETD, for "small" and "medium" airports, can be a good option that meets Annex 17 requirements. Besides that, airports categorized as "large", with their high volume of passenger/baggage traffic can use AT X-ray at Level 1of the five levels of hold baggage screening.

Table 2 - Advanced Technology Systems

Model	*Company*	*Technology*	*Detection*	*Bags/h*	*Estimated Price (US$ x 1,000)*
MVT	L-3	Multi-View (3) Dual energy	Explosives	1,800	800-900
Vivid VIS 108	L-3	Dual energy	Explosives	1,800	250
10080EDS	Smith Detection	Dual energy	Explosives	1,500	300-350
EdtS (Fixed CT – 5 Views)	Smith Detection	Multi-View (5) Dual energy	Explosives	1,800	800-900
10080 EDS-2is	Smith Detection	Multi-View (2) Dual energy	Explosives	1,500	500-600
XRD1000	Rapiscan	Multi-View (2) Dual energy	Explosives	Manual 160	400
MVXR5000	Rapiscan	Multi-View (5) Dual energy	Explosives	1,800	700-800

*Note: Bags per hour (b/hr) is the manufacturers stated maximum when the bags are inserted at an optimal (automatic) rate. Optimal b/hr throughputs depend upon the feed mechanism. (i.e. The AT is integrated into an in-line baggage handling system) The b/hr throughput for bags that are manually fed into AT machine is less than one half of the figures cited.

1.11.11 Explosive Detection Systems (EDS)

1.11.11.1 Several States have adopted Computed Tomography (CT) based automated EDS as the primary method of screening hold baggage. EDS provides a high level of detection across the total threat base coupled with an operationally manageable false alarm rate.

1.11.11.2 The machines are heavy, large, expensive, and generally can be integrated into the baggage handling system to operate most efficiently. Regardless, the deployed systems have been operating reliably and do provide the highest level of protection to the travellers.

1.11.11.3 Some States include certified EDS technology within their baggage screening systems to resolve un-cleared alarms from AT and screener on screen alarm resolution. The problem with this approach is that the level one technology may have any number of missed detections, which could proceed to the aircraft. This must be a risk-based decision made by States recognizing no system has 100% detection.

1.11.11.4 Several States are conducting research and testing to identify more effective and efficient approaches to screening hold baggage and to expand the list of threats addressed. They are exploring combinations of innovative and new technologies.

1.11.11.5 The use of most EDS technology as stand-alone screening equipment in the airport lobby has great financial and operational implications due to the low number of bags that it is possible to screen per hour. This leads to the necessity to have a significant number of EDS units in the airport, which can be extremely expensive and reduce lobby space. The best use of EDS technology is as a supplementary tool, mainly for airports with a high volume of traffic, as a part of a complex and expensive five-level HBS screening system.

1.11.11.6 For medium airports, the new lighter and less costly EDS equipment should be considered as a viable option.

Table 3 - Explosive Detection Systems (Currently US FAA/TSA Certified)

Model	*Company*	*Technology*	*Detection*	*Estimated Bags/h*	*Estimated Price US$ x 1,000*
Examiner 3Dx6500 and 3Dx6000	L-3	CT	Explosives	Up to 600	1,100-1,300
CTX9000 DSI	GE	CT	Explosives	542	1,400
CTX5500 DS	GE	CT	Explosives	-	1,000
CTX2500	GE	CT	Explosives	Manual	Greater than 700
Yxlon 3000	GE	Coherent X-ray Scatter	Explosives	60-80	Greater than 1,500
Yxlon 3500	GE	Coherent X-ray Scatter	Explosives	60-80	Greater than 1,500
Exact 6400	Analogic	Dual Energy CT	Explosives	600	Greater Than 1,000
CT-80	Reveal	Dual Energy CT	Explosives	100	300-400

*Note: Bags per hour (b/hr) is the manufacturers stated maximum when the bags are inserted at an optimal (automatic) rate. Optimal b/hr throughputs depend upon the feed mechanism. (i.e. The EDS is integrated into an in-line baggage handling system) The b/hr throughput for bags that are manually fed into EDS machine is less than one half of the figures cited.

1.11.12 **Research Development**

1.11.12.1 The hold baggage screening equipment technologies already presented are undergoing improvements to provide improved detection, increased throughput capacity, improved reliability and reduced false alarm rates. Other technology being developed by some countries, such as Argentina and Russia, is based on Quadrupole Resonance Analysis (QRA).

1.11.12.2 QRA is a technique related to magnetic resonance imaging (MRI) used in hospitals. QRA, unlike MRI, uses low intensity tuned radio frequency pulses to probe for the molecular structure of the target materials. Although QRA is a precise technique, it is limited to detecting a small range of explosives and does not produce an image, so it must be used in conjunction with Conventional X-ray imaging systems or manual/physical search. The advantage of QRA is that the configuration of the explosive, whether in bulk, sheet, distributed, etc. is irrelevant to detection and there is no performance degradation when detecting thin explosives. The primary disadvantage of the QRA method is the inability to detect materials enclosed in a metal container or foil. Iron or large amounts of non-ferrous metals in a package cause field distortion and reduce effectiveness.

1.11.13 Recommendation

1.11.13.1 At last, we recommend that the group should consider for discussion the following proposal:

As described during the paper, many issues should be considered in making a decision regarding the type of HBS screening system that is required and justified for the individual airport. However, one of the most important aspects is related to the effectiveness of the option selected. Considering the Mexico presentation at the HBS Seminar, as a preliminary step we recommend the following options for an international airport with:

- (average of the top 30 annual peak-hour passengers) ≤ 250
  The use of a Conventional X-Ray, ETD and/or pre-established random physical search.
- (average of the top 30 annual peak-hour passengers) > 250
  The use of AT, CTS and ETD automated system and pre-established some random physical search; or
  - The use of CTX and ETD on an automated system and pre-established some random physical search.

1.11.13.2 Because of the challenge of screening 100% hold baggage, the actual choice of systems must be based on a detailed airport evaluation, to include: establishment of the peak baggage throughput plus 30, aircraft sizes, baggage characteristics, including possible seasonal variations, etc. which may modify the basic recommendations.

ATTACHMENT 1 – BAGGAGE CARRY-ON

Baggage Carry-on				
Trace				
Use/Technology	**Type**	**Company**	**Status/Applicability**	**Comments**
IMS	Desktop	GE, Smiths,	most deployed, mature technology	-
	Handheld	GE, Smiths,	less applicable	sensitivity and selectivity
GC	Desktop	Thermal Detection	COTS but limited deployment	-
MS	Desktop	Hitachi	COTS but emerging	-
Bulk Detection				
Use/Technology	**Type**	**Company**	**Status/Applicability**	**Comments**
X-Ray	B&W	Various	Not applicable	has no materials discrimination
-	Dual Energy	Smiths, L3, Rapiscan, Guilardoni	strong deployment	-
AT Dual Energy				
Use/Technology	**Type**	**Company**	**Status/Applicability**	**Comments**
-	single view	L3	size an issue, not normally deployed for this use	-

-	multi-view	L3, Smiths	size an issue, not normally deployed for this use	-
CT X-Ray	single energy	GE, L3	size an issue, not normally deployed for this use	-
-	dual energy	Analogic, L3, Reveal	size an issue, not normally deployed for this use	-
-	Non-rotating	Securescan	size an issue, not normally deployed for this use	-
QR	-	Rapiscan,GE, Argentina	emerging, limited pilot project deployment	some new models emerging coupled with dual energy X-ray for enhancing carry-on screening

ATTACHMENT 2 – HOLD BAGGAGE

Hold baggage				
Trace				
Use/Technology	**Type**	**Company**	**Status/Applicability**	**Comments**
IMS	Desktop	GE, Smiths,	deployed to enhance security value of dual energy and AT X-ray	Frequently used at level4/5 of multi-level systems to assist in resolution of uncleared bags
-	Handheld	GE, Smiths,	less applicable	sensitivity and selectivity
GC	Desktop	Thermal Detection	COTS but limited deployment	-
MS	Desktop	Hitachi	emerging but COTS	-
Bulk Detection				
Use/Technology	**Type**	**Company**	**Status/Applicability**	**Comments**
X-Ray	B&W	various	Not applicable	no materials discrimination
	Dual Energy	Smiths, L3, Rapiscan,Guilardoni …	some deployment for HBS but usually with some additional hand search and trace detection	on its own has limited explosives detection capability
AT Dual Energy				
Use/Technology	**Type**	**Company**	**Status/Applicability**	**Comments**
-	single view	L3, (Smiths?)	deployed quite widely	"older" technology
-	multi-view	L3, Smiths	newer, enhanced performance	

CT X-Ray	single energy	GE, L3		
-	dual energy	Analogic, L3, Reveal	newly COTS, being deployed	better image clarity, lower threat weight detection, better materials selectivity
-	Non-rotating	Securescan	under development	performance specs not known
QR	-	-	emerging, limited pilot project deployment	normally good for detection of RDX and PETN, other explosives can be very problematic. May not provide location data for alram resolution

ATTACHMENT 3 – PEOPLE SCREENING

People Screening			
Portals			
Type	**Company**	**Status/Applicability**	**Comments**
trace	GE, L3	emerging, pilot deployments	limited throughput, so normally selectee screening only, size an issue
X-Ray backscatter	AS&E, Secure 1000	emerging, pilot deployments	limited throughput, so normally selectee screening only, size an issue
millimeter wave	Safe View, Qinetiq	emerging, pilot deployments	limited throughput, so normally selectee screening only, size an issue
terra-herz	? (UK and US)	under development	-
Trace			
Type	**Company**	**Status/Applicability**	**Comments**
Document scanner	GE, Smiths,	COTS but emerging, pilot deployment	-
"hand, finger" scanner	GE	COTS but emerging, pilot deployment	-

2. Quality Control of Equipment

2.1 Factory acceptance/site acceptance Tests

2.1.1 Manufacturers of Hold Baggage Screening Equipment are required to have an objective assessment of their specifications and performance claims through the State of Manufacturer's testing and certification of each piece of equipment before they are offered on the market. The two State standards that are recognized and accepted are the United States Transportation Security Administration (TSA) and European Civil Aviation Committee (ECAC).

2.1.2 Once the screening equipment has been certified, the manufacturer should be asked to confirm in writing that the machine meets the requirements before purchase. Acceptance of the equipment by the purchaser should be dependent on the equipment meeting the requirements when installed.

2.1.3 Upon delivery of the equipment to a prospective purchaser, the manufacturer will conduct site tests. These include calibration of the equipment and testing of the screening equipment using a combined test piece (CTP) supplied by the manufacturer. The purchaser will decide how many "test pieces" they require and order these from the manufacturer. These test pieces are marked with the manufacturer's code and serial number.

2.1.4 Basic training of the purchaser's operators in calibration and testing of the screening equipment upon delivery is a part of the sales and delivery service of such equipment.

2.2 Performance Testing

2.2.1 Presently conventional x-ray equipment is still being used to support hold baggage and other AVSEC screening, supplemented by hand searches. With the rapid advancement in technology, the States and airport authorities have moved to using x-ray screening equipment which incorporates the best features of current technology, leaving scope for further development in their HBS planning designs.

2.2.2 Performance testing of screening equipment by State, airport and air operators is conducted with a CTP to determine whether the x-ray machine meets the standards established by the State of the Manufacturer and/or the State in their AVSEC Quality Assurance programme, in terms of image quality parameters.

2.2.3 During performance testing, both metallic and non-metallic objects are required to be detected

2.3 Routine Performance Tests

2.3.1 A combined test piece (CTP) has been designed for routine testing of x-ray equipment to ensure that performance requirements for x-ray equipment are met and maintained. Both hardware and software tests are required to be conducted daily and weekly, with records maintained by the operators.

2.3.2 The routine test procedure is not intended to be used on x-ray equipment that can detect the presence of explosive material or the components of an explosive device when the machine is used in the fully automatic mode. If the equipment, however, is used so that it requires an operator to make a

decision based on an image (indicative mode), this image must be to the same standard as a conventional x-ray machine.

2.4 Draft Conclusion

2.4.1 A Quality Control template for screening equipment testing should be developed to assist States.

2.4.2 The AVSEC/COMM should conduct a quality control workshop in conjunction with ICAO Member States in the NAM/CAR/SAM Regions.

2.5 QUALITY CONTROL

2.5.1 States should develop a Quality Control Programme as a key component in the successful application of civil aviation security measures to ensure that controls are continually applied in a manner that provides effective and sustainable security.

2.5.2 States should ensure that formal written procedures, legislation and regulations are contained in such a programme valid for a period of time determined by the State, after which the State or Operator has to provide the necessary refresher training and recertification of personnel.

2.5.3 Objective

2.5.3.1 States should ensure the effective implementation and administration of aviation security measures. The effectiveness of such a programme should be measured by conducting tests, surveys, audits and inspections.

2.5.4 Recruitment

2.5.4.1 It is necessary to ascertain that the recruit is a suitable character and has sufficient integrity to carry out aviation security duties.

2.5.4.2 Background checks:

- Education
- Previous employer
- Community
- Training
- Criminal Record
- Physical and Mental Fitness

2.5.5 Training

- Initial training/OJT
- Computer-based training
- Manufacturers training
- Assessment
- Certification – equipment/personnel
- Refresher training
- Re-certification

2.5.6 Security Inspection and Audits for Effectiveness of HBS System

- Inspection
- Security Audits/Surveys
- Testing

2.5.7. Airport Design

- Planning criteria
- Airport Threat and Risk Assessment
- Layout of Facility
- Position of screening equipment
- Support operation – for threats
- Cargo & Mail handling facilities – monitoring 70% on passenger aircraft
- Power-supply (backup) & temperature

2.5.8 Detection Technologies and Equipment

- Health and Safety issues
- Type of explosives and detection sensitivity – privacy issues
- Procurement Consultation
- X-ray detection equipment
- Other forms of detection (dogs) and their certification

2.5.9 Baggage Security

- Off airport check in
- Protection of screened baggage
- Passengers baggage reconciliation and authorization
    - Procedures to ensure that only accompanied baggage and unaccompanied baggage which have been subjected to the necessary controls are loaded onto the aircraft.

2.5.10 Human Factors

- Human Factors – ICAO Doc 9808
- Working Conditions

2.5.11. Conclusion

2.5.11.1 A Quality Control template should be developed to assist States.

2.5.11.2 The AVSEC/COMM should conduct a quality control workshop in conjunction with ICAO Member States in the NAM/CAR/SAM Regions.

3. Conveyor Systems

3.1 General Consideration

3.1.1 In designing the airport in-line system, look at the system that is needed, keeping it simple and including redundancy in the design to ensure that all bags are screened to the same standard, especially when there is equipment down-time.

3.1.2 Research suppliers of conveyor systems before selecting and check all references, as there are several companies available. Be aware that airport consultants might also be able to design a cost effective conveyor system based on the needs of the specific airport.

3.1.3 Ensure that flexibility is built into the system for Explosive Detection Systems (EDS) so that there is adequate spacing between bags. This is based on the average bag size and that provisions are made for over-size or long bags, such as golf bags.

3.1.4 The conveyor system must be able to integrate the different screening equipment used at the five levels of the in-line Hold Baggage Screening (HBS) system.

3.1.5 One person should be made responsible to resolve problems that arise with screening equipment and baggage handling in the HBS system.

3.2 CONVEYOR SYSTEMS - GENERAL CONSIDERATIONS

3.2.1 During the Regional ICAO CAR/SAM Hold Baggage Screening Seminar conducted in Monterey, Mexico from November 28-30, 2005 presentations were given by companies that provide conveyor systems that are currently in use at airports around the world as a part of the in-line hold baggage screening system.

3.2.2 Conveyor Companies

3.2.2.1 The conveyor companies that made presentations included Siemens Conveyor Systems and Glidepath, both providing international services of their conveyor systems. They can assist airports in planning and conceptualizing integration of screening equipment and implementation of hold baggage screening system.

3.2.3 Services

3.2.3.1 The companies offer a wide range of services including baggage management, from check-in to delivery, and connections of the bags. They will assist airports in new terminal development to minimize the impact of baggage screening on the overall airport operations. In the case of existing terminals that tend not to have enough space for the screening equipment and levels of screening required, they will assist the airport in coming up with the solutions to their problems.

3.2.3.2 The conveyor companies provide and stock spare parts for simple conveyors, to more complex systems, such as, carousels used for baggage delivery. High speed conveyor delivery is possible and provided at large airports where bags are moved from one terminal to another in less than 20 minutes so that bags can connect. One of the company's that presented indicated its capability to integrate the passenger and bags at all times through their baggage handling system.

3.2.3.3 Maintenance services are offered and ranges from specialists assistance, software, preventative maintenance and 24-hour emergency assistance. Maintenance response times are, however, dependent on the contract, and the type of maintenance – hardware or software. Conveyor systems are being enhanced with touch screen and graphics to assist the operator who is watching the baggage screening process. These companies have successfully merged the various baggage screening equipment that are used at the different levels during the in-line screening process; systems, such as, L-3, Smiths and G.E. In-vision. They are able to track the bags, in keeping with IATA requirements and provide multiplexing (*different layers of conveyor and tracking systems)*.

3.2.3.4 New products, such as a high speed diverter for bags to move from one lane to another along the in-line conveyor system has been introduced by one company. This replaces the use of the "pusher" which was used before and caused damage to a high number of bags. Damage resulted in dis-satisfaction to the traveler and replacement costs to the airport/airline operators involved.

3.2.4 Financing & Costs

3.2.4.1 The conveyor companies have the capability to offer its clients financing for all phases of the project.

3.2.4.2 It must be borne in mind that costs are dependent on several factors, such as, the size of the conveyor system, the passenger through put at the airport, the levels of screening, the mix of equipment being used to screen the bags, and the width of the conveyor.

3.2.4.3 When designing a system it is important to note that the IATA standard from check-in to delivery of the bags to the aircraft is 9 minutes. This time can increase from 10-15 minutes, depending on the layout of the baggage screening system.

3.2.5. Factors to Consider

3.2.5.1 When designing an integrated in-line hold baggage screening system, it is important to consider internationally accepted standards for baggage screening time, such as, those established by the Transportation Security Administration and European Civil Aviation Conference.

4. Best Practices by States – Research, Development & Training

4-1 Possible Locations for Hold Baggage Screening & Considerations During Airport Planning Stage

4.1.1 This paper was presented by IATA and attached to it was Section 5 "Possible Locations for Screening of Hold Baggage" and Section 6 "Planning HBS Facilities". These are extracts from the IATA Position Paper on 100% Hold Baggage Screening.

4.1.2 WP/10 and the comments by States and Consultants are attached to this part of the Report as **Appendices A** and **B** respectively.

4.2 Current Best Practices by States

4.2.1 This was a second paper which gave an overview of the "Best Practices" of States that were presented at the Seminar, and included information gleaned from Mexico and Chile. Transport Canada's research developments for improving air cargo and mail security, as well as, the performance based approach by IATA which includes the Security Management System (SEMS) were presented.

4.2.2 The lessons learnt by States like Mexico and Spain who had already installed in-line hold baggage systems were invaluable and will assist other States in not making the same mistakes. Some of these considerations included:

- the airport design and planning for the HBS system, must take in all the security considerations;
- equipment selection, climates with extreme cold/heat have to consider this as these temperatures affect equipment performance;
- integration of the various machines so that they all work as required;
- airport installation considerations to include: location, other systems, light, air conditioning for the equipment, fire, elements for down-line maintenance, re-enforcement of the structure to support the equipment;
- motors, etc, were not to be linked to other systems as these will prevent optimum performance of the equipment;
- baggage tray selection was important, they should be of plastic so the material does not set off alarms and the manufacturer has to validate the material of these trays;
- planning for placement of redundancy equipment; and
- preventive, scheduled maintenance should be scheduled for nights to prevent disruption to airport operations and passenger facilitation.

4.3 Research Developments

4.3.1 Air cargo transportation concerns were aired and the new technological research that was being conducted by Transport Canada was discussed. Cargo screening and technology for tracking cargo during its journey is a part of this development. The new research technology for mega Computer Tomography (CT) for cargo would not be ready until another five (5) years.

4.3.2 Research was also being conducted by Transport Canada into security systems that would include access control/physical security using biometrics for personnel. The system would also be capable of operating mechanical access control gates.

4.3.3 It was also brought out during the Seminar and Task Force Meetings that the USA is conducting and advancing research in several areas of technology, such as, in security screening equipment upgrades to provide improved detection, increased baggage throughput capacity, improved reliability and reduced false alarm rates. They are also conducting research and development on the next generation technology solutions to further expand our capabilities to detect weapons and explosives.

4.4 IATA Categorization of Airport Sizes

4.4.1 It was determined from the presentations that during airport planning for the HBS system, the airport size needed to be looked at. IATA has established a categorization for airports which are:

- **Small Airports (under 1 million Passengers p.a)**
- **Medium Airports (1-5 million Passengers p.a)**
- **Large Airports (5 ≥ Million Passengers p.a)**

4.4.2 It was reiterated that the peak baggage throughput plus 30, however, is the primary factor that is used to determine and justify the types of hold baggage security screening equipment that

individual airports need. (*Refer to Agenda Item 8 Report "Advantages and Disadvantages of Equipment Technology" for details*)

4.5 BEST PRACTICES BY STATES

4.5.1 During the period November 28 till the 30, 2005 the ICAO Hold Baggages Screening Seminar was held in Monterrey, Mexico. Presentations were made by government agencies, international organizations, manufactures and experts highlighting various concepts of "best practices" approach.

4.52 Best Practice Approach

4.5.2.1 It is important to note that in the process of formulating a Best Parctice approach, this will vary from Territory to Territory since it is dependent on :

- Threat levels;
- Airport size (Small, Medium and Large);
- Economic impact;
- Passenger flow (P/Hr and P/Yr);
- High risk Flights;
- Technical and Human support;
- Training demands;
- Oversight mechanism; and
- Management system.

5. RESOURCES

5.1 Funding, Funding Alternatives & Technical Assistance

5.1.1 Project funding and technical expertise are made available to individual States that request assistance from the International Civil Aviation Organization (ICAO) Technical Cooperation Bureau. Both the funding and technical expertise are provided by other Member States of ICAO. Ten per cent of the project funding is retained by the Technical Cooperation Bureau to defray their services.

5.1.2 The ICAO Technical Cooperation mechanism supports Regional initiatives in all areas, including equipment purchase. The Technical Cooperation mechanism extends to international procurement for leasing or purchasing security equipment. The advantages of using this mechanism is that ICAO can control prices, there is transparency, impartiality, and ICAO is committed to pay for the equipment purchased. Money is also saved in costs because of the ICAO link with the United Nations.

5.1.3 The Inter-American Committee on Terrorism/Organization of American States on the other hand primarily provide training, technical assistance and cooperation, in conjunction with other international organizations, such as ICAO. They fund training, fellowships to attend Seminars and Workshops and will also provide funding for certain State assessments and technical assistance.

5.1.4 The International Air Transport Association (IATA), directly or indirectly through tender bids, is able to assist airports to design hold baggage screening (HBS) systems, provide technical support, procure new and modified HBS systems, and provide project management at a cost to the State or airport operator.

5.1.5 Manufacturers/suppliers of HBS and conveyor systems have the capabilities to provide project financing, equipment financing and leasing to respective clients, on a client to client basis.

5.1.6 Assistance is also extended to States and airport operators through the Inter-American Development Bank (IDB) and Multi-lateral Investment Fund (MIF) for strengthening aviation security at national and airport levels. The project is put to international tender and awarded. The disadvantage here is that as a part of this arrangement, the State's security-related documents are required by the bank as proof that the work has been done.

5.2 Consultants

5.2.1 There are internationally recognized consultants of Hold Baggage Screening and Baggage Handling systems that can work with States and/or airport operators. These consultants can provide a range of expertise in the selection and procurement of Explosive Detection Systems, Computer Tomography, Advanced Technology and Explosive Trace Detection Systems, conveyor systems, as well as, providing installation oversight for the project.

5.3 Conclusion

5.3.1 Developing States should strongly support the Regional approach for funding and hold baggage screening equipment acquisition. States should avail themselves of the options that are open to them and be cognizant of the need for proper due diligence in obtaining funding and acquiring services before committing themselves.

5.4 RESOURCES :FUNDING & TECHNICAL ASSISTANCE

5.4.1 During the Regional ICAO CAR/SAM Hold Baggage Screening Seminar conducted in Monterey, Mexico from November 28-30, 2005 presentations were made by the ICAO Technical Corporation Bureau for the Americas and the Inter-American Committee against Terrorism (CICTE), highlighting the financial and technical assistance available to member States for training, scholarships, assessments, technical assistance missions, acquisition of security equipment, technical corporation, project management and financing.

5.4.2. **ICAO Technical Corporation Bureau**

5.4.2.1 The ICAO Technical Corporation Bureau provides a wide range of technical and financial assistance to member States through its seven regional offices across the globe. These Offices are independent and autonomous in each State and provides staff and equipment to train at local and international levels, human resource development and procurement services to hire or purchase for best conditions.

5.4.2.2 More specifically, the mechanism is pursuant to the Standards and Recommended Practices of Annex 17. It includes help to member States to solve corrective actions identified in the ICAO Universal Audit Security Programme, such as, Annex 17 Standard 4.4.8 – Screening of Hold Baggage, regional and national financing and funding for ICAO ASTP training.

5.4.2.3 The mechanism extends to international procurement for leasing or purchasing Security equipment. Privatized airports within States may benefit from the mechanism with the knowledge of the national authority with responsibility for civil aviation.

5.4.2.4 Technical Cooperation Bureau of ICAO will undertake projects in member States, including total financing from which a percentage is retained for services. Several advantages can be obtained through the use of this mechanism. These include: ICAO controlling prices, transparency, impartiality, and commitment by ICAO to pay for equipment. Also, through the United Nations, money can be saved in costs.

5.4.3 Inter-American Committee on Terrorism / Organization of American States

5.4.3.1 The Inter-American Committee on Terrorism (CICTE) work in collaboration with the Organization of American States and coordinate training and technical assistance through a single point of contact within the State. Primarily, they provide training and technical assistance and international cooperation working with International Organizations such as the ICAO. It noted that these Organizations cannot fund equipment and salaries, but can fund training, fellowships and funding for certain assessments and technical assistance missions.

5.4.4. International Air Transport Association (IATA)

5.4.4.1 International Air Transport Association (IATA) is willing to assist Airports to design HBS Systems and can provide expert technical support, procurement of new and modified HBS Systems, project management and technical oversight of the project and can also develop and implement HBS.

5.4.5. Manufactures of HBS and Conveyor Systems

5.4.5.1 Some manufactures of HBS and Conveyor Systems have the capabilities to provide to their respective clients for project financing, financing and equipment leasing. This facility is made on a client by client basis.

5.4.6 Consultants for Hold Baggage Screening and Baggage Handling Systems

5.4.6.1 States need to be aware of the availability of Consultants who are internationally recognized in the field of Hold Baggage Screening and Baggage Handling Systems. These Consultants can work with States Airport design team to provide a range of expertise in the selection and procurement of EDS/CT, AT and ETD, including installation oversight of the project.

6. ADVANTAGES AND DISADVANTAGES OF HBS EQUIPMENT TECHNOLOGY

6.1 Procurement vs. Rental

6.1.1 Hold Baggage Screening equipment purchase and rental are both available to States, and the relevant option should only be pursued once the appropriate due diligence has been conducted. The options to purchase or rent equipment are available through international organizations, such as ICAO et al and Suppliers of hold baggage screening equipment, on a client by client basis.

6.1.2 It must be borne in mind that should a Regional approach to acquisition of hold baggage and other screening equipment be taken there are the advantages of lowering purchase and maintenance costs, spare parts would be more readily available through the possible relocation of equipment supplier service personnel within the Region for timely repairs. Equipment upgrades and acquisition of new equipment technology should be built into the Regional contracts for States that choose this option.

6.2 Decisions on the Type of Technology to Select & Install

6.2.1 State and airport operators need to look at their individual airports to make a determination regarding the type of technology to be installed. These decisions are based on the passenger baggage through put plus 30 (*the established norm that is used in the industry*).

6.2.2 The decision for equipment technology should be based on the International Air Transportation (IATA) categorization for bags per hour (b/hr) through put:

Category "A" <999b/hr	Manual Sortation, Low technical, Semi-automatic;
Category "B" >=1000<4999b/hr	Medium/High, Automatic;
Category "C" >=5000b/hr	High Technology, Fully automatic

6.2.3 A Hold Baggage Screening Solutions decision tree, prepared by Ashcote Consulting is attached as **Attachment** for guidance to States in establishing the type of technology that is needed for their airport.

6.2.4 The decision should be based on: the size of the airport, the long-term plan, to include the existing airport terminal facilities and possible expansion plans; the passenger and baggage through put, projected growth of the airport over the next ten plus years, the likely contents of passenger baggage based on their geographical location and experience, the number and types of equipment needed, including their initial and maintenance financial costs and training needs.

- Category C: an in-line hold baggage system, with five (5) levels of hold baggage screening which integrates different screening equipment technology (AT X-ray, EDS CT) used at different levels, operator viewing stations, conveyor systems and redundancy (extra equipment) for equipment down time. (Suitable for large airports with >=5000b/hr);

- Category A-B-C: a stand-alone Explosive Detection System (EDS) Computer Tomography (CT) or advanced technology (AT) X-ray which can be installed in the check-in concourse or in the baggage system "downstream" of check in; or

- Category A: other cost effective security measures such as physical hand search and/or Conventional X-ray and Explosive Trace Detection (ETD). (Suitable for low volume locations – small airports <999b/hr).

6.3 Maintenance

6.3.1 It is important to ensure that States factor in the need for scheduled maintenance programmes for their screening equipment, based on the suppliers' recommendations. Unscheduled maintenance down time should also be borne in mind and, as stated before, the need for redundant screening equipment to be available so that all hold bags are consistently screened to the established standard.

6.3.2 The airport operator should have an inventory of the equipment parts that wear out and require replacement, the availability of spare parts, including the timeframe for delivery of such parts once they become defective should be ascertained during contract negotiations.

6.3.3 Apart from the suppliers' technicians who may have to be called in for major equipment servicing, as a part of the contract, States should ensure that airport operators acquire training and certification of maintenance personnel that will be responsible for routine scheduled and non-scheduled servicing of the screening equipment. The need for technician up-grade training to match technology changes is to be factored into the negotiations.

6.3.4 All hold baggage screening equipment maintenance schedules and servicing records, including service personnel training records are required to be maintained and be available for inspection.

6.4 Hold Baggage Screening Solutions – Decision Tree

6.4.1 Description for Use

6.4.1.1 Overview

6.4.1.1.1 The ACL decision tree is a simple tool designed to assist member states in focusing on the initial strategic decisions about which screening standards should be adopted at each airport and from this, what alternatives are open for them in terms of practical screening systems.

6.4.2 Application

6.4.2.1 The tree is simply read from left to right beginning at the green Start position.

Step 1 – Destination Traffic Mix. The first branch is a consideration of what are the airports current and future destinations, as the controlling authority there will generally dictate what standard should be applied to inbound flights. If the airport has a mix of flight destinations to differing regions and bags for each cannot be separated, then the highest standard will apply. For instance; if the major routes from an airport are to Asia but a few go to the US and bags cannot be segregated, then step 1 must be USA.

Step 2 – Certification Body. From Step 1 the tree shows which certification body / regulator applies for each region as it is their security requirements which will need to be met. For example: If all flights from the airport are destined for the US, then the regulator there (the Transportation Security Administration – TSA) dictate that the baggage aboard inbound flights to the US must have been screened in accordance with TSA standards which will be shown in the next step.

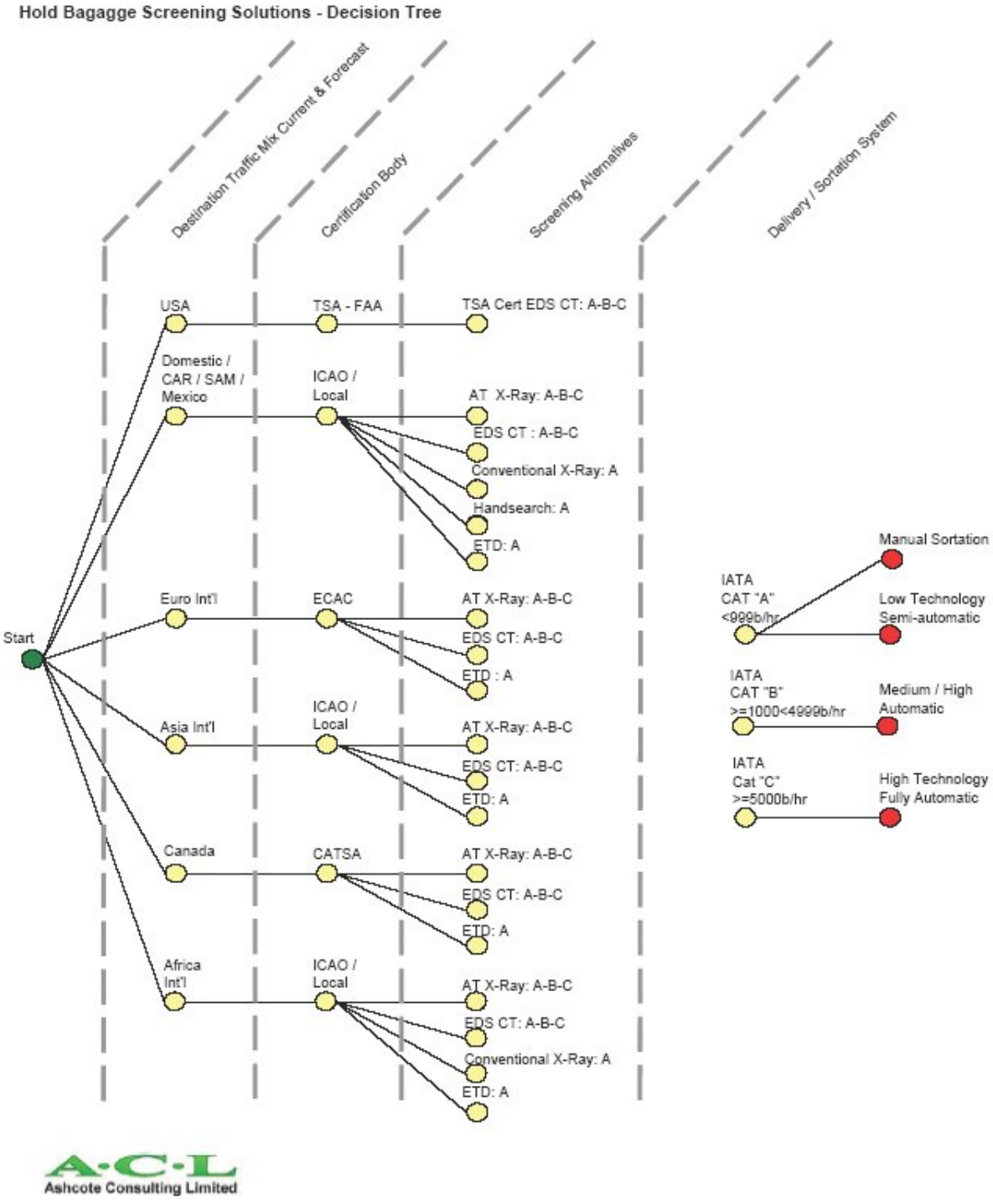
Step 3 – Screening Alternatives. Depending on the regulator / certification body's requirements, the tree branches to show what screening technologies can be utilised and an indication of what category of size / demand each can accommodate. Using the previous example; the TSA only approve the use of Certified Explosive Detection Systems (EDS) using Computed Tomography (CT) scanning techniques. Thus this technology is the only one that can be used for screening bags inbound to the US and must be used for all categories of demand from IATA Cat A to Cat C. If, however one of the alternative destinations apply, for example: Domestic/CAR/SAM/Mexico, then the regulators (local and ICAO) would accept the use of either Advanced Technology x-ray, EDS CT, Conventional x-ray, handsearch or Explosive Trace Detection (ETD). Each of these technologies has differing throughput capacities and therefore depending on demand, some cannot be usefully applied. Eg: ETD, Handsearch and conventional x-ray are only suitable for small, low demand airports in Cat A, whereas AT x-ray has the capacity to be used in Cat A, B & C.

Delivery / Sortation System. This part of the tree simply defines the IATA Categories of airport / Baggage system size and what broad baggage handling / sortation systems apply:

Cat A BHS systems less than 999 bags per hour. Can use manual sortation or low technology semi-automatic

Cat B BHS demand of between 1000 and 4999 bags per hour. Requires medium to high technology and automatic sortation

Cat C BHS demand over 5000 bags per hour. Will require a highly complex , fully automated sortation system



6.5 - LA PROBLEMÁTICA DE COMPRA O ARRIENDO

6.5.1 El cumplimiento de la norma 4.4.8 del anexo 17 por parte de los Estados y que entra en vigencia el 01 enero del 2006, pone a estos ante un nuevo escenario con mas interrogantes y dudas que soluciones, por ejemplo: que equipo va utilizar, quien lo va operar (Estado, concesionario o el explotador aéreo) y lo más importante como el financiamiento de los sistemas a utilizarse.

6.5.2 Análisis

6.5.2.1 La norma establece que es responsabilidad de cada Estado y esto significa que lo primero que hay que hacer es un análisis de las realidades operacionales de cada aeropuerto (itinerarios, cantidad de pasajeros por hora en horas pico, tipos de aeronaves etc.). Posteriormente se podría establecer que tipo de sistema de inspección vamos a instalar (AT, EDS, ETD) y finalmente como lo vamos a financiar, el Estado, concesionario, explotador aéreo o los pasajeros.

6.5.3 Adquisición vs. arriendo

6.5.3.1 Si la autoridad aeronáutica es la que tiene que instalar el equipo, se debe considerar los siguientes factores:

- La ubicación geográfica en la región.
- Empresa conocida en el mercado con representación en el país.
- Referencias en otros aeropuertos.
- La modalidad de implementación.
- Los niveles de mantenimiento.
- El entrenamiento requerido.

6.5.3.2 Si la implementación considera, la adquisición por parte del Estado o los operadores, esta modalidad presenta mas desventajas que ventajas, en este aspecto hay que destacar el alto costo, la desactualización de los software, tiene que considerarse alternativas por las fallas, necesariamente debe considerar todos los niveles de mantenimiento y finalmente el reemplazo del equipo.

6.5.3.3 Una de las alternativas más viables siempre y cuando se cuente con mecanismo de financiamiento seguro, es el arriendo del equipo y esta presenta como única desventaja el no haber elegido una empresa responsable, en cuanto las ventajas estas serian mas, como por ejemplo la inversión no seria nuestra, se puede actualizar el software como el equipo acorde a la nueva tecnología, se puede exigir que el respaldo sea de iguales características y finalmente remplazar el equipo que haya aparecido en el mercado con una mejor tecnología, esta modalidad si requiere considerar la inspección, supervisión y evaluación constante por parte del Estado para verificar que se cumplan las especificaciones técnica del contrato.

6.5.4. Mantenimiento y repuestos

6.5.4.1 Se debe tener presente que en este tipo de equipos necesariamente requiere tener un mantenimiento permanente en virtud a que son vitales y no pueden fallar, por lo tanto debe estar asociado a la compra de servicios a la misma empresa ya que nos aseguraría un mejor tiempo de repuesta, por parte de la autoridad aeronáutica requiere tener claro cual es el nivel de falla mas común que tipo de piezas o dispositivo que más falla, de tal manera se evalúa las debilidades y las fortalezas del sistema.

6.5.4.2 En lo referido a los repuestos si se tiene el análisis de cual es el repuesto que mas falla es ese el que hay que tener en stock, si el equipo es único en la región el tiempo de respuesta es más largo, afectando la operatividad del sistema. De la misma manera si se dispone de los mismos equipos en la región es más factible que la empresa cuente con un stock de repuestos, beneficiando en forma significativa la continuidad del servicio.

6.5.5 Conclusión

6.5.5.1 Para cumplir esta norma se debe buscar la compatibilidad de los conceptos de la eficiencia y eficacia, por tal motivo debemos analizar y estudiar todos la alternativas, buscando las soluciones que sean mas acorde a nuestras realidades y lo mas importante tratar de cumplir las normas porque esta forma estaremos cumpliendo con lo establecido con la seguridad de la aviación civil.

7 - ESTABLECIMIENTO DE UN MODELO DE LOS PROCEDIMIENTOS ESTÁNDARES DE OPERACIÓN PARA LA INSPECCIÓN DE EQUIPAJE DE BODEGA

7.1 Contar con procedimientos genéricos mínimos para la inspección del equipaje de bodega, asegura la eficacia, la eficiencia de la medida de seguridad, y la coordinación de esfuerzos entre los Estados para obtener niveles de seguridad similares en ella, lo cual a su vez conlleva a la facilitación del tránsito de los usuarios por los aeropuertos y su abordaje en las aeronaves, estandariza en lo posible los tiempos de las transferencias, unifica los criterios de tratamiento de los artículos prohibidos y peligrosos, y los aplicados a los pasajeros que los transportan en su equipaje de bodega.

7.2 Concordar el contenido mínimo de los procedimientos de inspección proporciona una base firme para crear cooperación, entendimiento y equivalencias entre la seguridad de la aviación civil de diversos Estados.

7.3 Propuesta de contenido mínimo de los Procedimientos de Operación para la Inspección.

7.3.1 Objetivos y alcances de los procedimientos.

7.3.2 Definiciones y abreviaturas.

7.3.3 Disponibilidad y actualización del documento.

7.3.4 Métodos de inspección.

7.3.5 Estructura organizacional para la inspección.

7.3.6 Responsabilidades en la inspección (inspectores, inspectores en jefe, supervisores, medios de comunicación y coordinación, controles de contaminación de equipos ETD, filmación y/o fotografía de la inspección, operación, calibración, prueba y mantenimiento de los equipos, bitácoras de los equipos y de eventos en la inspección; equipo y herramientas para seguridad industrial; requisitos para la seguridad operacional).

7.3.7 De la apertura de las facilidades para la inspección y cierre (antes y después de una jornada de trabajo, después de un mantenimiento, después de una contingencia o emergencia, etc.).

7.3.8 Procedimientos de inspección (incluyéndolos en el documento por cada tipo de equipo, definición de situaciones específicas durante la inspección como su rechazo, y procedimientos especiales

tales como los dedicados a valijas diplomáticas, animales vivos, objetos religiosos, evidencia judicial, órganos humanos para donación, etc.).

7.3.9 Procedimientos de inspección física de equipajes y artículos específicos.

7.3.10 Procedimientos de inspección alternos con definición de circunstancias de aplicación.

7.3.11 Materiales peligrosos, sus procedimientos de inspección y excepciones.

7.3.12 Control de calidad de la inspección de equipaje de bodega: Evaluaciones, Auditorias y Pruebas (dirigidas al recurso humano y al recurso material).

7.3.13 Procedimientos para resolución de alarmas y coordinación en su caso con las autoridades policiales y de manejo de explosivos.

7.3.14 Coordinación con otras medidas de seguridad al equipaje de bodega, antes y después del proceso de inspección.

7.4 IMPLEMENTATION OF GLOBALLY ACCEPTED STANDARD OPERATING PROCEDURES FOR THE SUCCESSFUL IMPLEMENTATION OF 100 PER CENT HOLD BAGGAGE SCREENING

7.4.1 Introduction

7.4.1 The air transport industry operates in an extremely complex environment. In order to properly service their customers, air carriers must operate a multiplicity of routes, through numerous transfer and transit points involving numerous States, airports and often air carriers.

7.4.1.2 Superimposed on this already complex network are decisions made by individual States regarding the security and facilitation standards that they require within their territories as well as security and facilitation measures to be adopted by their registered air carriers when they operate in another State. This regulatory/operational environment has been made even more complex and difficult since the tragic events of 11 September, 2001.

7.4.1.3 This makes it essential for industry to participate with the regulatory and border control agencies and other security related organizations in their States at an early stage in the planning process so as to ensure that hold baggage screening (HBS) is introduced in the most cost-effective way and to avoid unnecessary costs which may otherwise be imposed upon them.

7.5 STATES WITH 100% HBS ALREADY IMPLEMENTED

7.5.1 ICAO Annex 17 - Security Standard 4.4.8 states: "From 1 January 2006, each Contracting State shall establish measures to ensure that originating hold baggage intended to be carried in an aircraft engaged in international civil aviation operations is screened prior to being loaded into the aircraft." This is currently a Recommended Practice in Annex 17. IATA full supports implementation of 100% HBS as a critical element of the aviation security system.

7.5.2 Numerous States have already implemented 100% HBS, however the efficiency and effectiveness of these systems varies substantially from State to State and often from airport to airport within a State.

7.5.3 The efficiency and effectiveness of the HBS system in a particular airport can have a major impact on facilitation of passengers. As an example, the speed with which hold baggage is processed has a direct impact on originating passenger processing time as well as the Minimum Connect Time (MCT) for those passengers transiting or transferring through a particular airport.

7.5.4 The impact of HBS systems on passenger processing not only directly impacts on the efficiency with which passengers can be handled and therefore the customer service that they receive, but also on the operational efficiency of the air carriers. Longer processing times place restrictions on the number of flights that an air carrier can operate out of a certain airport in a given period of time, which in turn has a direct financial impact on that air carrier.

7.5.5 Additionally the efficiency of an HBS system often has a direct impact on the screening effectiveness of the system. The industry has learned through years of experience that there is often a direct correlation between the efficiency of a particular HBS system and its effectiveness in screening out potential threat items.

7.5.6 The implementation of an efficient and effective 100% HBS system will also facilitate the implementation of the so-called "one-stop security" concept not only on a regional basis but globally. Key to implementation of such a concept, from industries point of view, is the exemption from the need to screen transfer and transit bags. This not only provides tremendous benefits to industry in the form of shorter MCTs but also to States and their designated screening authorities who are able to free up resources for other tasks.

7.5.7 The screening authority (be it airport operator or other specified screening authority) should be responsible for all elements of the HBS system. This would include the baggage reconciliation system (BRS), as appropriate, which preferably should be automated and run concurrent with the technical screening systems.

7.6 STATES IN THE PROCESS OF IMPLEMENTING 100% HBS

7.6.1 The deadline for ICAO Annex 17 Security Standard 4.4.8 to come into effect is fast approaching and some States have yet to completely implement 100% HBS. However, in many cases States have reported that they have implementation plans that will be competed by 1 January 2006.

7.6.2 IATA encourages States to implement an HBS system that is suitable to the configuration of the airport as well as to the operational requirements (baggage throughput, etc.). States should also consider projected increased capacity when determining the most suitable HBS option. Implementing 100% HBS, may result in temporary disturbances of normal airport operations, frequent refurbishment should, as far as practicable, be avoided.

7.6.3 IATA hopes that States and Airport authority will consider implementing permanent solutions immediately rather than utilize temporary measures to meet the ICAO proposed deadline date of 1 January 2006 and then develop permanent solutions later on. Whilst installation of temporary 100% HBS would probably only cause slight disturbance to airport operations, it would nonetheless cause a duplication of operational disturbance and resources allocated to this project. Also, temporary HBS system may not be as effective as permanent solutions as they may not be perfectly suited to their environment.

7.6.4 IATA encourages States to meet the ICAO deadline of 1 January 2006 as some States have indicated that they would not allow air carrier to service Stations within their State if they are departing from States where the is no 100% HBS system in place.

7.6.5 IATA wishes to reiterate that implementation of 100% HBS should be a State responsibility and whilst air carrier could potentially be most directly affected by non-compliance to this Standard, all stakeholders would ultimately be penalized.

7.7 HBS STANDARD OPERATING PROCEDURES

7.7.1 The most important factor when determining what procedures should be developed to facilitate the Hold Baggage Screening process is that they assist all involved in meeting the screening standards determined by the State

7.7.2 Standard Operating Procedures, whilst always designed to meet globally harmonized and accepted screening standards, should be developed according to the operational environment of the particular airport.

7.7.3 As such, whilst the Appropriate Authority for Aviation Security should have oversight and quality assurance roles in the establishment of screening procedures, the procedures themselves should be developed by the entity responsible for performing the screening (often known as Screening Authority) at the particular airport, in co-operation with all other stakeholders affected by the introduction of Hold Baggage Screening which includes but is not limited to air carriers, airport authority and the Appropriate Authority for Aviation Security.

7.7.4 All Standard Operating Procedures should have a common goal of providing screening personnel tools and methods to ensure that no un-cleared baggage are loaded on an aircraft, and provide the screening personnel with the procedures to inspect and clear all types of hold baggage in an efficient and effective manner.

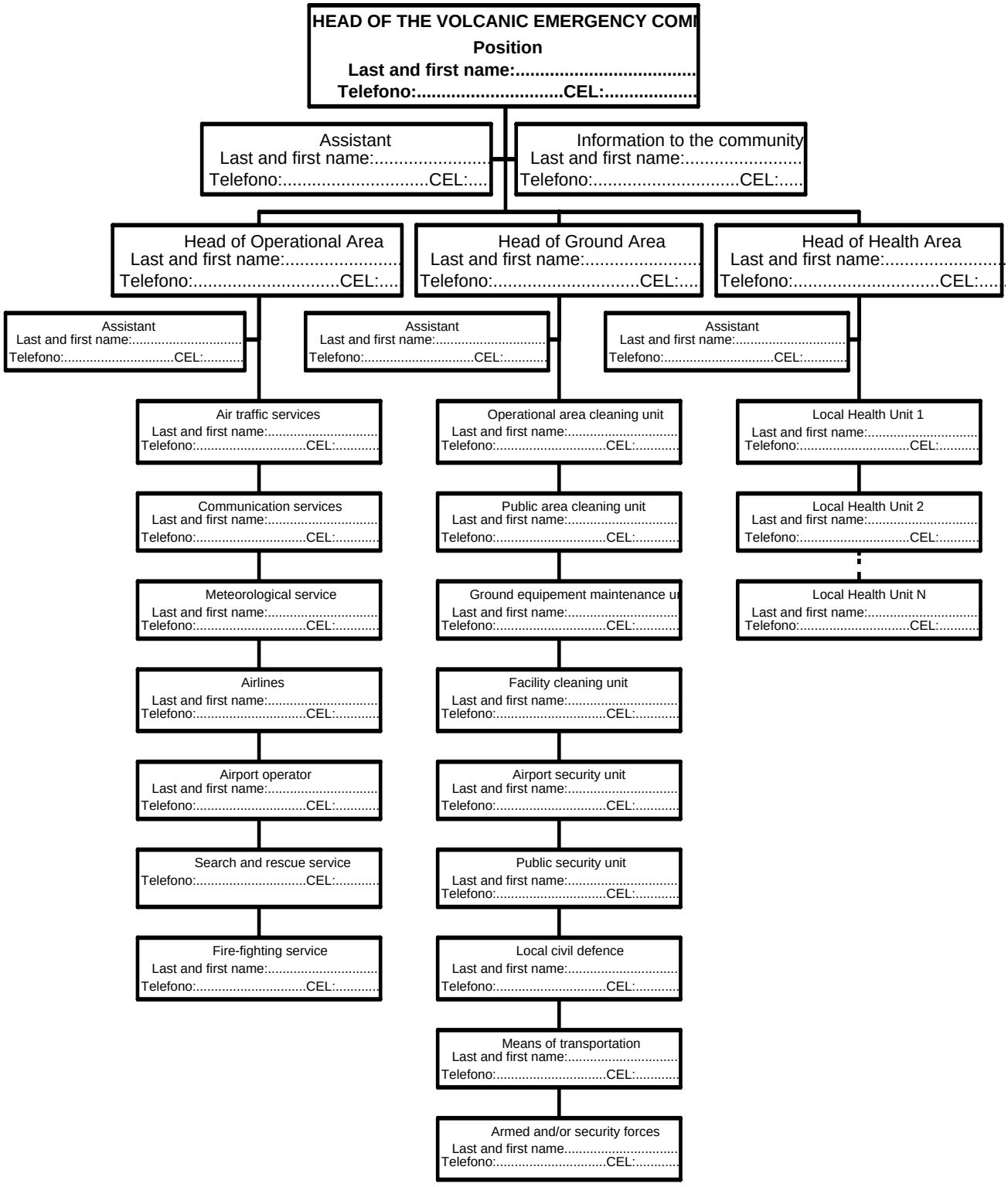
7.7.5 Standard Operating Procedures also need to be developed for all stakeholders with an indirect role in the Hold Baggage Screening Process, to ensure that their daily activities and duties do not interfere negatively with the screening of hold baggage.

7.7.6 Screening Procedures should be developed in a manner that does not negatively impede on the safety, inherent speed of civil aviation and the service level provided to air carriers and other airport tenants.

ESSENTIAL COMPONENTS THAT SHOULD BE CONSIDERED AS GENERAL GUIDANCE FOR THE DEVELOPMENT OF A MODEL CARGO SECURITY PROGRAMME

- TITLE
- PURPOSE
- DEFINITIONS AND ACRONYMS
- GENERALITIES
- NORMATIVE BACKGROUND
- COMPETENT AUTHORITY
- INVOLVED ACTORS
- FUNCTIONS AND RESPONSIBILITIES
- PLANS CONTENTS (ACCREDITED AGENTS AND CARRIERS)
  - SECURITY PLAN
  - CONTINGENCY PLAN
  - EMERGENCY PLAN
- EVALUATION PROCEDURE AND PROGRAMME'S APPROVAL
- THREATS EVALUATION TO THE TRANSPORT OF AIR CARGO
- SECURITY MEASURES AND CONTROL (EXCEPTIONS)
  - PREPARATION
  - TRANSPORT
  - ACCEPTANCE PROCEDURE (NECESSARY DOCUMENTATION)
- CARGO CLASSIFICATION
  - RECOGNIZED DISPATCH.
  - ACCREDITED CARGO AGENT.
  - NON-RECOGNIZED DISPATCH CARGO.
  - SPECIAL CARGO CATEGORIES.
- STORAGE
- CARGO HANDLING
- INSPECTIONS PROCEDURES
- BOARDING
- MAIL AND COURIER
- ACCREDITED AGENT
  - ACCREDITED PROCEDURE
  - REGISTER OF ACCREDITED AGENT
- TRAINING
- PROSECUTION
- PENALTY SYSTEM

CALL PLAN FOR THE AIRPORT VOLCANIC EMERGENCY COMMITTEE.....



Date of update	
Updated by:	
Signature:	

RESULTS OF THE EMERGENCY PLAN AND EMERGENCY OPERATION CENTRES (EOC) SURVEY TO STATES/TERRITORIES

AERODROMES INCLUDED IN THE AIR NAVIGATION REGIONAL PLAN (ANP)

Table 01 – Survey Results CAR Region

STATE/ TERRITORY	NO. OF AERODROMES	EMERGENCY PLANS				*EOC*		
		How many		Updated exercises				
		Have	Updated (1)	Full (2)	Partials (3)	How many	Updated (1)	Planned
Anguila	1	1	1	1	1	1	1	
Antigua y Barbuda	1							
Aruba	1							
Bahamas	11							
Barbados	1	1	1	1	1	1	1	
Belize	1	1	1	1	1	1	1	
Bermuda	3							
British Virgen Islands	2	2	2	2	2	2	2	
Cayman Islands	2							
Costa Rica	4	4	4	4	4	4	4	
Cuba	7	7	7	7	7	7	7	
Domican Republic	7							
El Salvador	2							
French Antilles	4	4	4			4	4	
Grenada	2							
Guatemala	4							
Haiti	2							
Honduras	4	4	4	4	4	4	4	
Jamaica	2	2	2	2	2	2	2	
Mexico	42	33	33	33	33	33	33	
Montserrat	1	1	1	1	1	1	1	
Netherlands Antilles	5	3	3	3	3	3	3	
Nicaragua	2							

STATE/ TERRITORY	NO. OF AERODROMES	EMERGENCY PLANS				*EOC*		
		How many		Updated exercises				
		Have	Updated (1)	Full (2)	Partials (3)	How many	Updated (1)	Planned
Saint Kitts and Nevis	2	2	2			2	2	
Saint Lucia	2	1	1			1	1	
Saint Vicent and Grenadines	5							
Trinidad and Tobago	2	2	2			2	2	
Turks and Caicos Islands	3	3	3			3	3	
United States	7	7	7	7	7	7	7	
Dominica	2	1	1			1	1	
TOTAL	**134**	**80**	**80**	**66**	**66**	**80**	**80**	**0**
TOTAL (2004)	134	70	65	66	66	61	61	3
Increse (%) respect to 2004	**---**	**12.5**	**18.8**	**---**	**---**	**23.8**	**23.8**	**0**

(1) Have not been updated for more than 5 years (before 2001)
(2) Every two years
(3) In the year subsequent to the complete exercise (confusion on behalf of States and Territories)

Table 02 – Results of the inquiry (SAM Region)

STATE/ TERRITORY	NO. OF AERODROMES	EMERGENCY PLANS				*EOC*		
		How many		Updated exercises				
		Have	Updated (1)	Full (2)	Partials (3)	How many	Updated (1)	Planned
Argentina	16	16	16	16	16	16	16	---
Bolivia	05	03	03	03	02	03	03	---
Brazil	26	26	26	26	21	21	21	---
Chile	08	08	08	08	08	08	08	---
Colombia	08	08	05	05	05	07	06	---
Ecuador	04	04	03	03	03	03	02	---
Guyana	01							
French Guyana	01							
Panama	05							
Paraguay	02	01	01	00	01	01	01	---
Peru	08	08	08	08	00	08	08	---
Surinam	03							
Uruguay	06	06	06	02	04	01	01	---
Venezuela	07							
TOTAL (2006)	**100***	**85**	**77**	**73**	**64**	**73**	**71**	**---**
TOTAL (2004)	**105**	**70**	**65**	**66**	**53**	**61**	**60**	**3**
Increase (%)	**0**	**14.29**	**16.92**	**7.58**	**13.21**	**11.48**	**10.00**	**---**

(1) Not updated in the last 5 years (before 2001)
(2) Every 2 years
(3) In the year immediately the year of the full exercise (confusion on behalf of States/Territories)

IMPLEMENTATION OF AERODROME CERTIFICATION IN THE STATES/TERRITORIES OF THE CAR REGION

AERODROMES INCLUDED IN THE REGIONAL AIR NAVIGATION PLAN (ANP)

Table 01 – Progress of the basic documentation for aerodrome certification (CAR Region)

STATE/TERRITORY	Nº OF AERODROMES	BASIC DOCUMENTATION FOR CERTIFICATION					
		Responsible body	Finalized	On-going		Planned	
			Published in:	Started in:	Publication foreseen for:	Started in:	Finalization:
Anguilla	**1**	CAA	**---**				
Antigua and Barbuda	**1**	OECS/CAD	**---**				
Aruba	**1**	DCA	**1998**				
Bahamas	**11**	DCA	**---**				
Barbados	**1**	TDA	**2004**				
Belize	**1**	CAD	**---**				
Bermuda	**3**	CAA	**---**				
British Virgin Islands	**2**	CAA	**---**				
Cayman Islands	**2**	CAD	**---**				
Costa Rica	**4**	DGAC	**2004**				
Cuba	**7**	IACC	**2003**				
Dominican Republic	**7**	DGAC	**2004**				
El Salvador	**2**	AAC	**2005**				
French Antilles	**4**	DRAC	**2002**				
Grenada	**2**	OECS/CAD	**---**				
Guatemala	**4**	DGAC	**---**				
Haiti	**2**	OFNAC	**---**				
Honduras	**4**	DGAC	**2004**				
Jamaica	**2**	JCAA	**2003**				
Mexico	**42**	DGAC	**2005**				
Montserrat	**1**	CAA	**---**				
Netherlands Antilles	**5**	CANA	**1998**				
Nicaragua	**2**	DGAC	**2005**				
Saint Kitts and Nevis	**2**	OECS/CAD	**---**				
Saint Lucia Saint Vincent and the Grenadines	**2** **5**	OECS/CAD OECS/CAD	**---** **---**				
Trinidad and Tobago	**2**	TTCAA	**2005**				

STATE/TERRITORY	Nº OF AERODROMES	BASIC DOCUMENTATION FOR CERTIFICATION					
		Responsible body	Finalized	On-going		Planned	
			Published in:	Started in:	Publication foreseen for:	Started in:	Finalization:
Turks and Caicos Islands	**3**	CAA	**---**				
United States	**7**	FAA	**1972**				
Dominica	**2**	OECS/CAD	**---**				
TOTAL	**134**						

Table 02 – Progress on certification of aerodromes included in Doc 8733/FASID (CAR Region)

STATE/ TERRITORY	Nº OF AERODROMES	RESPONSIBLE BODY	NUMBER OF CERTIFIED AERODROMES /ON-GOING/PLANNED		
			Certified	On-going	Planned
Anguilla	**1**	CAA	**---**	**---**	**---**
Antigua and Barbuda	**1**	OECS/CAD	**---**	**---**	**---**
Aruba	**1**	DCA	**1**	**---**	**---**
Bahamas	**11**	DCA	**---**	**---**	**---**
Barbados	**1**	TDA	**---**	**1**	**---**
Belize	**1**	CAD	**---**	**---**	**---**
Bermuda	**3**	CAA	**---**	**---**	**---**
British Virgin Islands	**2**	CAA	**---**	**---**	**---**
Cayman Islands	**2**	CAD	**---**	**---**	**---**
Costa Rica	**4**	DGAC	**---**	**1**	**---**
Cuba	**7**	IACC	**2**	**---**	**---**
Dominican Republic	**7**	DGAC	**---**	**6**	**---**
El Salvador	**2**	AAC	**---**	**---**	**---**
French Antilles	**7**	DRAC	**7**	**---**	**---**
Grenada	**2**	OECS/CAD	**---**	**---**	**---**
Guatemala	**4**	DGAC	**---**	**---**	**---**
Haiti	**2**	OFNAC	**---**	**---**	**---**
Honduras	**4**	DGAC	**---**	**---**	**---**
Jamaica	**2**	JCAA	**---**	**---**	**---**
Mexico	**42**	DGAC	**---**	**---**	**---**
Montserrat	**1**	CAA	**---**	**---**	**---**
Netherlands Antilles	**5**	CANA	**5**	**---**	**---**
Nicaragua	**2**	DGAC	**---**	**---**	**---**

STATE/ TERRITORY	Nº OF AERODROMES	RESPONSIBLE BODY	NUMBER OF CERTIFIED AERODROMES /ON-GOING/PLANNED		
			Certified	On-going	Planned
Saint Kitts and Nevis	**2**	OECS/CAD	**---**	**---**	**---**
Saint Lucia	**2**	OECS/CAD	**---**	**---**	**---**
Saint Vincent and the Grenadines	**5**	OECS/CAD	**---**	**---**	**---**
Trinidad and Tobago	**2**	TTCAA	**---**	**---**	**---**
Turks and Caicos Islands	**3**	CAA	**---**	**---**	**---**
United States	**7**	FAA	**7**	**---**	**---**
Dominica	**2**	OECS/CAD	**---**	**---**	**---**
TOTAL	**134**		**22**	**8**	**0**

IMPLEMENTATION OF AERODROME CERTIFICATION IN THE STATES/TERRITORIES OF THE SAM REGION

AERODROMES INCLUDED IN THE REGIONAL AIR NAVIGATION PLAN (ANP)

Table 03 – Progress of the basic documentation for aerodrome certification (SAM Region)

STATE/ TERRITORY	Nº OF AERODROMES	BASIC DOCUMENTATION FOR CERTIFICATION					
		Responsible Body	Finalized	On-going		Planned	
			Published in	Started in	Publication scheduled for:	Start in:	End
Argentina	16	FAA	September 2004	---	---	---	---
Bolivia	05	DGAC	October 2004	---	---	---	---
Brazil	26	DAC	2001	---	---	---	---
Chile	08	DGAC	April 2003	---	---	---	---
Colombia	08	AEROCIVIL	---	---	---	---	---
Ecuador	04	DGAC	February 2005	---	---	---	---
Guyana	01	CAA	June 2004	---	---	---	---
French Guyana	01	CAA	---	---	---	---	---
Panama	05	DGAC	---	---	---	---	---
Paraguay	02	DINAC	October 2002	---	---	---	---
Peru	08	DGAC	February 2005	---	---	---	---
Suriname	03	CAA	---	---	---	---	---
Uruguay	06	DINACIA	---	---	---	---	---
Venezuela	07	DGAC	---	---	---	---	---
TOTAL	**100**	**---**	**---**	**---**	**---**	**---**	**---**

Table 04 – Progress on certification of aerodromes included in Doc 8733/FASID (SAM Region)

STATE/ TERRITORY	Nº OF AERODROMES	RESPONSIBLE BODY	NUMBER OF CERTIFIED AERODROMES/IN PROCESS/PLANNED				
			Certified	On-going		Planned	
				Started in:	Publication scheduled for:	Start in:	End
Argentina	16	FAA	01	---	---	15 in 2006	***ND**
Bolivia	05	DGAC	03	---	---	---	---
Brazil	26	DAC	---	06 in 2006	06 in 2007		
Chile	08 ([1])	DGAC	---	---	---	1 in 2006, 2 en 2007, 2 in 2008, 2 in 2009	1 in 2006
Colombia	08	AEROCIVIL	---	---	---		
Ecuador	04	DGAC	01	---	---	1 in 2005, 2 in 2006	2 in 2006, 1 in 2007
Guyana	01	CAA	01	---	---		
French Guyana	01	CAA	---	---	---		
Panamá	05	DGAC	---	---	---		
Paraguay	02	DINAC	---	02	**---**		
Peru	08	DGAC	08	---	---		
Suriname	03	CAA	---	---	---		
Uruguay	06	DINACIA	---	---	---		
Venezuela	07	DGAC	---	---	---		
TOTAL	**100**	**---**	**14**	**08**	**06**	**25 (2005-2009)**	**04 (2006-2007)**

*ND – Not defined
([1]) All the airports were submitted to a pre-certification in 2003, except TEMUCO/Manquehue because the construction of a new airport is being planned for TEMUCO

RESULTS OF THE INQUIRY CARRIED OUT IN THOSE AERODROMES USED FOR INTERNATIONAL OPERATIONS ON SAFETY MANAGEMENT SYSTEM (SMS) IN THE CAR REGION

AERODROMES INCLUDED IN THE REGIONAL AIR NAVIGATION PLAN (ANP)

Table 01 – Progress of the basic documentation for SMS implementation (CAR Region)

STATE/TERRITORY	Nº OF AERODROMES	BASIC DOCUMENTATION FOR SMS					
		Responsible body	Finalized	On-going		Planned	
			Published in:	Started in:	Publication foreseen for:	Started in:	Finalization:
Anguilla	**1**	CAA	---	---	---	---	---
Antigua and Barbuda	**1**	OECS/CAD	---	---	---	---	---
Aruba	**1**	DCA	---	---	---	---	---
Bahamas	**11**	DCA	---	---	---	---	---
Barbados	**1**	TDA	**2005**	**2006**	---	---	---
Belize	**1**	CAD	---	---	---	---	---
Bermuda	**3**	CAA	---	---	---	---	---
British Virgin Islands	**2**	CAA	---	---	---	---	---
Cayman Islands	**2**	CAD	---	---	---	---	---
Costa Rica	**4**	DGAC	**2005**	**2006**	---	---	---
Cuba	**7**	IACC	**2004**	**2006**	---	---	---
Dominican Republic	**7**	DGAC	---	---	---	---	---
El Salvador	**2**	AAC	**2005**	**2006**	---	---	---
French Antilles	**4**	DRAC	---	---	---	---	---
Grenada	**2**	OECS/CAD	---	---	---	---	---
Guatemala	**4**	DGAC	---	---	---	---	---
Haiti	**2**	OFNAC	---	---	---	---	---
Honduras	**4**	DGAC	---	---	---	---	---
Jamaica	**2**	JCAA	---	---	---	---	---
Mexico	**42**	DGAC	**2005**	---	---	---	---
Montserrat	**1**	CAA	---	---	---	---	---
Netherlands Antilles	**5**	CANA	---	---	---	---	---
Nicaragua	**2**	DGAC	---	---	---	---	---
Saint Kitts and Nevis	**2**	OECS/CAD	---	---	---	---	---
Saint Lucia	**2**	OECS/CAD	---	---	---	---	---
Saint Vincent and the Grenadines	**5**	OECS/CAD	---	---	---	---	---

STATE/TERRITORY	Nº OF AERODROMES	BASIC DOCUMENTATION FOR SMS					
		Responsible body	Finalized Published in:	On-going		Planned	
				Started in:	Publication foreseen for:	Started in:	Finalization:
Trinidad and Tobago	**2**	TTCAA	---	---	---	---	---
Turks and Caicos Islands	**3**	CAA	---	---	---	---	---
United States	**7**	FAA	---	---	---	---	---
Dominica	**2**	OECS/CAD	---	---	---	---	---
TOTAL	**134**						

Table 02 – Progress of the basic documentation for SMS implementation in the aerodromes included in Doc 8733/FASID (CAR Region)

STATE/TERRITORY	Nº OF AERODROMES	BASIC DOCUMENTATION FOR SMS					
		Responsible body	With SMS	On-going		Planned	
				Started in:	Publication foreseen for:	Started in:	Finalization:
Anguilla	**1**	CAA	---	---	---	---	---
Antigua and Barbuda	**1**	OECS/CAD	---	---	---	---	---
Aruba	**1**	DCA	---	---	---	---	---
Bahamas	**11**	DCA	---	---	---	---	---
Barbados	**1**	TDA	---	---	---	**2006**	---
Belize	**1**	CAD	---	---	---	---	---
Bermuda	**3**	CAA	---	---	---	---	---
British Virgin Islands	**2**	CAA	---	---	---	---	---
Cayman Islands	**2**	CAD	---	---	---	---	---
Costa Rica	**4**	DGAC	---	---	---	**2006**	---
Cuba	**7**	IACC	---	---	---	**2006**	---
Dominican Republic	**7**	DGAC	---	---	---	---	---
El Salvador	**2**	AAC	---	---	---	**2006**	---
French Antilles	**4**	DRAC	---	---	---	---	---
Grenada	**2**	OECS/CAD	---	---	---	---	---
Guatemala	**4**	DGAC	---	---	---	---	---
Haiti	**2**	OFNAC	---	---	---	---	---
Honduras	**4**	DGAC	---	---	---	---	---
Jamaica	**2**	JCAA	---	---	---	---	---
Mexico	**42**	DGAC	**1 (TLC)**	---	---	---	---

STATE/TERRITORY	Nº OF AERODROMES	BASIC DOCUMENTATION FOR SMS					
		Responsible body	With SMS	On-going		Planned	
				Started in:	Publication foreseen for:	Started in:	Finalization:
Montserrat	**1**	CAA	---	---	---	---	---
Netherlands Antilles	**5**	CANA	---	---	---	---	---
Nicaragua	**2**	DGAC	---	---	---	---	---
Saint Kitts and Nevis	**2**	OECS/CAD	---	---	---	---	---
Saint Lucia	**2**	OECS/CAD	---	---	---	---	---
Saint Vincent and the Grenadines	**5**	OECS/CAD	---	---	---	---	---
Trinidad and Tobago	**2**	TTCAA	---	---	---	---	---
Turks and Caicos Islands	**3**	CAA	---	---	---	---	---
United States	**7**	FAA	---	---	---	**2007**	---
Dominica	**2**	OECS/CAD	---	---	---	---	---
TOTAL	**134**						

RESULTS OF THE INQUIRY CARRIED OUT WITH THE STATES ON SAFETY MANAGEMENT SYSTEMS (SMS) IMPLEMENTATION IN THE SAM REGION

AERODROMES OF THE REGIONAL AIR NAVIGATION PLAN (ANP)

Table 03 – Progress of the basic documentation for SMS implementation (SAM Region)

STATE	Nº OF AERODROMES	BASIC DOCUMENTATION FOR SMS					
		Responsible Body	Finalized	On-going		Planned	
			Published in:	Started in:	Publication scheduled for:	Start in:	End in:
Argentina	16	FAA	September 2004	---	---	---	---
Bolivia	05	DGAC	---	---	---	NOV 2006	FEB2007
Brazil	26	DAC	April 2005	---	---	---	---
Chile	08	DGAC	---	---	DEC 2006	---	---
Colombia	08	AEROCIVIL	---	---	---	---	---
Ecuador	04	DGAC	February 2005	---	---	---	---
Guyana	01	CAA	---	---	---	---	---
French Guyana	01	CAA	---	---	---	---	---
Panama	05	DGAC	---	---	---	---	---
Paraguay	02	DINAC	---	---	---	---	---
Peru	08	DGAC	2005	---	---	---	---
Suriname	03	CAA	---	---	---	---	---
Uruguay	06	DINACIA	---	---	---	---	---
Venezuela	07	DGAC	---	---	---	AUG 2006	DEC 2006
TOTAL	**100**	**---**	**4**	**---**	**1**	**2**	**2**

Table 04 – Progress of the SMS implementation in the aerodromes included in Doc 8733/FASID (SAM Region)

STATE	**Nº OF AERODROMES**	**RESPONSIBLE BODY**	**NUMBER OF AERODROMES WITH SMS/IN PROCESS/PLANNED**				
			With SMS	**In process**		**Planned**	
				Started in:	**End**	**Start in:**	**End**
Argentina	16	FAA	---	---	---	3 in 2007	***ND**
Bolivia	05	DGAC	03	---	---	---	---
Brazil	26	DAC	---	06 in 2006	---		
Chile	08 ([1])	DGAC	---	---	---	3 in 2007, 4 in 2008	3 in 2007, 4 in 2008
Colombia	08	AEROCIVIL	---	---	---		
Ecuador	04	DGAC	01	---	---	---	---
Guyana	01	CAA	---	---	---		
French Guyana	01	CAA	---	---	---		
Panamá	05	DGAC	---	---	---		
Paraguay	02	DINAC	---	---	---		
Peru	08	DGAC	01	---	---		
Surinam	03	CAA	---	---	---		
Uruguay	06	DINACIA	---	---	---		
Venezuela	07	DGAC	---	---	---	1 in 2006, 4 in 2007, 2 in 2008	5 in 2007, 2 in 2008
TOTAL	**100**	**---**	**05**	**06**	**---**	**17 (2006-2008)**	**14 (2007-2008)**

*ND – No defined
([1]) Regarding TEMUCO/Manquehue, it is planned the construction of a new aerodrome

PROGRESS OF THE AGA/AOP SUBGROUP ON THE CAR/SAM/3 RAN MEETING CONCLUSIONS AND OTHER IMPORTANT ISSUES FOR THE CAR/SAM REGIONS

(*progress obtained in 2005 and 2006 are shaded in this Appendix*)

CAR/SAM/3 RAN		Results obtained by the AGA/AOP/SG	Obtained PRODUCTS	Used Methods
2/1	**Planning for en-route alternate aerodromes**	---	List of en-route alternate aerodromes	Preliminary list prepared by IATA, circulated twice to States/Territories and reviewed by ICAO
3/2	**Amendment of the Table AOP 1**	Preparation of proposal for amendment for Bolivia, Brazil, Chile, Peru, Suriname and Uruguay	Up to now 4 Amendments were originated by the SAM Region	Letters with the Proposals were circulated to the States and Territories
3/4	**Aerodromes in the vicinity of international boundaries**	Draft Conclusion of the Subgroup to have States preparing bilateral agreements	Waiting information from States and Territories	Waiting information from States and Territories
3/5	**Retention of visual and non-visual aids in excess of those tabulated in Table AOP 1**	Conclusion of the Subgroup provides that States that provide visual and non visual aids consider their preservation for safety purposes	Waiting information from States and Territories	Waiting information from States and Territories
4/3	**Resources for implementation of aerodrome facilities and services**	Conclusion of the Subgroup provides that States adopt measures to have airport revenues allotted to facilities and services	Waiting information from States and Territories	Waiting information from States and Territories
4/4	**Aerodrome equipment, installations and services**	no	---	---
4/7	**Updating of disabled aircraft removal plan**	Conclusion of the Subgroup for States to update in consultation with aircraft operators and manufacturers the plans for disabled aircraft removal	Actions are being carried out by the States/Territories	Contacts with specialized enterprises and agreements with local companies

CAR/SAM/3 RAN		Results obtained by the AGA/AOP/SG	Obtained PRODUCTS	Used Methods
4/8	**Rescue and fire fighting services**	Has just started (Emergency Plans/EOC)	Specific training to States/Territories/Airport Operators	Workshop on Emergency Plan/ Emergency Operations Centres (EOC), held in Santiago, Chile, 13-17 NOV 2006
4/9	**Implementation of aerodrome emergency plans**	Proposal to create an Emergency Plan / Emergency Operation Centre (EOC) Task Force –AGA/AOP/SG/04 Meeting	Waiting information from States and Territories	Waiting information from States and Territories Workshop on Emergency Planning and Emergency Operations Centres (EOC) , held in Santiago, Chile, 13-17 NOV 2006
4/10	**Bird hazard control and reduction**	---	**Creation of the CAR/SAM Regional Bird Hazard Prevention Committee** **Reactivation of two National Committees (Argentina and Uruguay)** **Creation of 3 National Committees (Colombia, Cuba and Mexico) There was one in Brazil and Panama** **Creation of 66 Airport Coordinating Committees (there were none) + 3 Committees in Venezuela and reactivation of the Nicaragua Committee**	Task Force Technical Meeting (Seminar) for the Creation of the Regional Committee Convening of 3 International Conferences and the fourth one planned to be held in, Panama, from 4 to 8 December 2006
4/11	**Power supply at aerodromes**	no	---	----
4/12	**Aerodrome fencing**	Conclusion of the Subgroup provides that States urgently install and maintain fences at aerodromes in order to prevent the entrance of persons and animals Proposal to GREPECAS for ICAO to study the implementation of fences at aerodromes in compliance with Annex 17 (**At ICAO Headquarters for the proper consideration**)	Some States have corrected these deficiencies in their international airports, however, more information is needed Waiting information from States and Territories	Regular missions of AGA Regional Officer – Regional Offices

CAR/SAM/3 RAN		Results obtained by the AGA/AOP/SG	Obtained PRODUCTS	Used Methods
4/13	**Establishment of preventive maintenance programmes**	Conclusion for States to take measures for airport operators to implement and keep aerodrome maintenance programmes that are intended to eliminate and prevent deficiencies that have a direct impact on safety	**Foundation of ALACPA – Latin American and Caribbean Airport Pavement Association (July 2002)** **Translation of the Handbook of Airport Infrastructure Maintenance Management (Review Phase)** **Preparation of a Guidance Manual for Aerodrome Inspection in the CAR/SAM Regions in accordance with Annex 14** **Specific training**	Seminar on Pavement Maintenance and Short Course on the aircraft/pavement interaction, Santa Cruz de la Sierra, Bolivia, 22-27 July 2002 (62 participants) Coordination with the ICAO Technical Cooperation Bureau ICAO Workshop on Aerodrome Certification for the NAM/CAR/SAM Regions, Spanish Santiago, Chile, 24 to 27 September 2002 (88 participants) ICAO.ACI/LAC Seminar on Pavement Management Systems (PMS) Short Course on the PCI Method (Pavement Condition Index) for the CAR/SAM Regions, Lima, Peru, from 19 to 25 November 2003 (128 participants) ICAO Workshop for Aerodromes Inspectors for the NAM/CAR/SAM Regions, Argentina, Buenos Aires, 2004 (129 participants) ICAO/ALACPA/FAA/ACI-LAC Seminar on Airfield Pavement Design. New FAA Design Software, and Short Course on Annex 14 and Related Documents for the NAM/CAR/SAM Region (Americas) Bogota, Colombia, 11-16 September 2005 (196 participants) Workshop on Emergency Plans/Emergency Operations Centres (EOC), Santiago, Chile, 13-17 November 2006

CAR/SAM/3 RAN	Results obtained by the AGA/AOP/SG	Obtained PRODUCTS	Used Methods
4/14 Land use at airports and adjacent areas	That States review and adopt regulations that regulate land use in the adjacent areas of an airport That ICAO studies the inclusion in Annex 14 of the specifications related to noise and hazard of constructions in order to minimize the severity of damages in case an accident occurs during landing or take-off (Being considered by the ICAO AGA Section)	Waiting information from States and Territories	Matter submitted to ICAO Headquarters through the GREPECAS

OTHER ISSUES DEALT BY THE SUBGROUP

CAR/SAM/3 RAN	Results obtained by the AGA/AOP/SG	Obtained PRODUCTS	Used Methods
Airport Demand and Capacity (Terms of Reference of the Subgroup)	On-going	Waiting information from States and Territories	Task Force Creation
Acoustic, pollution and treatment of residues Conditions (Terms of Reference of the Subgroup)	---	**Translation of the Environment Manual** **Document distributed by the Regional Offices to States/Territories**	Coordination with the ICAO Technical Cooperation Bureau
Runway Incursions (Terms of Reference of the Subgroup)	Update of the "Runway Incursion" definition by ICAO Proposal to have all activities related to WILDLIFE be treated by the Bird Hazard Committee in order to coordinate actions in aspects related to runway incursions (On-going)	Guide for Prevention Runway Incursion, prepared by the Task Force	Task Force Work
Runway Strips and Runway End Safety Areas (RESA)	Conclusion of the Subgroup to have States evaluate the provision of RESA and to publish the reduction of dimensions in the AIP Presentation and review of the information from the deficiencies database That IATA supports the Task Force to evaluate the impact of reduced declared distances for aircraft operations Relevance of the situation of the CAR/SAM Regions for the corrections to keep in mind for the solution of problems	**Preparation of Pavements Maintenance Guidance** **Guide Preparation on construction modality and maintenance RESAS (EMAS)** **Statistical indications that differentiate the RESA problems (CAR Region, lack of RESA). SAM Region (Problems in RESAs such as obstacles and unevenness). This allows the indication of different regional strategies for the elimination/control of deficiencies for each Region**	Task Force Creation Seminar on Pavement Maintenance and Short Course on the aircraft/pavement interaction, Santa Cruz de la Sierra, Bolivia, 22-27 July 2002 (62 participants)

Refer to the report of the Tenth Meeting of the GREPECAS Aeronautical Information Services Subgroup (AIS/MAP/SG/10), available in GREPECAS section of ICAO SAM Regional Office web page, as follows:

Address: www.lima.icao.int GREPECAS
User name: **carsamrpg**
Password: **ccretkode**

ATTACHMENT 1

Appendix A to Agenda Item 2
Guidance Manual for the Implementation of an AIS/MAP Quality Management System in the CAR/SAM Regions - Part 4: Selection, Competencies, Training, and Re-qualification of Aeronautical Information Service personnel

Note: It is suggested to print the entire report for ease of reference.

Refer to the report of the Tenth Meeting of the GREPECAS Aeronautical Information Services Subgroup (AIS/MAP/SG/10), available in GREPECAS section of ICAO SAM Regional Office web page, as follows:

Address: www.lima.icao.int GREPECAS
User name: **carsamrpg**
Password: **ccretkode**

ATTACHMENT 2

Appendix B to Agenda Item 2

Verification and Validation of Aeronautical Data

Note: It is suggested to print the entire report for ease of reference.

Refer to the report of the Tenth Meeting of the GREPECAS Aeronautical Information Services Subgroup (AIS/MAP/SG/10), available in GREPECAS section of ICAO SAM Regional Office web page, as follows:

Address: www.lima.icao.int GREPECAS
User name: **carsamrpg**
Password: **ccretkode**

ATTACHMENT 3

Appendix C to Agenda Item 2
Internal Audits

Note: It is suggested to print the entire report for ease of reference.

TASKS CARRIED OUT AT THE AIS/MAP QUALITY MANAGEMENT TASK FORCE (QM/TF/2) MEETING

- Development and review of the guidance material for the implementation of an Aeronautical Information Services Quality Management System in the CAR/SAM Regions, Part 4 – Selection, Competency, Training and Requalification of AIS/MAP Personnel.

- Review of the new ICAO AIS Training Manual. Comparison with AIS/021 CAR/SAM Course.

- Development and review of guidelines and criteria for the development of the syllabus and modules for the second version of the AIS/021 CAR/SAM Course, to be renamed AIS/024 CAR/SAM.

- Review of the guidance manual on responsibilities and duties of the AIS/MAP officer adapted to the new Aeronautical Information Management (AIM) concept.

- Development and review of regional procedures to ensure quality and integrity of aeronautical information/data.

- Development and review of procedures and flow at a regional level to perform audits in the different AIS/MAP areas.

REFERENCE MATERIAL PRESENTED BY CUBA AT THE AIS/MAP/SG/10

AIM ELEMENTS FOR THE CAR/SAM REGIONS

SUMMARY

This material presents essential information for understanding and applying the Aeronautical Information Management (AIM) concept in the CAR/SAM States.

References:

- Information from the Global AIS Congress, held in Madrid, Spain, June 2006.
- Working and information papers presented at various meetings of GREPECAS contributory bodies.

1. Introduction

1.1 Transition of the Aeronautical Information Service (AIS) to Aeronautical Information Management (AIM) is already a fact, but it does not mean that it will not require great effort and investments in order to ensure a suitable and efficient transition.

1.2 This reference material provides the principal elements necessary to achieve a better understanding of this process, which all the States of the CAR/SAM Regions should undertake as soon as possible.

1.3 To develop this paper, we have identified the essential elements discussed at various ICAO meetings dealing with the subject, EUROCONTROL's experiences and elements presented during the Global AIS Congress.

2. Discussion

2.1 Current Situation of the Aeronautical Information Service. Its Limitations.

2.1.1 Currently, the aeronautical information services of our Regions are inflexible and require long time for production and distribution of permanent information. This makes rapid distribution difficult and reduces the degree of the information's effectiveness.

2.1.2 Likewise, NOTAM publication from the moment of the originator's request for publication until its transmission via AFTN does not allow for extensive or graphic information.

2.1.3 All of this manual processing increases the risks to data integrity caused by human error.

2.2 CNS/ATM Environment

2.2.1 Nevertheless, even with these limitations, the development of CNS/ATM systems continues to advance with the development of the ATM Operational Concept, a fundamental concept that demands and requires correlative support and collaboration of aeronautical information.

2.2.2 The ATM Operational Concept may be defined as a worldwide integrated, harmonized and inter-functional system that provides multiple benefits to the entire aviation community, such as seamless inter-operability, the utilization, management and exchange of information at a world-wide level, equitable access to airspace, minimum flight path deviation, increased capacity to work in information rich environments with real time data leading to optimization of services.

2.2.3 Within this CNS/ATM environment, the new AIM concept is set to emerge along with a new nomenclature to designate the processing of aeronautical information.

2.2.4 The new requirements of ATM, RNAV, RNP and of the automated navigation systems demand new AIS requirements to ensure the quality and timely distribution of information.

2.2.5 The traditional function of AIS service will evolve into an information management service with changing duties and responsibilities. The provision of aeronautical information, with the integrity required by ATM, will not be able to remain based on a printed environment. AIS services should rapidly migrate towards electronic means and automated processing.

2.2.6 In the global ATM environment, AIS will become one of the more valuable and important facilitation services, ensuring the provision of up-to-date and quality aeronautical information for all phases of flight.

2.2.7 Aeronautical data will be exchanged in a completely electronic and networked environment; only that information needed as reference, temporary memorization or visual support for human operators will be printed. The creation of and application of a database will become a cornerstone in the development of a digital environment.

2.2.8 EUROCONTROL has developed a database using the Aeronautical Information Conceptual Model (AICM) and the Aeronautical Information Exchange Model (AIXM), and they are to date the only exchange models which are in use (AICM/AIXM). These models and their mutual inter-functionalities are the models that are currently suggested to be developed for AIM.

2.2.9 Another main aspect in this environment refers to the quality of information, which will be the responsibility of the ORIGINATOR, where subsequent handling will not compromise its quality.

2.2.10 Aeronautical information/data should be provided in real time and should be managed in an efficient manner in order to ensure the quality of the information supporting ATM operations.

2.2.11 For the transition from AIS to AIM in the CNS/ATM environment, it is necessary that ICAO update Annexes 4 and 15 with the new standards and methods on the provision, electronic storage, in-line access and maintenance of information and aeronautical charts.

2.3 Transition Towards AIM Strategy

2.3.1 It is necessary to develop and implement a strategy ensuring the gradual implementation of AIM in each one of the CAR/SAM States. The goal will be to identify the important requirements and components of a capable and sufficient aeronautical information management system to support the demands of CNS/ATM navigation.

2.3.2 When developing this strategy, its scope must be considered, and all areas of AIS (publications, NOF and AD AIS Units) should be involved, covering all the phases of flight.

2.3.3 Objectives and strategic actions to be developed for the transition of AIS to AIM.

2.3.3.1 Within this strategy, the main strategic objectives in order to attain an adequate transition towards AIM should be defined. These could include the following:

- Establish AIM as the central ATM process.
- Ensure the provision and availability of up-to date and quality aeronautical information for all phases of flight.
- Convert from paper publication of aeronautical information products to electronic format provision of information of each element of aeronautical information.
- Adopt procedures, frameworks and contents of harmonized databases on a global basis in a fully-digitized aeronautical information environment.
- Define the necessary human resources to ensure the future AIM environment.
- Resolve the intellectual property, financial, legal, organizational and institutional aspects associated with AIM handling.

2.3.4 In order to attain these strategic objectives, it is necessary to carry out strategic actions such as:

- Keep and improve the Quality Management System implemented and certified by the AIS service and be able to insert it into the Safety Management System (SMS) applicable to AIS according to ATM.
- Planning and development of the electronic AIP.
- Review the current NOTAM concept, in view that AIM will allow automatic access to databases.
- Study, plan and process the availability of terrain and obstacles data, as well as electronic aeronautical charts and charts databases in digital format.
- Define the scope, nature and presentation methods of aeronautical information, taking into account modifications and new requirements.
- Diversify and extend the means of access to aeronautical information auto-briefing.
- Planning and implementation of AIM transition training concurrent with traditional AIS service training while they coexist.

- Promote granting licenses to AIS personnel and develop the study and application of requirements for hiring new personnel.
- Project a harmonious framework of the AIS service in the AIM environment and the link with other fields within ATM.
- Propose using the expanded development of AIXM and AICM for the adoption of a global database.
- Identify the need to amend the ICAO SARPs as a requirement to attain the objectives so that it may progress through ICAO's mechanisms.

REPORT ON THE USE OF THE AIP AUDITS ASSISTANT (AAA)

Please indicate the replies according to the experience obtained in the use of the AAA tool and send this format via e-mail to the CAR or SAM Regional Offices as appropriate.

1) How many additional resources did you need to apply AIP audit?

□ Many
□ Few
□ None

2) How much support did you receive from your Administration to perform the AIP Audit?

□ Many
□ Few
□ None

3) How much cooperation did you receive from the involved AIS/MAP areas in the AIP Audit?

□ Many
□ Few
□ None

4) Did you find it difficult to apply the AIP Audit?

□ Yes
□ A little bit
□ No

5) Please indicate additional comments, they are very important in order to obtain further information on the difficulties and advantages of the AAA.

6) Time (in weeks) to perform the audit:

7) Name and position of the Audit:

8) Score of your AIP Audit:

9) How many persons were involved in the AIP Audit:

10) Name of the States/Territory

11) Contact e-mail address

| **AIS-4-A** | | | **FROM/DE** | | |

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INTERNATIONAL CIVIL AVIATION ORGANIZATION

INTERFACE CONTROL DOCUMENT
FOR
ATS INTER-FACILITY DATA COMMUNICATIONS
IN THE
CARIBBEAN AND SOUTH AMERICAN REGIONS

(CAR/SAM AIDC ICD)

Version	Draft 0.2
Date	13 November 2006

FOREWORD

The *Interface Control Document (ICD) for ATS Inter-Facility Data Communications (AIDC) in the Caribbean and South American Regions (CAR/SAM AIDC ICD)* is published by the ATM/CNS Subgroup of the Caribbean/South American Regional Planning and Implementation Group (GREPECAS). It describes a process and protocols for exchanging data between multiple States/Territories/International Organizations within and across regions.

Copies of the *CAR/SAM AIDC ICD* can be obtained by contacting:

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AMENDMENTS TO THE DOCUMENT

The present edition (Draft Version 0.2) includes all revisions and modifications until November 2006. Subsequent amendments and corrigenda will be indicated in the Record of Amendment and Corrigenda Table.

Proposals for amendments to the document may be submitted to either of the ICAO Regional Offices for coordination and processing. The GREPECAS and its contributory bodies will issue revised editions of the Document as required.

The publication of amendments and corrigenda is regularly announced through correspondence with States, and the ICAO web site, which holders of this publication should consult. The space below is provided to keep a record of such amendments.

RECORD OF AMENDMENTS AND CORRIGENDA

AMENDMENTS			
No.	Date applicable	Date entered	Entered by

CORRIGENDA			
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INTRODUCTION

HISTORICAL

Air Traffic Services providers in several regions have identified the requirement to exchange flight plan and radar data information between adjacent ATC facilities utilizing ATS Inter-Facility Data Communications (AIDC). This requirement stems from the increasing traffic levels crossing FIR boundaries and the need to improve efficiency and accuracy for the ATC providers. Developing a harmonized process and protocols for exchanging data between multiple States/Territories/International Organizations within and across regions is critical to satisfying this requirement. As ATS providers develop their automation systems, consideration should be given to meeting the capabilities identified within this Interface Control Document (ICD).

The CAR/SAM AIDC ICD is based on the North American Common Coordination Interface Control Document used by Canada, the United States and Mexico. The NAM region has advanced to the level of initial implementation of flight plan data exchange. Experience gained by the NAM region during their development process is incorporated here.

The GREPECAS/12 meeting held in Cuba, 07 – 11 June 2004 concluded that the CAR/SAM States/Territories/International Organizations should define an action plan for the application of a regional strategy for the integration of ATM automated systems. This document provides the basis for interfacing those ATM automation systems in the CAR/SAM regions.

The Interface Control Document for ATS Inter-Facility Data Communications for the Caribbean and South American Regions (CAR/SAM AIDC ICD) content is as follows:

Part I- Purpose, Policy, and Units of Measurement

This section provides an overall philosophical view of the Interface Control Document (ICD) and general information concerning the measurement units that are used. It also describes the process by which changes to this document are to be managed.

Part II- ATS Coordination Messages

This section describes in detail all the messages that may be used to exchange ATS data between Air Traffic Services (ATS) Units. In this version of the document, flight plan and radar handover messages have been defined.

Part III- Communications and Support Mechanisms

This section describes the technical and other requirements needed to support ATS message exchange.

Appendices

Appendix A includes a list of error messages.
Appendix B contains Implementation Guidance Material for the message sets.
Appendix C is a model describing a specific Common Boundary Agreement to be followed by ATS providers, noting the level of the interface that is supported and any deviations from the core message definitions.

GLOSSARY

Active Flight	A flight that has departed but has not yet landed. Note: This ICD assumes any flight with an entered actual departure time in the flight plan is active.
Adapted Route	A route whose significant points are defined in an automation system and associated with a name for reference purposes. Adapted routes normally include all ATS routes, plus non-published routes applied to flights by the system or by controllers.
Adapted Route Segment	Two significant points and the name of the adapted route connecting them.
Aircraft ID	A group of letters, numerics or combination thereof which is either identical to, or the coded equivalent of, aircraft callsign to be used in air-ground communication, and which is used to identify the aircraft in a ground-ground ATS communication..
Air Traffic Services Provider	For the purposes of this ICD means the responsible to provide air traffic services in the jurisdiction of State/Territory, such as own State, Agency or International Organization.
Airway	A route that is defined and published for purposes of air navigation.
Altitude	The vertical distance of a level measured from mean sea level (MSL).
Area Control Center/ Centre	An Air Traffic Services unit established to provide air traffic control service to controlled flights in control areas under its jurisdiction.
Assigned SSR Code	A SSR code that has been assigned by an ATC facility to a flight. The flight may or may not be squawking this code. See Established SSR Code.
ATS Route	A specified route designed for channeling the flow of traffic as necessary for the provision of air traffic services.
Boundary Crossing Point	An intersection point between a route of flight and a control boundary.
Boundary Crossing Time	The time at which a flight is predicted to reach its Boundary Crossing Point.
Boundary Point	An agreed point on or near the control boundary at which time and altitude information is provided for purposes of coordination.
Character	A letter from A-Z or number from 0-9.
Control Boundary	The boundary of the Area Control Center (ACC) as defined in the local automation system. This is typically close to, but not the same as, the FIR boundary.

Direct Route Segment	A route segment defined solely by two significant points. The path between the points is implied, and depends on the navigation system used.
Element	Within a numbered field of an ICAO message there may be several sub-fields, called elements. These are referred to by sequential letters a, b, c, etc. For example Field 03 has elements a, b, and c.
Established SSR Code	The SSR code that a flight is now squawking.
Field	A numbered logical portion of a message. All references to fields in this document are to message fields defined in ICAO Doc. 4444 unless otherwise specified.
Fix-radial-distance	A method of specifying a geographic point. It includes the name of a fix, followed by a direction from the fix in degrees and then a distance in nautical miles.
Flight ID	The combination of aircraft ID (from Field 07) and most recent message number (from ICAO Field 03(b)) which uniquely identify a flight.
Flight Level	A surface of constant atmospheric pressure which is related to a specific pressure datum of 1,013.2 hPa (29.92 inches of mercury), and is separated from other such surfaces by specific pressure intervals (see Annex 11). Each is stated in three digits that represent hundreds of feet. For example, flight level 250 represents a barometric altimeter indication of 25,000 feet with the altimeter set to 29.92.
Letter	A letter from A-Z.
Numeric	A number from 0-9.
Off-Block Time	The time at which an aircraft expects to push back or has pushed back from the gate.
Proposed Flight	A flight which has a flight plan but which has not departed.
Reject	When this term is used, it means that an incoming message is not to be processed further and should be output to a specified location (either the message source, or a local adapted device or position). The message must be re-entered in total (after correction) in order for it to be processed.
Reported Altitude	The latest valid Mode C altitude received from an aircraft, or the latest reported altitude received from a pilot.
Route	A defined path consisting of one or more ordered route segments with successive segments sharing a common end/start point. (See also Adapted Route, Direct Route, Flight Plan (or Filed) Route, Route Segment, Direct Route Segment, Adapted Route Segment).
Route Segment	Two significant points and the path between them, the order of the points indicating the direction of flight. (See adapted and direct route segments.)

Selective Calling System	Techniques, or procedures, applied to radio communications for calling only one of several receiving stations guarding the same frequency (SELCAL).
Service	In the context of this interface, a service refers to type of interface service provided: message transfer, file transfer, data base query, etc.
SSR Code	A transponder code consisting of four octal digits.
Standard Arrival Route	A published route from a designated significant point to an aerodrome.
Standard Departure Route	A published route from an aerodrome to the first significant point on a route.
Significant Point	A specified geographical location used in defining an ATS route or the flight path of an aircraft and for other navigation and ATS purposes.
Symbol	Any of the symbols used within messages, including space “ ” oblique stroke “/”, single hyphen “-”, plus “+”, open bracket “(” , closed bracket “)”.
Transaction	The exchange of a message and a response.

LIST OF ACRONYMS

ACC	Area Control Center/Centre
ACID	Aircraft ID - the three to seven character callsign or registration number of an aircraft (e.g. MEX123)
ACP	Acceptance Message
ADF	Automatic Direction Finder
AFTN	Aeronautical Fixed Telecommunications Network
AIFL	Air filed - substitutes for departure aerodrome in flight plan Field 13 when IFR clearance is granted to airborne VFR aircraft
ARTCC	Air Route Traffic Control Center (see Area Control Center)
ATM	Air Traffic Management
ATN	Aeronautical Telecommunications Network
ATS	Air Traffic Services
Bps	Bits Per Second
CAR	ICAO Caribbean Region
CHG	Modification message for **Proposed** Flight Plan
CNL	Flight Plan Cancellation message
CNS	Communications, Navigation and Surveillance
CPL	Current Flight Plan message
EST	Estimate message
FDP	Flight Data Processing
FIR	Flight Information Region
FPL	Filed Flight Plan message
FSAS	Flight Services Automation System
FSS	Flight Service Station
ICD	Interface Control Document
ICAO	International Civil Aviation Organization
ID	Identification
IFR	Instrument Flight Rules
ILS	Instrument Landing System
IRQ	Initialization Request message
IRS	Initialization Response message
ISO	International Standards Organization
Kb	Kilobyte (= 1024 bytes)
LAM	Logical Acknowledgement message
LRM	Logical Rejection message
MIS	Miscellaneous Information message
MOD	Modification message for **Active** Flight Plan
MSN	Message Switched Network
NACC	ICAO North American, Central American and Caribbean Regional Office
NAM	ICAO North American Region (and Mexico)
NAT	ICAO North Atlantic Region
PAC	ICAO Pacific Region

PANS	Procedures for Air Navigation Services
PSN	Packet Switched Network (synonymous with PSDN)
PSDN	Packet Switched Data Network (synonymous with PSN)
RDP	Radar Data Processing
RLA	Radar Logical Acknowledgement
RNP	Required Navigation Performance
RTF	Radio Telephone
RTA	Radar Transfer Accept
RTI	Radar Transfer Initiate
RTU	Radar Track Update
RVSM	Reduced Vertical Separation Minimum
SAM	ICAO South American Region
SELCAL	Selective Calling System
SID	Standard Instrument Departure
SSR	Secondary Surveillance Radar
STAR	Standard Arrival Route
TBD	To Be Determined
TRQ	Termination Request message
TRS	Termination Response message
UTC	Universal Time Coordinated
VFR	Visual Flight Rules
VHF	Very High Frequency
VOR	VHF Omnidirectional Range
VSP	Variable System Parameter

REFERENCES

Document ID	Document Name	Date/ Version
ICAO Doc. 4444	Air Traffic Management, Doc. 4444 PANS-ATM/501	Always use latest version
ICAO Annex 10, Volume II	Aeronautical Telecommunications. Communication, Procedures including those with PANS status.	Always use latest version
ICAO Annex 11	Air Traffic Services	Always use latest version
ICAO Doc. 8643	Aircraft Type Designators	Always use latest version
ICAO Doc. 7910	Location Indicators	Always use latest version
ICAO Doc. 9705	Manual of Technical Provisions for Aeronautical Telecommunications Network	Always use latest version
ICAO Doc. 9426	ATS Planning Manual	Always use latest version

PART I – PURPOSE, POLICY, AND UNITS OF MEASUREMENT

PURPOSE

The purpose of this document is to ensure that data interchange between ATS units providing Air Traffic Services in the CAR and SAM Regions conforms to a common standard, and to provide a means to centrally coordinate changes to the standard.

POLICY

CONFIGURATION MANAGEMENT

The contents of this ICD must be approved by the GREPECAS. Proposed changes to this document will be submitted through the GREPECAS mechanism.

The ICAO secretariat will coordinate review through the GREPECAS mechanism. When all parties have agreed to a change, the document will be amended and distributed by the secretariat.

This document identifies the standards to be followed when the defined messages are implemented. A separate Common Boundary Agreement between each pair of ATS providers shall define which message sets are currently implemented.

SYSTEM PHILOSOPHY

The automation of flight data exchange between neighboring Air Traffic Services units will follow the standards set by ICAO Documents referenced above. In constructing the interface it is recognized that the ICAO standards address neither all required messages nor all required details of message content, and that existing ATS procedures and automation systems are not always fully compatible with parts of the ICAO standard. Therefore this document supplements ICAO Doc. 4444 as needed to meet the requirements of the ATS providers in the CAR/SAM Regions.

This document addresses messages exchanged between Area Control Centers (ACCs) and any other applicable facilities (e.g. Terminal or ATFM Units). Note that a message (e.g. FPL) from a user or operator to an ACC may have different requirements than those sent from ACC to ACC or ACC to ATFM Unit. This document defines the ATM messages that are needed for complete flight plan coordination.

Each pair of ATS providers planning to implement AIDC shall select the applicable message sets from those defined below. By implementing only those message sets necessary to meet the current needs and capabilities of the automation systems, the ATS providers can obtain benefits on an incremental basis.

FLIGHT PLAN DATA COORDINATION

The interface automates only the exchange of flight plan data agreed between the specific ATS providers involved. Additional to those messages contained in Doc 4444, the following messages defined in this document may be used:

- Active flight modification (MOD)
- Miscellaneous Information (MIS)
- Logical Rejection (LRM)
- Initialization Request (IRQ)
- Initialization Response (IRS)
- Termination Request (TRQ)
- Termination Response (TRS)

ATFM COORDINATION MESSAGES

As the requirement to coordinate ATFM information arises, specific messages may need to be developed and incorporated into this document.

RADAR HANDOVER

Transfer of Control includes the capability to perform a radar handover, using the messages defined in this ICD.

- Radar Transfer Initiate (RTI)
- Radar Track Update (RTU)
- Radar Transfer Accept (RTA)
- Radar Logical Acknowledgement (RLA)

The format of these messages is consistent with ICAO standards. The RLA message was introduced as a logical acknowledgement to an RTI, instead of LAM, because it needs to transmit information back to the sender.

ADS HANDOVER

As ADS surveillance is implemented and the requirement to perform ADS handovers arises, additional messages may need to be developed and incorporated into this document.

UNITS OF MEASUREMENT AND DATA CONVENTIONS

TIME AND DATE

All times shall normally be expressed in UTC as four digits, with midnight expressed as 0000. The first two digits must not exceed 23, and the last two digits must not exceed 59.

If higher precision is needed, then a field specification may designate additional digits representing seconds and then fractions of seconds (using decimal numbers) may be added.

For example, 092236 is 9 hours, 22 minutes, and 36 seconds.
11133678 is 11 hours, 13 minutes, and 36.78 seconds.

When used, dates shall be expressed in the form YYMMDD where YY are the last two digits of the year (e.g. 01 is 2001), MM is the month (e.g. 05 for May), and DD is the day of the month (e.g. 29).

GEOGRAPHIC POSITION INFORMATION

Geographic position information shall be expressed in one of the following forms.

- Items a) through d) are consistent with ICAO Doc. 4444 PANS-ATM/501 Appendix 3, section 1.6.3; and,
- item e) was added because the standard ICAO definition of Latitude/Longitude did not provide enough precision for exchange of radar identification.

a) A two to five character significant point designator.

b) Four numerics describing latitude in degrees and minutes, followed by "N" (North) or "S" (South), followed by five numerics describing longitude in degrees and minutes, followed by "E" (East) or "W" (West). The correct number of numerics is to be made up, where necessary, by the insertion of zeros, e.g. "4620N07805W".

c) Two numerics describing latitude in degrees, followed by "N" (North) or "S" (South), followed by three numerics describing longitude in degrees, followed by "E" (East) or "W" (West). Again, the correct number of numerics is to be made up, where necessary, by the insertion of zeros, e.g. "46N078W".

d) Two to three characters being the coded identification of a navigation aid (normally a VOR), followed by three decimal numerics giving the bearing from the point in degrees magnetic followed by three decimal numerics giving the distance from the point in nautical miles. The correct number of numerics is to be made up, where necessary, by the insertion of zeros, e.g. a point at 180° magnetic at a distance of 40 nautical miles from VOR "FOJ" would be expressed as "FOJ180040".

e) When surveillance information with higher precision is necessary, use six numerics describing latitude in degrees, minutes, and seconds, followed by "N" (North) or "S" (South), followed by seven numerics describing longitude in degrees, minutes, and seconds followed by "E" (East) or "W" (West). The correct number of numerics is to be made up, where necessary, by the insertion of zeros, e.g. "462033N0780556W".

ROUTE INFORMATION

All published ATS routes shall be expressed as two to seven characters, being the coded designator assigned to the route to be flown.

ALTITUDE/LEVEL INFORMATION

All altitude information shall be specified as flight level(s) or altitude(s) in one of the following formats (per ICAO Doc. 4444 PANS-ATM/501, Appendix 3, Section 1.6.2):

- F followed by three decimal numerics, indicating a Flight Level number.
- A followed by three decimal numerics, indicating altitude in hundreds of feet.

Each message description identifies which of these formats may be used.

Note: If adjacent FIRs have different transition altitudes, agreement may be reached between the ATS Units on specific use of F versus A with the agreed upon solution documented in their Common Boundary Agreement.

SPEED INFORMATION

Speed information shall be expressed as true airspeed or as a Mach number, in one of the following formats (ICAO Doc. 4444 PANS-ATM/501 Appendix 3):

- N followed by four numerics indicating the true airspeed in knots (e.g. N0485).
- M followed by three numerics giving the Mach Number to the nearest hundredth of unit Mach (e.g. M082).

HEADING INFORMATION

Heading information shall be expressed as degrees and hundredths of degrees relative to true north using five digits, and inserting zeros as necessary to make up five digits, e.g. "00534" is 5.34 degrees relative to true north.

FUNCTIONAL ADDRESSES

A functional address, which refers to a function or position (e.g. Supervisor position) within an ATS Unit, may be substituted in the MIS message for the aircraft identification found in Field 07. The functional address shall contain between one and six characters and shall be preceded by an oblique stroke (/), for a total length of two through seven characters (e.g. /S1) .

FACILITY DESIGNATORS

Facility designators shall consist of four letters. The ICAO Doc. 7910 location identifier for the facility shall be used. Any exceptions shall be incorporated into the Common Boundary Agreement between the two affected ATS Units.

PART II –ATS COORDINATION MESSAGES

INTRODUCTION

The following sections describe those messages used by ATS systems for exchange of information. Messages and fields conform generally to ICAO Doc. 4444, and differences are noted.

MESSAGE FIELDS

Table 1 provides a summary of all fields used in messages described by this document. The remainder of this section describes the format of each field element. Section 3 describes which elements are to be included in each ATS message type, and Appendix B describes rules for the semantic content of each field.

Table 1. Summary of Message Fields

Field	Element (a)	Element (b)	Element (c)	Element (d)	Element (e)
03	Message Type Designator	Message Number	Reference Data		
07	Aircraft Identification	SSR Mode	SSR Code		
08	Flight Rules	Type of Flight			
09	Number of Aircraft	Type of Aircraft	Wake Turbulence Category		
10	Radio, Comm., Nav., and Approach Aid Equipment	Surveillance Equipment			
13	Departure Aerodrome	Time			
14	Boundary Point	Time at Boundary Point	Cleared Level	Supplementary Crossing Data	Crossing Condition
15	Cruising Speed or Mach Number	Requested Cruising Level	Route		
16	Destination Aerodrome	Total Estimated Elapsed Time	Alternate Aerodrome(s)		
18	Other Information				
22	Field Indicator	Amended Data			
31	Facility Designator	Sector Designator			
32	Time of Day	Position	Track Ground Speed	Track Heading	Reported Altitude

FIELD 03, MESSAGE TYPE, NUMBER AND REFERENCE DATA

Field 03(a) format shall be per ICAO Doc. 4444 except that:

Only the message identifiers included in Table 2, Core Message Set, shall be permitted in element (a).

Field 03(b) and Field 03(c) format shall be per ICAO Doc. 4444 except that:

The ATS unit identifier in elements (b) and (c) shall be exactly 4 letters. The ATS unit identifier should correspond to the first four letters of the ICAO Doc. 7910 location identifier for the ATS unit, e.g. SKBO for the Bogota ACC.

FIELD 07, AIRCRAFT IDENTIFICATION AND TRANSPONDER CODE

Field 07(a) format shall be per ICAO Doc. 4444 except that:

The aircraft ID shall be at least two characters long.

Aircraft IDs that begin with "TEST" shall be used only for test flight plans.

In an MIS message, a functional address may be substituted for the flight ID.

Field 07(b) and Field 07(c) format shall be per ICAO Doc. 4444, with the clarification that each number in
Field 07(c) must be an octal digit (i.e. 0-7). Note that elements 07(b) and 07(c) are either both present or both absent.

FIELD 08, FLIGHT RULES AND TYPE OF FLIGHT

Field 08(a) format shall be per ICAO Doc. 4444.

Field 08(b) format shall be per ICAO Doc. 4444.

FIELD 09, NUMBER AND TYPE OF AIRCRAFT AND WAKE TURBULENCE CATEGORY

Field 09(a) format shall be per ICAO Doc. 4444.

Field 09(b) format shall be per ICAO Doc. 4444.

Field 09(c) format shall be per ICAO Doc. 4444.

FIELD 10, EQUIPMENT

Field 10(a) format shall be per ICAO Doc. 4444.

Field 10(b) format shall be per ICAO Doc. 4444.

FIELD 13, DEPARTURE AERODROME AND TIME

Field 13(a) format shall be per ICAO Doc. 4444.

Field 13(b) format shall be per ICAO Doc. 4444.

FIELD 14, ESTIMATE DATA

Field 14(a) format shall be per ICAO Doc. 4444.

Field 14(b) format shall be per ICAO Doc. 4444.

Field 14(c) format shall be per ICAO Doc. 4444.

Field 14(d) format shall be per ICAO Doc. 4444.

Field 14(e) format shall be per ICAO Doc. 4444.

FIELD 15, ROUTE

Field 15(a) format shall be per ICAO Doc. 4444 except that:
The designator "K" used for kilometers per hour will not be permitted.

Field 15(b) format shall be per ICAO Doc. 4444 except that:
The designators "S" and "M" used for metric altitude will not be permitted.

Field 15(c) format shall be per ICAO Doc. 4444.
(Note that even though metric speed and altitude information is not permitted in other fields, it is permissible in elements (c4) and (c6).

FIELD 16, DESTINATION AERODROME AND TOTAL ESTIMATED ELAPSED TIME, ALTERNATE AERODROME(S)

Field 16(a) format shall be per ICAO Doc. 4444.

Field 16(b) format shall be per ICAO Doc. 4444.

Field 16(c) format shall be per ICAO Doc. 4444.

FIELD 18, OTHER INFORMATION

Field 18(a) format shall be per ICAO Doc. 4444, except that:

Indicators other than those shown in ICAO Doc. 4444 may be used; however these indicators may not be processed correctly by all ATS units and/or may cause flight plans to reject.

This reflects the reality that flight plans are filed with indicators other than those defined by ICAO (e.g. DOF/000112 to identify date of flight is commonly filed) some of which may be mandated by other ICAO regions.

Multiple instances of the indicator RMK/ may be used. ICAO Doc. 4444 does not address the validity/invalidity of this; however instances of filed plans which use the same indicator multiple times have been identified. For example, "RMK/AGCS EQUIPPED RMK/TCAS EQUIPPED RMK/RTE 506". The same may be true for some other indicators (e.g. STS/, NAV/ or COM/).

It must be noted that certain other indicators, for example DEP/, must only be used once to ensure successful processing of the flight plan.

FIELD 22, AMENDMENT

Field 22(a) format shall be per ICAO Doc. 4444.

Field 22(b) format shall be per ICAO Doc. 4444.

FIELD 31—FACILITY AND SECTOR DESIGNATORS

Field 31(a) shall contain a four-letter designator of the destination facility that is to receive the handover.

Note that this facility ID can be for a terminal facility that the parent en route system provides routing for. The four-letter designator should be the location identifier for the facility (from ICAO Doc. 7910) if one exists. If a location identifier does not exist, one should be assigned by mutual agreement between the implementing ATS providers and submitted to ICAO for inclusion in ICAO Doc. 7910.

Field 31(b) shall contain a two-character designator of the sector that is to receive the handover.

If 00 is designated, or the field element is not included then the receiving system is to determine the appropriate sector.

Example: MDCS00

FIELD 32—AIRCRAFT POSITION AND VELOCITY VECTOR

Each element of field 32 is fixed length; there is no separator between elements.

Field 32(a) shall contain time of day that the position is valid for, expressed in eight digits: HHMMSSDD where HH is hours from 00 to 23; MM is minutes from 00 to 59; SS is seconds from 00 to 59 and DD is hundredths of seconds from 00 to 99.

Field 32(b) shall contain the position of the referent flight expressed in Latitude/Longitude to the nearest second, in ICAO Doc. 4444 format extended to include seconds (e.g. 462034N0780521W).

Field 32(c) shall contain the ground speed of the flight expressed in knots, per ICAO Doc. 4444 format (e.g. N0456).

Field 32(d) shall contain the heading of the flight expressed in degrees and hundredths of a degree using five digits, from 00000 to 35999 relative to true north.

Field 32(e) shall contain the reported altitude expressed in ICAO Doc. 4444 format (e.g. A040, F330).

CORE MESSAGE SET

The core message set is summarized in Table 2 below.

Table 2. Core Message Set

Category	Msg.	Message Name	Description	Pri-ority	Source
Coordination of pre-departure flights	FPL	Filed Flight Plan	Flight plan as stored by the sending ATS unit at the time of transmission. Used only for proposed flights.	FF	ICAO Doc. 4444
	CHG	Modification message for **Proposed** Flight Plan	Changes previously sent flight data (before estimate data has been sent).	FF	
	CNL	Cancellation	Cancels an FPL	FF	
Coordination of active flights	CPL	Current Flight Plan	Flight plan as stored by the sending ATS unit at the time of transmission, including boundary estimate data. Used only for active flights.	FF	ICAO Doc. 4444
	EST	Estimate	Identifies expected flight position, time and altitude at boundary.	FF	
	CNL	Cancellation	Cancels a CPL.	FF	
	MOD	Modification message for **Active** Flight Plan	Changes previously sent flight data (after estimate data has been sent).	FF	New message, format per CHG.
General Information	MIS	Miscellaneous	Free-format text message with addressing options.	FF	NAT ICD
Interface Management	IRQ	Initialization Request	Initiates activation of the interface.	FF	Based on existing Canadian protocols.
	IRS	Initialization Response	Response to an IRQ.	FF	
	TRQ	Termination Request	Initiates termination of the interface.	FF	

Category	Msg.	Message Name	Description	Pri-ority	Source
	TRS	Termination Response	Response to a TRQ.	FF	
Radar Handover	RTI	Radar Transfer Initiate	Initiates a radar handover.	FF	New messages based on existing U.S. protocols and ICAO Doc. 4444 format
	RTU	Radar Track Update	Provides periodic position updates for a track in handover status.	FF	
	RLA	Radar Logical Acknowledgement	Computer acceptance of an RTI message.	FF	
	RTA	Radar Transfer Accept	Accepts or retracts a handover.	FF	
Acknowledgements (included in each of the above services)	LAM	Logical Acknowledgement	Computer acceptance of a message.	FF	ICAO Doc. 4444
	LRM	Logical Rejection	Computer rejection of an invalid message.	FF	NAT ICD

COORDINATION OF PRE-DEPARTURE FLIGHTS

FPL (FILED FLIGHT PLAN)

FPL Purpose
An FPL shall be addressed to the appropriate ATS Units according to the requested route as prescribed in Doc 4444.

In the case of near-border departures, an FPL may be sent from ATS unit to ATS unit under agreed conditions (e.g. for departures when the flight time to the boundary is less than the normal advance time for sending a CPL). In this case the FPL sent contains the latest flight plan information as entered by Air Traffic Control, and is not always the same as the original FPL filed by the user. This FPL may be used as advanced notification at the receiving ATS facility for planning purposes.

FPL Format

FPL Field	Required Elements	Optional Elements	Comments
03	a, b		
07	a	b, c	SSR code is only sent if one is (already) assigned and the aircraft is so equipped.
08	a	b	Element (b) is included per requirements of the boundary agreement.
09	b, c	a	
10	a, b		
13	a, b		
15	a, b, c		
16	a, b	c	
18		a, other info.	Element (a) is included only if no other information is included. Either element (a) OR other information (but not both) must be included.

FPL Examples

This flight plan was sent from Bogota ACC (SKED) to Maiquetia ACC (SVZM). The flight is from La Mina Airport in Maicao, Colombia to La Chinita International Airport in Maracaibo, Venezuela. Because the departure airport is at the border between Colombia and Venezuela, a FPL needed to be sent before departure.

(FPLSKED/SVZM381-HK2Z5-IG-C172/L-S/C-SKLM1235-N0110A080 DCT CJN G445 MAR DCT-SVMC0036-EET/SVZM0007)

This flight plan was filed by TACA International Airlines for a flight from Toncontin International Airport in Tegucigalpa, Honduras to Boa Vista International Airport in Boa Vista, Brazil.

(FPL-TAI128-IS-B752/M-DGIJLORVW/S-MHTG1735-N0447F290 DCT TNT UA552 NOL UW27 RONER UL304 BVI DCT-SBBV0403-EET/MPZL0039 SKSP0044 MPZL0054 ALPON0122 SKEC0135 SVZM0157 SBMU0344 SEL/CDHQ DAT/S)

CHG (MODIFICATION MESSAGE FOR PROPOSED FLIGHT PLAN)

CHG Purpose

A CHG is used to transmit a change to one or more fields of previously sent flight data for a flight that has not had boundary estimate data sent. When boundary estimate data has been sent (via CPL or FPL followed by EST), a MOD message must be used for flight data changes.

CHG Format

CHG Field	Required Elements	Optional Elements	Comments
03	a, b, c		Element (c) shall contain the reference number of the first message sent for this flight.
07	a	b, c	If a SSR code has been assigned and sent in a previous CHG, it should be included. Fields 07, 13, and 16 must contain the values of these fields before the flight data was changed.
13	a		
16	a		
22	a, b		

CHG Examples

This amendment changes the equipment in Field 10 adding a DME equipment.

(CHGSKED/SVZM395SKED/SVZM381-HK2Z5-SKLM-SVMC-10/SD/C)

This amendment changes the ACID of a flight from HK2Z5 to HK2X5. Note that when Field 07(a) is changed, it is the only change allowed in the message.

(CHGSKED/SVZM412SKED/SVZM381-HK2Z5-SKLM-SVMC-07/HK2X5)

CNL (CANCELLATION)

CNL Purpose
A CNL is used to notify the receiving ATS unit that a flight, for which an FPL or CPL was sent earlier, is no longer relevant to that ATS unit.

CNL Format

CNL Field	Required Elements	Optional Elements	Comments
03	a, b, c		Element (c) shall contain the reference number of the first message sent for this flight.
07	a		Elements (b) and (c) are not used in this context.
13	a		
16	a		

CNL Example

This message was sent from Bogota ACC (SKED) to Maiquetia ACC (SVZM) to indicate that flight HK2X5 from La Mina Airport in Maicao, Colombia to La Chinita International Airport in Maracaibo, Venezuela will no longer be entering Maiquetia ACC airspace.

(CNL SKED/SVZM452SKED/SVZM381-HK2X5-SKLM-SVMC)

COORDINATION OF ACTIVE FLIGHTS

CPL (CURRENT FLIGHT PLAN)

CPL Purpose

A CPL is used to inform the receiving center of the cleared flight plan and boundary estimate information for coordination purposes. This message may only be sent as the initial transmission of an active flight plan (i.e. a flight that has departed and for which a boundary estimate based on the actual departure time is available).

CPL Format

CPL Field	Required Elements	Optional Elements	Comments
03	a, b		
07	a	b, c	SSR code is only sent if one is (already) assigned and the aircraft is so equipped.
08	a	a	Element (b) is included per requirements of the boundary agreement.
09	b, c	a	
10	a, b		
13	a		
14	a, b, c	d, e	
15	a, b, c		
16	a		
18		a, other info.	Element (a) is included only if no other information is included. Either element (a) OR other information (but not both) must be included.

CPL Example

This flight plan was sent from Bogota ACC (SKED) to Maiquetia ACC (SVZM). It indicates that the flight is expected to cross the coordination fix ORTIZ at 1932UTC, that the assigned beacon code is 2617, and that the flight has been cleared to flight level 290.

(CPLSKED/SVZM172-TAI128/A2617-IS-B752/M-DGIJLORVW/S-MHTG-ORTIZ/1932F290-N0447F290 ORTIZ UA552 NOL UW27 RONER UL304 BVI DCT-SBBV0403-EET/MPZL0039 SKSP0044 MPZL0054 ALPON0122 SKEC0135 SVZM0157 SBMU0344 SEL/CDHQ DAT/S)

EST (ESTIMATE)

EST Purpose
An EST is used to provide boundary estimate information for a flight when the basic flight plan information was previously transmitted via an FPL (instead of a CPL). Note that the EST is sent only when a flight becomes active.

EST Format

EST Field	Required Elements	Optional Elements	Comments
03	a, b, c		Element (c) shall contain the reference number of the last message sent for this flight.
07	a	b, c	SSR code is only sent if one is (already) assigned and the aircraft is so equipped. Aircraft ID and beacon code sent in an EST message must match the values previously sent in the FPL or the last CHG that modified the FPL.
13	a		Departure aerodrome must match the value previously sent in the FPL or the last CHG that modified the FPL.
14	a, b, c	d, e	
16	a		Destination aerodrome must match the value previously sent in the FPL or the last CHG that modified the FPL.

EST Example

This message was sent from Bogota ACC (SKED) to Maiquetia ACC (SVZM) upon departure of HK2X5. It indicates that the flight is expected to cross the coordination fix OSOKA at 1245UTC, that the assigned beacon code is 4322 and that the flight has been cleared to an altitude of 8,000 feet.

(ESTSKED/SVZM452SKED/SVZM381-HK2X5/A4322-SKLM-OSOKA/1245A080-SVMC)

CNL (CANCELLATION)

CNL Purpose
A CNL is used to notify the receiving ATS unit that a flight, for which an FPL or CPL was sent earlier, is no longer relevant to that ATS unit.

CNL Format
The CNL message is used for both active and proposed flights.

MOD (MODIFY MESSAGE FOR ACTIVE FLIGHT PLAN)

MOD Purpose
A MOD is used to transmit a change to one or more fields of previously sent flight data after boundary estimate data has been sent. The MOD is therefore used for any flight data changes after a CPL or an EST has been sent.

MOD Format

MOD Field	Required Elements	Optional Elements	Comments
03	a, b, c		Element (c) shall contain the reference number of the first message sent for this flight.
07	a	b, c	SSR code is only sent if one is (already) assigned or the aircraft is so equipped. Fields 07, 13, and 16 must contain the values of these fields before the flight data was changed.
13	a		
16	a		
22	a, b		

MOD Example

This amendment removes the RVSM capability from field 10 and changes the assigned altitude to flight level 240.

(MODSKED/SVZM218SKED/SVZM172-TAI128-MHTG-SBBV-10/DGIJLORV/S-15/N0447F240
UA552 NOL UW27 RONER UL304 BVI DCT)

GENERAL INFORMATION MESSAGES

MIS (MISCELLANEOUS)

MIS Purpose
A MIS is used to transmit a free text message to a specific functional position, or to the position responsible for a specific flight, at another facility.

MIS Format

MIS Field	Required Elements	Optional Elements	Comments
03	a, b		
07	a		Note that element (a) in the MIS may contain a flight ID or a functional address
18	RMK/ followed by free text		

MIS Example

In this example, Bogota ACC (SKED) informs Maiquetia ACC (SVZM) that TACA flight 128 has lost its RVSM capability.

(MISSKED/SVZM221-TAI128-RMK/TACA128 HAS LOST RVSM CAPABILITY)

INTERFACE MANAGEMENT MESSAGES

IRQ (INITIALIZATION REQUEST)

IRQ Purpose
An IRQ is used to request transition of an interface from a non-operational to an operational state.

IRQ Format

IRQ Field	Required Elements	Optional Elements	Comments
03	a, b		

IRQ Example

In this example, Bogota ACC (SKED) has sent a request to Maiquetia ACC (SVZM) to initialize the interface.

(IRQSKED/SVZM266)

IRS (INITIALIZATION RESPONSE)

IRS Purpose
An IRS is used as a response to an IRQ message.

IRS Format

IRS Field	Required Elements	Optional Elements	Comments
03	a, b, c		Element (c) should contain the reference number of the previously sent IRQ.

IRS Example

In this example, Maiquetia ACC (SVZM) has responded to Bogota ACC's (SKED) request to initialize the interface.

(IRSSVZM/SKED817SKED/SVZM266)

TRQ (TERMINATION REQUEST)

TRQ Purpose
A TRQ is used to request transition of an interface from an operational to a non-operational state.

TRQ Format

TRQ Field	Required Elements	Optional Elements	Comments
03	a, b		
18		a, other info.	Element (a) is included only if no other information is included. Either element (a) OR other information (but not both) must be included. Other information, if included, must include RMK/ followed by free text.

TRQ Example

In this example, Bogota ACC (SKED) has sent a request to Maiquetia ACC (SVZM) to terminate the interface.

(TRQSKED/SVZM348)

TRS (TERMINATION RESPONSE)

TRS Purpose

TRS is used as a response to an TRQ message.

TRS Format

TRS Field	Required Elements	Optional Elements	Comments
03	a, b, c		Element (c) should contain the reference number of the previously sent TRQ.
18		a, other info.	Element (a) is included only if no other information is included. Either element (a) OR other information (but not both) must be included. Other information, if included, must include RMK/ followed by free text.

TRS Example

In this example, Maiquetia ACC (SVZM) has responded to Bogota ACC's (SKED) request to initialize the interface.

(TRSSVZM/SKED912SKED/SVZM348)

ACKNOWLEDGEMENTS

LAM (LOGICAL ACKNOWLEDGEMENT)

LAM Purpose

An LAM is sent from ACC to ACC to indicate that a message has been received and found free of syntactic and semantic errors. It does not indicate operational acceptance by a controller. Element (c) contains the reference number (i.e. element 3(b)) of the message being responded to.

LAM Format

LAM Field	Required Elements	Optional Elements	Comments
03	a, b, c		

LAM Example

In this example, Maiquetia ACC (SVZM) has accepted message number 739 from Bogota ACC (SKED).

(LAMSVZM/SKED629SKED/SVZM739)

LRM (LOGICAL REJECTION)

LRM Purpose
An LRM is used to indicate that a message sent from ATS system to ATS system contained an error and has been rejected by the receiving system.

LRM Format

LRM Field	Required Elements	Optional Elements	Comments
03	a, b, c		
18	text as shown in Comments		Describes the error code and the error per Appendix A guidelines: after RMK/, include two digits comprising the error code; (note that error code 57 will be used for any error that is not field specific and that is not identified in Appendix A - Error Codes) two digits comprising the field in error (or 00 if the error is not field-specific); and the erroneous text, i.e. the contents of the message that caused the error when the error is field specific. When the error is non-field specific, a descriptive error message shall be included. Separate the above items by an oblique stroke (/).

LRM Example

In this example, Maiquetia ACC (SVZM) has rejected message number 392 from Bogota ACC (SKED) because the aircraft identification in field 7 of message 392 was too long.

(LRMSVZM/SKED519SKED/SVZM392-RMK/06/07/TACA1745)

RADAR HANDOVER MESSAGES

RTI MESSAGE (RADAR TRANSFER INITIATE)

RTI Purpose
An RTI message is sent from one ATS unit to another to initiate the transfer of radar identification for a flight. Logical acknowledgement of an RTI is an RLA or LRM.

RTI Format

RTI Field	Required Elements	Optional Elements	Comments
03	a, b, c		
07	a, b, c		Must include ACID and established SSR code
13	a		
16	a		

RTI Field	Required Elements	Optional Elements	Comments
31	a	a	If no sector designated or sector 00 is designated, then receiving system determines
32	a, b, c, d, e		

RTI Examples
This is an example of a handover initiated by Merida ACC to Cenamer ACC. No sector is designated, so Cenamer will determine who should receive it.

(RTIMMMD/MHTG812MMMD/MHTG801-TAC210/A3407-MMMX–MPTO–MHTG
-13242934162000N0912401WN043327629F349)

This is an example of a handover directed to sector 01 in Cenamer ACC, from Merida ACC.

(RTIMMMD/MHTG812MMMD/MHTG801-TAC210/A3407-MMMX–MPTO–MHTG01
-13242934162000N0912401WN043327629F349)

RLA MESSAGE (RADAR LOGICAL ACKNOWLEDGEMENT)

RLA Purpose
The Radar Logical Acknowledgment message is used to acknowledge computer receipt of an RTI message. The facility sending this message is indicating that the referenced message has been received and has no format or logic errors, and to indicate which sector the handover was routed to. The RLA is an acknowledgement message in response to RTI and therefore is not responded to.

RLA Format

RLA Field	Required Elements	Optional Elements	Comments
03	a, b, c		
31	a, b		

RLA Examples

In this example Cenamer ACC has indicated to Merida ACC that it has received a handover and routed it to sector 01.

(RLAMHTG/MMMD202MHTG/MMMD445-MHTG01)

In this example Cenamer ACC has indicated to Merida ACC that it has received a handover and routed it to the Guatemala Radar Approach Control

(RLAMHTG/MMMD202MMMD/MHTG445-MGGT)

RTU MESSAGE (RADAR TRACK UPDATE)

RTU Purpose

An RTU message may be sent from one ATS unit to another to update the radar position of a flight during transfer of radar identification. RTU messages are sent periodically after an RTI, until an RTA is received or the handover is retracted. There is no logical acknowledgement of an RTU.

RTU Format

RTU Field	Required Elements	Optional Elements	Comments
03	a, b, c		Element (c) shall refer to the message number of the RTI message that initiated the handover.
07	a ,b ,c		Include established SSR code.
13	a		
16	a		
32	a, b, c, d, e		

RTU Examples

This is an example of an RTU message initiated by Cenamer ACC to Merida ACC. The message MHTG/MMMD801 was the RTI message that initiated the handover.

(RTUMHTG/MMMD000MHTG/MMMD801-TAC211/A3407-MPTO-MMMX
-13242934154412N0905100WN043327629F341)

RTA MESSAGE (RADAR TRANSFER ACCEPT)

RTA Purpose

An RTA message may be sent from one ATS unit to another as an application response to an RTI. This message signifies that a controller has accepted radar identification of a flight. An RTA is also sent by the facility that initiated a handover to retract the handover. Logical (computer) acknowledgement of an RTA is an LAM or LRM.

RTA Format

RTA Field	Required Elements	Optional Elements	Comments
03	a, b, c		Element (c) refers to the message number of the RTI that is being responded to.
07	a, b, c		Include assigned SSR code (i.e. code assigned by the accepting center).
13	a		
16	a		
31	a, b		Note accepting facility may be a Radar Approach Control serviced by the sending ACC.

RTA Examples

This is an example of a handover accepted by Merida ACC. Handover was initiated by Cenamer ACC.

(RTAMMMD/MHTG438MHTG/MMMD812-TAC211/A4222-MPTO-MMMX-MMMD01)

This is an example of a retraction by Cenamer ACC:

(RTAMHTG/MMMD222MHTG/MMMD812-TAC211/A4222-MPTO-MMMX-MHTG01)

PART III – COMMUNICATIONS AND SUPPORT MECHANISMS

INTRODUCTION

The communications protocols and physical path are not dictated by this ICD. This ICD addresses only the application message content.

TELECOMMUNICATIONS REQUIREMENTS AND CONSTRAINTS

USE OF AERONAUTICAL FIXED TELECOMMUNICATIONS NETWORK (AFTN)

AFTN may be used as a flight plan data interface, subject to verification of performance. Any interface exchanging radar position data, including radar handovers, shall not use AFTN.

When AFTN is used as the communications mechanism:

a) The AFTN IA-5 Header as described in ICAO Annex 10, vol. 2 will be used for exchange of messages.

b) ATS messages will be addressed to each ATS unit using an eight-character facility address where the first four characters are the appropriate location indicator from ICAO Doc. 7910, and the last four characters are routing indicators defined by the ATS unit in accordance with ICAO Annex 10, vol. 2.

Each message shall be sent with the priority indicated in Table 2 of Part II.

USE OF A WIDE-AREA NETWORK

Use of existing wide-area networks (e.g. X.25 or Frame Relay packet-switched network) may be used if the speed, capacity, and security characteristics are verified as adequate to support the interface.

USE OF DIRECT LINES

In cases where speed, capacity, and/or security require it, a direct line interface may be used between facilities.

CHARACTER SET

The IA-5 character set shall be used for all application message content. Certain characters have special meaning and must only be used as indicated below:

Open parenthesis "("and close parenthesis ")" shall be used only to begin and terminate the application message.

A single hyphen "-" shall be used only as a field separator and shall not be used within any field.

ENGINEERING CONSIDERATIONS

ASSOCIATED AUTOMATION FUNCTIONALITY

Each ATS service provider participating in this interface must have a supporting automation system. The supporting automation shall:

- Error check all inbound messages for proper format and logical consistency.
- Ensure only messages from authorized senders are accepted and processed.
- As required, alert the responsible controller(s) of flight data that has been received.
- Notify the responsible personnel when any message sent is rejected or not acknowledged within a variable system parameter (VSP) period of time (see 4.5.1 Response time).

FAILURE AND RECOVERY SOLUTIONS

Automation systems may have different failure avoidance and failure recovery mechanisms. Each participating system shall have the following characteristics:

- If the recovery process preserves the current message number in the sequence with each facility, no notification is necessary.
- If the recovery process requires reset of the sequence number to 000, a means of notifying the receiving facility that the message numbers have been reset is required. This may be procedural rather than automated.

The recovery process shall not automatically re-send any CPL for which an LAM had been received. This is relevant if the system was able to recover state information about which flight plans have been coordinated, and did not need to reset the message sequence numbers.

DATA REQUIREMENTS

Certain data must be defined and maintained to support all features of the interface. Depending on the data, it should be coordinated on a Regional, National, or Local (facility) basis. Data requirements are identified in Table 3 below.

Table 3. Summary of Data Definitions Needed to Support the Interface

Field	Data	Purpose	Source	Coordination
03	Facility Identifiers	Identify the sending/receiving facility.	ICAO Doc. 7910 (first four characters) and local definition (second four characters)	Local
07	Functional Address	Agree on functional addresses to be used in MIS messages.	Local Data	Local
10	Equipment Codes	Identify ATS-specified equipment qualifiers that are not specified in ICAO Doc. 4444.	CAR and SAM 7030 Supplements	Regional
14	Boundary Point	Identify the coordination fixes to be sent for each airway.	Local Data	Local
15	Adapted Routes and Fixes	Identify airway and fix information that is adapted by both systems.	Local Data	Local
18	Requirements for other data to be included	Identify any requirements for data that must be included in Field 18.	CAR and SAM 7030 Supplements	Regional

SECURITY CONSIDERATIONS

PRIVACY

This ICD does not define mechanisms that guarantee privacy. It should be assumed that any data sent over this interface may be seen by unintended third parties either through interception of the message or through disclosure at the receiving facility.

Any communications requiring privacy must be identified and appropriate communications and procedures defined.

AUTHENTICATION

Each system shall authenticate that messages received are from the source that is identified in Field 03.

ACCESS CONTROL

Each system participating in the interface shall implement eligibility checks to ensure that the source of the message is eligible to send the message type and is the appropriate authority for the referenced flight.

TEST CONSIDERATIONS

Before an automated flight data interface becomes operational between any two facilities, the following set of tests shall be completed:

Test of the telecommunications system and addressing:

Off-line tests using development or test (i.e. non-operational) systems. These may include test systems at non-operational facilities, and/or operational systems that are in an off-line mode. Note: If off-line testing is not possible, extreme care should be used when conducting first round testing on operational systems.

Test of non-operational message sets:

Tests using the operational systems in off-line (recommended) or operational mode in which TEST messages are exchanged. (Note: If off-line testing is not possible, extreme care should be used when conducting second round testing on operational systems.)

Test of operational message sets:

Tests using the operational systems in operational mode in which manual coordination verifies each flight data message sent.

Before each test, a document specifying purpose, procedures and data to be collected, must be agreed to by both/all facilities. To ensure success/failure is clearly defined, specific criteria should be included in the document.

Data transmitted during test phases should include both correct and incorrect formats/data fields to verify that correct data is processed correctly and incorrect data is rejected.

For diagnostic purposes, each side of the interface should be able to isolate the source of interface problems.

PERFORMANCE CONSIDERATIONS

RESPONSE TIME

For flight planning messages, controllers require indication of an unsuccessful message transmission within 60 seconds of the message being sent. Therefore, the response time from the time a message is sent until an LAM (or LRM) is received shall be under 60 seconds at least 99% of the time under normal operations. A faster response time is desirable, and will result in operations that are more efficient.

For messages involving transfer of control and surveillance data (e.g. RTI, RTA, and RTU) the data must be transmitted in time for the receiving system to display the track position with acceptable accuracy. Communication across the interface shall be less than six seconds maximum.

AVAILABILITY / RELIABILITY

The hardware and software resources required for providing service on the CAR/SAM interfaces should be developed such that the inherent reliability will support interface availability which is at least equal to the end systems of that interface (e.g. 99.7% availability for end systems that both operate with 99.7% reliability).

CAPACITY AND GROWTH

Before implementing this interface between two ACCs, an analysis of the traffic expected between the centers shall be performed and the proposed communications links verified for appropriate capacity. Traffic estimates should consider current and future expected traffic levels.

For initial planning purposes the following estimates of message size and messages per flight are provided.

Table 4. Expected Message Rates and Sizes

Message	Avg. per Flight	Avg. Size	Max Size	Comments
Messages per near-border departure flight:				
FPL	1	275	2,000	
CHG	0.5	160	1,000	Assumed 1 of 2 flights amended after coordination, before departure.
EST	1	120	200	
MOD	2	120	1,000	Assumed each flight has an average of one change after coordination due to amendment and two time updates.
Messages per non near-border departure flight:				
CPL	1	275	2,000	
MOD	2	120	1,000	Assumed each flight has an average of one change after coordination due to amendment and two time updates.
Messages per every flight:				
CNL	0.01	100	150	Assumed 1 in 100 flight plans are cancelled.
RTI	1	150	200	
RTU	5	140	200	Assumed 1 RTU every 6 seconds for 30 seconds.
RTA	1	110	160	
MIS	0.1	130	625	
Responses (not per flight):				
LAM/RLA	Sum of all above except RTU	80	130	
LRM		100	230	

The hardware and software developed for the interfaces shall be capable of asynchronously exchanging the messages defined in Part III, Table 2 simultaneously with all adjacent automated systems.

APPENDIX A – ERROR CODES

The error codes for use with LRM messages are defined in Table A-1 below.

Table A-1. LRM Error Codes and Explanations

Error Code	Field Number	Supporting Text
1	Header	INVALID SENDING UNIT (e.g., AFTN address)
2	Header	INVALID RECEIVING UNIT (e.g., AFTN address)
3	Header	INVALID TIME STAMP
4	Header	INVALID MESSAGE ID
5	Header	INVALID REFERENCE ID
6	07	INVALID ACID
7	07	DUPLICATE ACID
8	07	UKNOWN FUNCTIONAL ADDRESS
9	07	INVALID SSR MODE
10	07	INVALID SSR CODE
11	08	INVALID FLIGHT RULES
12	08	INVALID FLIGHT TYPE
13	09	INVALID AIRCRAFT MODEL
14	09	INVALID WAKE TURBULENCE CATEGORY
15	10	INVALID CNA EQUIPMENT DESIGNATOR
16	10	INVALID SSR EQUIPMENT DESIGNATOR
17	13, 16	INVALID AERODROME DESIGNATOR
18	13	INVALID DEPARTURE AERODROME
19	16	INVALID DESTINATION AERODROME
20	17	INVALID ARRIVAL AERODROME
21	13, 16	EXPECTED TIME DESIGNATOR NOT FOUND
22	13, 16	TIME DESIGNATOR PRESENT WHEN NOT EXPECTED
23	13, 14, 16	INVALID TIME DESIGNATOR
24	13, 14, 16	MISSING TIME DESIGNATOR
25	14	INVALID BOUNDARY POINT DESIGNATOR
26	14, 15	INVALID ENROUTE POINT
27	14, 15	INVALID LAT/LON DESIGNATOR
28	14, 15	INVALID NAVAID FIX
29	14, 15	INVALID LEVEL DESIGNATOR
30	14, 15	MISSING LEVEL DESIGNATOR
31	14	INVALID SUPPLEMENTARY CROSSING DATA
32	14	INVALID SUPPLEMENTARY CROSSING LEVEL
33	14	MISSING SUPPLEMENTARY CROSSING LEVEL
34	14	INVALID CROSSING CONDITION
35	14	MISSING CROSSING CONDITION
36	15	INVALID SPEED/LEVEL DESIGNATOR
37	15	MISSING SPEED/LEVEL DESIGNATOR
38	15	INVALID SPEED DESIGNATOR
39	15	MISSING SPEED DESIGNATOR
40	15	INVALID ROUTE ELEMENT DESIGNATOR

Error Code	Field Number	Supporting Text
41	15	INVALID ATS ROUTE/SIGNIFICANT POINT DESIGNATOR
42	15	INVALID ATS ROUTE DESIGNATOR
43	15	INVALID SIGNFICANT POINT DESIGNATOR
44	15	FLIGHT RULES INDICATOR DOES NOT FOLLOW SIGNIFICANT POINT
45	15	ADDITIONAL DATA FOLLOWS TRUNCATION INDICATOR
46	15	INCORRECT CRUISE CLIMB FORMAT
47	15	CONFLICTING DIRECTION
48	18	INVALID OTHER INFORMATION ELEMENT
49	19	INVALID SUPPLEMENTARY INFORMATION ELEMENT
50	22	INVALID AMENDMENT FIELD DATA
51		MISSING FIELD nn
52		MORE THAN ONE FIELD MISSING
53		MESSAGE LOGICALLY TOO LONG
54		SYNTAX ERROR IN FIELD nn
55		INVALID MESSAGE LENGTH
56		NAT ERRORS
57		INVALID MESSAGE
58		MISSING PARENTHESIS
59		MESSAGE NOT APPLICABLE TO zzzz ACC
60		INVALID MESSAGE MNEMONIC (i.e., 3 LETTER IDENTIFIER)
61	Header	INVALID CRC
62		MESSAGE REJECTED, MANUAL COORDINATION REQUIRED
63-255		Reserved for future use.

Error Code 57 shall be used for any error that is not field-specific and is not identified in the table.
Each ATS provider may propose additional error codes as needed and submit them through the GREPECAS mechanism for approval and inclusion in this Table.

APPENDIX B – IMPLEMENTATION GUIDANCE MATERIAL

B.1 USE OF THE CORE MESSAGE SET

B.1.1 FILED FLIGHT PLAN (FPL) MESSAGES

A user must file a filed flight plan message (FPL) with the initial ATS unit that will service the flight as well as with the ATS unit for each FIR that the flight will cross. The format and content of this FPL is subject to the rules of the receiving country and is not defined by this ICD.

It is expected that an FPL will be filed by an airspace user, and a subsequent CPL will be received from an adjacent ATS unit. It is the responsibility of each country to design their automation to ensure that an FPL or CPL from an adjacent ATS unit always takes precedence over a user-filed FPL for the flight so that second-order flight data messages are applied to the ATS unit-supplied flight plan and not the user-filed flight plan.

B.1.2 COORDINATION OF ACTIVE FLIGHTS (CPL)

Normally, an agreed upon number of minutes before a flight reaches a control boundary the sending ATS unit will send a CPL message to the receiving ATS unit.

The normal computer response to a CPL is an LAM sent by the receiving automation system to signify that the plan was found to be free of syntactic or semantic errors. Controller acceptance is implied (i.e. the ACP message defined in ICAO Doc. 4444 is not implemented). This is permitted per ICAO Doc. 4444, Part IX, section 4.2.3.5.1 and Part VIII, section 3.2.5. If the receiving computer cannot process a CPL then an LRM will be returned if that message has been implemented. Alternatively, no response will be generated.
ICAO Doc. 4444 states, in Part IX, section 4.2.3.2.5 “A CPL message shall include only information concerning the flight from the point of entry into the next control area or advisory airspace to the destination aerodrome”. However ICAO Doc. 4444 provides no guidelines for choosing the exact point at which the CPL should start.

The nature of ATC automation systems is that they have differing requirements for the starting point of a route relative to the facility boundary, necessitating some agreement on allowable route tailoring. The relationship between the start of the route in Field 15 and the coordination fix in Field 14 must also be established so that the receiving center can accurately process the route. Agreements on these points are provided in the attached boundary agreements for each ATS provider.

B.1.3 CHANGES AFTER COORDINATION

Any change to a flight plan after initial coordination requires a message that can be mapped to the correct flight plan. Every message sent after an initial CPL should have the same Aircraft ID, departure point, and destination point. The message reference data should point to the previous message in the sequence for this flight. For example, if the CPL is message number KZMP/CZWG035 then the reference data for the first MOD sent after the CPL should be KZMP/CZWG035. The second MOD sent for that flight should refer to the message number of the original CPL.. The messages that represent valid changes to the original flight plan include CHG, EST, MOD, RTI, and RTA (when used for retraction; see Section B.1.8).

If a flight for which a CPL has been sent will no longer enter the recipient's airspace, a CNL message should be sent.

After acceptance of a CNL message, the receiving system should not accept any changes regarding the subject flight.

Any change to flight data for a flight that has been coordinated (i.e. a CPL or EST has been sent) must be forwarded via a MOD message. The MOD message is identical to the ICAO CDN message in format and content, but does not require an ACP response (only LAM or LRM).

The expected computer response to a CNL, CHG, EST, or MOD is an LAM or LRM (if the latter has been implemented).

Each system should implement rules as to whether an amendment on a particular flight should be accepted from a neighboring ACC. For example, an amendment from the sending ACC typically is not accepted once transfer of control has been initiated.

It is expected that the content of a field sent in a flight data change message (e.g. CHG or MOD) will completely replace the content of the field currently stored in the receiving center. So, for example, if Field 18 is amended the entire contents of the field should be sent and not only the changed elements.

An aircraft placed into a hold should result in a MOD message being sent with new Field 14 Estimate Data (boundary time) based on the Expect Further Clearance (EFC) time. If no EFC time is established by ATC, an agreed upon default EFC time may be used (e.g. 2 hours) to ensure the flight plan data is maintained by the receiving facility. If necessary, a second MOD message should be sent with the revised Estimate Data time once it is known.

Upon acceptance of an RTI message the receiving system should accept only an RTA, RTU, or MIS message for the flight. If an RTA signifying retraction is accepted, then the system may once again accept a MOD message.

Upon receipt of a logical acknowledgement to an RTA message signifying handover acceptance, the sender of the RTA should not accept any messages regarding the subject flight.

B.1.4 NEAR-BORDER DEPARTURES

ATS units implementing automated coordination for near-border departures may also exchange FPLs to coordinate flights pre-departure when the flight time from the departure point to the boundary point is less than the normal CPL notification time.

ATS units will send an FPL message pre-departure followed by an EST message upon departure. Additional coordination procedures may be defined in an inter-facility Letter of Agreement.

If an FPL has been sent and changes are subsequently made, then a CHG message should be used to modify the changed fields. Only the ATS unit that sent an FPL message may send a CHG message (i.e. the receiving unit cannot send a CHG back to the sending unit). Once an EST message is sent, a MOD must be used instead of a CHG for transmission of flight data changes.

The expected computer response to an FPL is an LAM or LRM.

If a previously sent FPL is to be cancelled, a CNL message should be sent.

B.1.5 INTERFACE MANAGEMENT

ATS units implementing an AIDC interface will nominally be expected to accept messages at any time when the system is available. Each system is responsible for providing the capability of inhibiting received messages, if needed. Each system is expected to be able to inhibit outgoing messages. Manual coordination between facilities may be needed for one facility to request the other to inhibit messages.

ATS units which implement AIDC interfaces may exchange messages to request initialization or termination of the AIDC interface via automated messages. Only when an initialization request has been sent and responded to affirmatively will each system be expected to accept messages.

Any message received when the interface is not initialized shall be ignored (i.e. not processed and not responded to), except for IRQ.

To request initialization one system shall send an IRQ message to the other. The IRQ may be repeated a predetermined number of times if no response is received, with each repeated IRQ receiving the same message number.

If the receiving system is ready to communicate (i.e. it has already sent an IRQ) when it receives an IRQ, it shall send an IRS in response. There is no LAM or LRM response to an IRQ. The reference number in Field 03 should refer to the message number of the IRQ being responded to. Each system becomes active when it receives an IRS from the other system. There is no response to an IRS.

If no response to an IRQ is received and the maximum number of retries exceeded, the interface is considered failed by the initiating system.

A system requests orderly termination of the interface by sending a TRQ message. After sending a TRQ, a system shall accept only a TRS or TRQ message. There is no LAM or LRM response to a TRQ. Upon receipt of a TRS the interface shall be deactivated. There is no response to a TRS. Upon receipt of a TRQ the system shall respond with a TRS and deactivate the interface immediately (even if a TRQ is outstanding). When messages are exchanged between two ATS units that cause successful termination of the interface, the two systems shall not send or accept any messages on the interface until a successful initialization transaction has been completed.

B.1.7 ERROR CHECKING, RESPONSES, AND RESENDS

Upon receiving a message, the receiving system shall check that the format and content of each field are in accordance with this ICD. Other logic checks may be performed per the rules defined by the ATS provider.

Whenever a message is received and passes all syntactic and semantic checks an LAM (or RLA for handover initiation) shall be returned to the sender for those messages designated for LAM/LRM responses.

ATS units implementing only LAM acknowledgement messages will not send any response to the sender when a message fails a syntactic or semantic check. The sending ATS Unit must infer message rejection by failure to receive an LAM. Agreement on one minute as a maximum operationally acceptable time-out value (from the time a message is sent to receipt of an LAM) is recommended.

ATS units implementing only LAM acknowledgement messages cannot productively use message resend as a technique, since the lack of an LAM may infer a lost message or message rejection. Therefore use of message resends after timeout of an LAM receipt is not recommended.

ATS units implementing both LAM and LRM acknowledgement messages will send an LRM when a received message fails a syntactic or semantic check, using the error codes in Appendix A. In the case of a radar handover initiation (see B.1.8) an RLA is used instead of an LAM.

When no response to a message is received within a VSP period of time a unit may optionally choose to resend the original message—using the same message number—a VSP number of times before declaring failure. The same message number should be used so that the receiving station can easily distinguish exact duplicates should the same message be received more than once.

B.1.8 RADAR HANDOVERS

- RTI Message

An RTI shall be used to initiate a transfer of radar identification from a controller in one ACC to a controller in another ACC. An RLA or LRM shall be returned in response to an RTI, based on acceptance checks by the receiving computer.

If no logical response (RLA or LRM) to an RTI is received after a specified number of retries, the handover should be marked as failed to the initiating controller.

Upon acceptance of an RTI message the receiving system should not accept any flight data messages regarding the subject flight except for an RTA, RTU, or MIS.

- RTU Message

The transferring center shall begin sending RTU messages once an RLA is received for an RTI.
RTU messages shall be sent once every tracking cycle. The expected track update rate must be coordinated between the implementing countries.

An RTU message should not be sent when current track data is not available for a flight, e.g. if the flight enters a coast mode.

Upon retraction of the transfer or receipt of an RTA from the receiving center the sending of RTUs shall stop. There will be no response to an RTU (i.e. no LAM, RLA, or LRM).

- RTA Message

An RTA message shall be sent by the receiving center in response to an RTI when the receiving controller has accepted the transfer. An RTA message shall be sent by the sending center when the initiating controller retracts a previously issued RTI. An LAM or LRM shall be returned in response to an RTA, based on acceptance checks by the receiving computer.

If no response is received within a VSP period of time (e.g. 6 seconds), the transfer shall be considered failed and the accepting controller notified.

If the sending center receives an RTA after retracting a handover, it shall reject the RTA by returning an LRM.

If the receiving center receives an RTA after accepting a handover, it shall reject the RTA by returning an LRM.

After an RTA is rejected, the controller that attempted to accept or retract control shall be notified that the handover failed. Note that it is possible for an accept and retract to be entered simultaneously, resulting in both RTA messages being rejected.

B.1.9 MIS MESSAGE

The MIS message can be addressed to either a functional address, or to an aircraft ID. The functional addresses to use will be exchanged between adjacent centers. Each functional address will map to a workstation or set of workstations, and the types of information that should be sent to each address should accompany the exchange of addresses.

When an MIS message is addressed to a flight ID, the receiving system shall route the message to the sector that currently controls the flight. If no sector controls the flight the message shall be rejected. The intent is that an MIS message does not modify the flight record for the subject flight (i.e. it is not treated as an amendment to Field 18 for that flight).

B.2 DEVELOPMENT OF FIELD CONTENT

The following sections provide implementation notes on the expected semantic content of each field, how to generate the fields and how to interpret the fields.

B.2.1 FIELD 03

Each message sent to each interface should receive an incrementally higher number. Thus, a system must maintain a separate sequence for each facility with which it interfaces.

The message following number 999 will be 000, and then the number sequence repeats.

The message number in Field 03 and the Aircraft ID in Field 07 combined, must be unique for any CPL or FPL. A flight plan received that has the same message number and ACID as a previously received plan shall be rejected. Note that it is possible to have duplicate message numbers if the sending computer system fails and is restarted in a cold start mode (i.e. no previous state data is retained). In this case the message numbers would restart and may repeat.

Implementers of the AIDC interface should consider a check for out-of-sequence messages (i.e. a message received has a message number that is not one greater than the previous message number). Since messages may be resent if a response is not received within a VSP period of time, it may also be possible to receive a message more than once. Therefore implementers should consider a check for duplicate messages based on the message number. Any such checks should also consider the behavior after a system failure/restart.

B.2.2 FIELD 07

If the aircraft does not have Mode A capability, omit elements (b) and (c) and the preceding oblique stroke. Also omit these elements if the aircraft has Mode A capability but the SSR code is unknown (or not assigned).

B.2.3 FIELD 09

When the aircraft type is “ZZZZ”, there may be no certificated maximum take-off weight. In this case the pilot and/or controller are expected to determine what the value should be per the ICAO guidelines and the estimated weight of the aircraft.

Allowable values for the aircraft type should include any type designator in ICAO Doc 8643.

Note that implementers may choose to validate the wake turbulence category based on the aircraft type, since these are published in ICAO Doc 8643.

B.2.4 FIELD 10

Agreement on ATS-prescribed indicators is to be specified in the CAR and SAM Doc 7030 Supplements.

B.2.5 FIELD 13

The aerodrome in Field 13 must match a location indicator in ICAO Doc 7910, or must match one that is agreed to per the relevant boundary agreement, or agreed to by the implementing facilities. (Note: Some States permit International flights to depart from other than international aerodromes. These aerodromes may not have location indicators in ICAO Doc 7910.)

If ZZZZ or AFIL is used, then additional information should be present in Field 18 per ICAO Doc 4444. This ICD imposes no specific requirements on the content of DEP/.

B.2.6 FIELD 14

Field 14(a) contains a Boundary Point, which is an agreed point on or near the control boundary. The boundary agreement between implementing ATS providers identifies any specific requirements governing the choice of boundary point.

B.2.7 FIELD 15

A CPL, per ICAO Doc. 4444 Part IX, Section 4.2.3.2.5 “shall include only information concerning the flight from the point of entry into the next control area or advisory airspace to the destination aerodrome”. In practical terms, each automation system generally has restrictions on the starting point of the route.

Each boundary agreement will define where the route of flight shall begin so as to meet the above requirement.
After the initial point, Field 15(c) should contain the remainder of the route of flight.

B.2.8 FIELD 18

In an FPL or CPL, all Field 18 content must be delimited by elements constructed as shown in ICAO Doc 4444, each of which is a three to four-letter identifier followed by an oblique stroke.

Field 18 shall not contain the character “-”, which is used to delineate fields in the message.

When used in an LRM, only the RMK/ element should be identified; only the text of the rejection message shall be included.

B.3 SUMMARY OF EXPECTED RESPONSES TO MESSAGES

Table B-1 identifies the expected responses to each message. The computer logical responses represent acceptance or rejection based on computer checks for message validity. An application response is a response that is initiated by a person or the application software to provide semantic response to a message. Note that an LRM can be sent in response to a message with no computer response identified if the message ID (e.g. RTU) cannot be determined by the receiving computer.

Table B-1. Summary of Expected Message Responses

Msg	Computer Logical Response		Application Response
	Accept	Reject	
FPL	LAM	LRM	None
CHG	LAM	LRM	None
EST	LAM	LRM	None
CPL	LAM	LRM	None
CNL	LAM	LRM	None
MOD	LAM	LRM	None
MIS	LAM	LRM	None
IRQ	None	None	IRS
IRS	None	None	None
TRQ	None	None	TRS
TRS	None	None	None

Msg	Computer Logical Response		Application Response
	Accept	Reject	
RTI	RLA	LRM	RTA
RTU	None	None	None
RLA	None	None	None
RTA	LAM	LRM	None
LAM	None	None	None
LRM	None	None	None

APPENDIX C – MODEL OF COMMON BOUNDARY AGREEMENT

C.1 INTRODUCTION

This section documents the AIDC interface planned between (…XXX and XXX...) automation systems. The initial interface may have limited message capability. Future evolutions may include additional messages.

C.2 MESSAGE IMPLEMENTATION AND USE

C.2.1 MESSAGES IMPLEMENTED

The AIDC interface between the (…XXX and XXX...) automation systems will include CPL and LAM. A CPL will be sent when a flight departs, or when it is within a VSP flying time from the boundary, whichever occurs later. Each CPL that is received and successfully checked for syntactic and semantic correctness will be responded to with an LAM.

C.2.2 ERROR HANDLING

An LAM will be sent in response to each CPL unless the receiving automation system detects an error. The automation system that sent the CPL will wait a VSP period of time for an LAM, and if none is received within the time parameter, it will notify the appropriate position that a failure occurred. Automatic retransmission of the message will not be attempted.

C.2.3 CHANGES TO A CPL

All changes to a previously sent CPL will be coordinated manually between the sending and receiving sectors.

C.2.4 FIELD 08, FLIGHT RULES AND TYPE OF FLIGHT

Regardless of the value in Field 08(a), all CPLs sent on this interface will be assumed to be IFR at the boundary between (…XXX and XXX...) airspace. Each center is only to send flight plans for flights that are IFR at the boundary.

C.2.5 FIELD 09, NUMBER AND TYPE OF AIRCRAFT AND WAKE TURBULENCE CATEGORY

When a specific aircraft type is used, the wake turbulence indicator sent to (XXX) must match the value stored for the aircraft type in the (XXX) database. When "ZZZZ" is used as the aircraft type, the wake turbulence category may be H, M, or L as appropriate.

C.2.6 FIELD 13, DEPARTURE AERODROME AND TIME

Field 13(b), normally only present in FPLs, will be allowed as an optional element for CPLs on this interface. (XXX) expects to include this element in messages; the (XXX) does not.

C.2.7 FIELD 14, ESTIMATE DATA

If a flight is on an adapted route segment when it crosses the control boundary, Field 14(a) will reference the last significant point in the sending center's airspace.

If a flight is on a direct route segment when it crosses the control boundary Field 14(a) will reference the last significant point in the sending center's airspace.

If there is no significant point between the departure aerodrome and the boundary, the departure aerodrome will appear in Field 14(a).

All flights are expected to cross the boundary in level flight, at the altitude in Field 14(c). Elements (d) and (e) will not be used, and manual coordination will be required for any flight not in level flight at the boundary.

For flights from …..to …..:

If a flight is on an adapted route segment when it crosses the control boundary, Field 14(a) will reference the first significant point in the receiving center's airspace.

If a flight is on a non-adapted direct route segment when it crosses the control boundary Field 14(a) will reference the intersection of the route with the control boundary.

C.2.8 FIELD 15, ROUTE

Element type (c6) will not be used on this interface.

Element 15(c) will be constructed the same way whether the flight is from ….or from …..:

If a flight is on an adapted route segment when it crosses the control boundary then Field 15(c) will begin with the same significant point as is in Field 14(a).

If a flight is on a direct route segment when it crosses the control boundary then Field 15(c) will begin with the last significant point in the sending center's airspace, if one exists.

If there is no significant point between the departure aerodrome and the boundary then Field 15(c) will begin with "DCT".

After the initial point, Field 15(c) will contain the remainder of the route of flight.

C.2.9 FIELD 16, DESTINATION AERODROME AND TOTAL ESTIMATED ELAPSED TIME, ALTERNATE AERODROME(S)

Fields 16(b) and (c), normally only present in FPLs, will be allowed as optional elements on this interface.

C.3 PHYSICAL INTERFACE

Messages will be exchanged across this interface between the following facilities:
…Center to …
…Center to ….

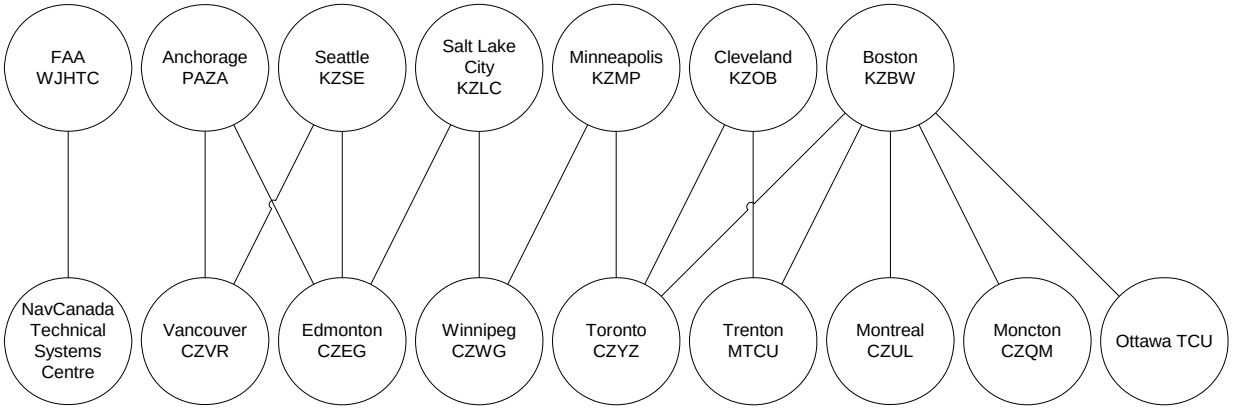


Figure 1. Expected FAA/NAV CANADA Interfaces Governed by this ICD

APPENDIX V

States should develop automation architecture requirements according to the level of service required for each ATS airspace classification and international aerodrome, as follows:

ATS Operational requirements for automated systems (ATC, FIS, SAR)							
APPLICABLE /NEED	**ATS Airspace Classification**						
ATS REQUIREMENTS	**A**	**B**	**C**	**D**	**E**	**F**	**G**
Identification of aircraft							
Separation							
Navigation guidance							
Surveillance							
Transfer							
Coordination							
Information of flight plans in real time							
Visualization of the geographical position of the aircraft (latitude, longitude, history)							
Statistical data of flight plans (past, current and future information).							
Surveillance data processing system (i.e. RDPS or ADS) a. considering future expansion capability; and b. considering format compatibility							
Flight data processing system (FDPS)							
ATS inter-facility data communications (AIDC)							
Controller-pilot data link communications (CPDLC)							
Flight track profile information (altitude, vertical speed, offset speed, predictive vector, turn angle, etc.)							
Alerting systems (STCA, MSAW, DIAW, emergency, communication failure, unlawful interference, etc.)							
Aeronautical Information Services (AIS) Interface							
Meteorological information							

a) successively determine the different operational applications from the functional level or lowest interface to the upper interface;

b) define the current and future operational applications needs; and

c) determine the short-term and future operational requirements.

PBNRM

INTERNATIONAL CIVIL AVIATION ORGANIZATION

CAR/SAM ROADMAP FOR PERFORMANCE-BASED NAVIGATION

(LIMA, NOVEMBER 2006)

Version 1.2

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1. EXECUTIVE SUMMARY

1.1. Following RVSM implementation on 20 January 2005, the main tool for optimising the airspace structure is the implementation of performance-based navigation (PBN), which will foster the necessary conditions for the utilisation of RNAV and RNP capabilities by a significant portion of airspace users in the CAR/SAM Regions.

1.2. In view of the need for detailed navigation planning, it was deemed advisable to prepare a PBN Roadmap to provide proper guidance to air navigation service providers, airspace operators and users, regulating agencies, and international organisations, on the evolution of navigation, as one of the key systems supporting air traffic management, which describes the RNAV and RNP navigation applications that should be implemented in the short, medium and long term in the CAR/SAM Regions.

1.3. The CAR/SAM PBN Roadmap was developed by the CAR/SAM States and International Organizations, together with the international organizations concerned (IATA, IFALPA, IFATCA), and is intended to assist the main stakeholders of the aviation community plan the future transition and their investment strategies.

1.4. The CAR/SAM PBN Roadmap will be the basic material for the development of a broader CAR/SAM navigation strategy, which will serve as guidance for regional projects for the implementation of air navigation infrastructure, such as SBAS, GBAS, etc., as well as for the development of national implementation plans.

1.5. This document begins with a brief description of the need for a roadmap, the strategic objectives of the document, and the principles on which the implementation will be based. It should be noted that, during the transition period, conventional air navigation procedures would continue to be applied in order to safeguard the operations of users that are not RNAV- and/or RNP-equipped.

1.6. It then explains the PBN implementation strategy for both en-route and terminal area operations. It also analyses briefly the PBN concept, and lists the benefits of implementing this concept.

1.7. A review is made of data concerning the regular traffic of passengers on CAR/SAM airlines during the 1994-2004 period, CAR/SAM traffic forecasts, and traffic trends up to the year 2015.

1.8. It furthermore defines the implementation of performance-based navigation in the short, medium, and long term with respect to en-route operations, TMA operations (SIDs and STARs), and IFR approaches, broadly establishing the requirements and specifications for each stage.

1.9. A description is made of RNAV/RNP approval, which will encompass two types of approvals: airworthiness, exclusively relating to the approval of aircraft; and operational, dealing with the operational aspects of the operator. RNAV/RNP approval will be granted to operators that comply with these two types of approvals.

1.10. The implementation of the performance based navigation forecast significant safety-related changes in the airspace structure as well as to the ATC system. The ICAO requirement for new operations introduced post 2000 is that the risk of collision has to be less than 5 than $5x10^{-9}$ per dimension.

1.11. After the implementation of PBN applications and the airspace concept, the total system needs to be monitored to ensure that the safety of the system is maintained. A System Safety Assessment is conducted after implementation and evidence collected to ensure that the safety of the system is assured.

2. EXPLANATION OF TERMS

2.1 The drafting and explanation of this document is based on the understanding of some particular terms and expressions that are described below:

CAR/SAM PBN Roadmap. Document offering appropriate guidance for air navigation service providers, airspace operators and users, regulating agencies, and international organizations, on the evolution of navigation, as one of the key systems supporting air traffic management, which describes the RNAV and RNP navigation applications that should be implemented in the short, medium and long term in the CAR/SAM Regions.

Performance Based Navigation. Performance based navigation specifies RNAV system performance requirements for aircraft operating along an ATS route, on an instrument approach procedure or in an airspace.

Performance requirements. Performance requirements are defined in terms of accuracy, integrity, continuity, availability and functionality needed for the proposed operation in the context of a particular airspace concept. Performance requirements are identified in navigation specifications which also identify which navigation sensors and equipment may be used to meet the performance requirement.

3. ACRONYMS

3.1 Lista de Acrónimos/ List of Acronyms

ADS/B	Vigilancia dependiente automatica-radiodifusión Automatic dependent surveillance-broadcasting
ADS/C	Vigilancia dependiente automática-contrato Automatic dependent surveillance-contract
ANS	Servicios de navegación aérea Air navigation services
ANSP	Proveedores de Servicios de Navegación Aérea/Air Navigation Service Providers
ASM	Gestión del espacio aéreo/ Airspace Management
ATC	Control de tránsito aéreo/ Air Traffic Control
ATFM	Gestión de afluencia del tránsito aéreo/ Air Traffic Flow Management
ATM	Gestión del tránsito aéreo/ Air Traffic Management
ATN	Red de telecomunicaciones aeronáuticas/ Aeronautical Telecommunication Network
ATS	Servicio de tránsito aéreo/ Air Traffic Services
CAR/SAM	Regiones Caribe y Sudamérica/Caribbean/South American Regions
CNS/ATM	Comunicaciones, navegación y vigilancia/Gestión del tránsito aéreo/ Communications, Navigation and Surveillance/Air Traffic Management
CPDLC	Comunicaciones por enlace de datos controlador-piloto /Controller-Pilot Data Link Communications
CTA	Area de control /Control Area
DME	Equipo Radiotelemetrico/Distance-Measuring Equipment
FAR	Regulación federal de aviación/Federal Aviation Regulation
FANS-1/A	Sistemas de navegación aérea del futuro – Aviónica/ Future Air Navigation Systems - Avionics
FDE	Detección y eliminación de fallas / Fault Detection and Exclusion
FIR	Región de información de vuelo /Flight Information Region
FMS	Sistema de gestión de vuelo /Flight Management System
GBAS	Sistema de Aumentación con Base en Tierra/Ground-Based Augmentation System
GLS	Sistema de aterrizaje GBAS / GBAS Landing System
GNE	Error de navegación grave / Gross Navigation Error
GNSS	Sistema mundial de navegación por satélite / Global Navigation Satellite System
GPMS	Sistema de monitoreo de la performance del GPS / GPS Performance Monitoring System
GREPECAS	Grupo Regional de Planificación y Ejecución CAR/SAM/ CAR/SAM Regional Planning and Implementation Group
GRAS	Sistema de Aumentación Terrestre Regional / Ground Regional Augmentation System
HF	Alta frecuencia/ High Frequency
IATA	Asociación del Transporte Aéreo Internacional/ Internacional Air Transport Association
ICD	Documento de control de interfaz / Interface Control Document
IFALPA	Federación Internacional de Asociaciones de Pilotos de Líneas Aéreas/International Federation of Air Line Pilots' Associations
IFATCA	Federación Internacional de Asociaciones de Controladores de Tránsito Aéreo/International Federation of Air Traffic Controllers' Associations
IRU/INS	Unidad de referencia inercial/Sistema de navegación inercial/ Inertial Reference Unit/Inertial Navigation System
JAA	Autoridades Conjuntas de Aviación Civil/Joint Aviation Authorities
JAR	Regulaciones Conjuntas de Aviación Civil/Joint Aviation Regulations
NAT	Atlántico septentrional /North Atlantic
NDB	Radiofaro no direccional /Non-Directional Beacon

NOTAM	Aviso al Personal Encargado de las Operaciones de Vuelo/Notice to Airmen
PBN	Navegación Basada en la Performance /Performance-Based Navigation
RNAV	Navegación de área/Area Navigation - RNAV Route: Ruta de navegación de área/Area navigation route
RNP	Performance de navegación requerida /Required Navigation Performance
RNP AR	Requerimiento de aprobación para la performance de navegación requerida/ Required Navigation Performance Aproval Required
RNPC	Capacidad de la performance requerida de navegación/Required navigation performance capacity
RNPSORSG	Grupo de Estudio sobre RNP y Requerimientos Operacionales Especiales/RNP and Special Operational Requirements Study Group
SARPS	Normas y métodos recomendados (ICAO)/ Standards and Recommended Practices (ICAO)
SATCOM	Comunicaciones por satélite/Satellite Communications
SBAS	Sistema de Aumentación de Base Satelital/Satellite-based Augmentation System
SID	Salida Normalizada por Instrumentos/Standard Instrument Departure
SSR	Radar secundario de vigilancia/Secondary Surveillance Radar
STAR	Llegada Normalizada por Instrumentos/Standard Instrument Arrival
TLS	Nivel de seguridad deseado/Target Level of Safety
TMA	Area Terminal/Terminal Area
VHF	Muy alta frecuencia /Very High Frequency
VDL	Enlace de datos en VHF/ VHF Data Link
VOR/DME	Radiofaro omnidireccional VHF/Equipo radiotelemétrico/Very High Frequency Omnidirectional Radio Range/Distance-Measuring Equipment

4. INTRODUCTION

Need for a roadmap

4.1 Following RVSM implementation on 20 January 2005, the main tool for optimising the airspace structure is the implementation of performance-based navigation (PBN), which will foster the necessary conditions for the utilisation of RNAV and RNP capabilities by a significant portion of airspace users in the CAR/SAM Regions.

4.2 Current planning by the Regional Planning and Implementation Groups is based on the Air Navigation Plans and the Regional CNS/ATM Plans. Currently, these plans are mostly made up by tables that do not contain the necessary details for the implementation of each of the CNS and ATM elements.

4.3 In view of the need for detailed navigation planning, it was deemed advisable to prepare a PBN Roadmap to provide proper guidance to air navigation service providers, airspace operators and users, regulating agencies, and international organisations, on the evolution of navigation, as one of the key systems supporting air traffic management, which describes the RNAV and RNP navigation applications that should be implemented in the short and medium term in the CAR/SAM Regions.

4.4 Furthermore, the CAR/SAM PBN Roadmap will be the basic material for the development of a broader CAR/SAM navigation strategy, which will serve as guidance for regional projects for the implementation of air navigation infrastructure, such as SBAS, GBAS, etc., as well as for the development of national implementation plans.

Objectives

4.5 The CAR/SAM PBN roadmap has the following strategic objectives:

a) To ensure that the implementation of the navigation item of the CNS/ATM system is based on clearly established operational requirements.
b) To avoid unnecessarily imposing the mandate for multiple equipment on board or multiple systems on ground.
c) To avoid the need for multiple airworthiness and operational approvals for intra- and inter-regional operations.
d) To prevent commercial interests from outdoing ATM operational requirements, generating unnecessary costs for CAR/SAM States and International Organizations, as well as for airspace users.
e) To explain in detail the contents of the CAR/SAM Air Navigation Plan and of the CAR/SAM CNS/ATM Plan, describing potential navigation applications.

4.6 Furthermore, the CAR/SAM PBN Roadmap will provide a high-level strategy for the evolution of the navigation applications to be implemented in the CAR/SAM Regions in the short term (2006-2010), medium term (2011-2015). This strategy is based on the concepts of Area Navigation (RNAV) and Required Navigation Performance (RNP), which will be applied to aircraft operations involving instrument approaches, standard departure (SID) routes, standard arrival (STAR) routes, and ATS routes in oceanic and continental areas.

4.7 The CAR/SAM PBN Roadmap was developed by the CAR/SAM States and International Organizations together with the international organizations concerned (IATA, IFALPA, IFATCA), and is intended to assist the main stakeholders of the aviation community plan a gradual transition to the RNAV and RNP concepts. The main stakeholders of the aviation community that benefit from this roadmap are:

- Airspace operators and users.
- Air navigation service providers.
- Regulating agencies.
- International organizations.

4.8 This roadmap is intended to assist the main stakeholders of the aviation community plan the future transition and their investment strategies. For example, airlines and operators can use this roadmap to plan future equipage and additional navigation capability investments; air navigation service providers can plan a gradual transition for the evolving ground infrastructure. Regulating agencies will be able to anticipate and plan for the criteria that will be needed the future.

Principles

4.9 The implementation of PBN in the CAR/SAM Regions shall be based on the following principles:

a) Conduction of cost-benefit analyses to justify the implementation of the RNAV and/or RNP concepts in each particular airspace;
b) Conduction of pre- and post-implementation safety assessments to ensure the application and maintenance of the established target levels of safety;
c) Development of airspace concepts, applying airspace modelling tools as well as real-time and accelerated simulations, which identify the navigation applications that are compatible with the aforementioned concept.
d) Continued application of conventional air navigation procedures during the transition period, to guarantee the operations by users that are not RNAV- and/or RNP-equipped.

PBN implementation strategy

En-route operations

4.10 It is impossible to include the whole CAR/SAM airspace in a single Implementation Plan for En-Route Operations, since the restructuring of the CAR/SAM airspace for PBN application would become an extremely complicated task.

4.11 Likewise, the establishment of a single RNAV or RNP value for the CAR/SAM Regions is unlikely, bearing in mind the differences in air traffic complexity and movement, as well as the differences in CNS infrastructure, which will probably lead to the application of different airspace concepts in the CAR/SAM Regions.

4.12 Thus, the most appropriate strategy is the implementation of PBN by routing areas in CAR and SAM scenarios, according to their own airspace concepts and infrastructure characteristics, which may involve a group of States/Territories and International Organizations. This implementation strategy will be applied by the States/Territories/International Organizations themselves and will permit the establishment of the RNAV or RNP values for the various areas that will be harmonised within the scope of GREPECAS.

TMA operations

4.13 TMA operations have their own characteristics, taking into account the applicable separation minima between aircraft and between aircraft and obstacles. It also involves the diversity of aircraft, including low-performance aircraft flying in the lower airspace and conducting arrival and departure procedures on the same path or close to the paths of high-performance aircraft.

4.14 In this sense, the States/Territories and International Organizations shall develop their own national plans for the implementation of PBN in TMAs, based on the CAR/SAM PBN Roadmap, seeking the harmonisation of the applicable RNAV and/or RNP criteria to avoid the need for multiple operational approvals for intra- and inter-regional operations, and the applicable aircraft separation criteria that will be soon published by ICAO Headquarters.

5. PBN CONCEPTS

5.1 Performance based navigation specifies RNAV system performance requirements for aircraft operating along an ATS route, on an instrument approach procedure or in an airspace.

5.2 Performance requirements are defined in terms of accuracy, integrity, continuity, availability and functionality needed for the proposed operation in the context of a particular airspace concept. Performance requirements are identified in navigation specifications which also identify which navigation sensors and equipment may be used to meet the performance requirement.

5.3 There are both RNP specifications and RNAV specifications. A RNP specification includes a requirement for onboard performance monitoring and alerting and is designated as a RNP X. A RNAV specification does not have such requirements and is designated as RNAV X.

5.4 Performance based navigation therefore depends on:

- the RNAV system and installation on the aircraft being approved to meet the performance and functional requirements of the navigation specification prescribed for RNAV operations in an airspace; and
- Air crew satisfying the operating requirements set out by the regulator for RNAV operations; and
- A defined airspace concept which includes RNAV operations; and
- an available Navaid infrastructure;

Note: Additional information may be obtained in the Manual XXXX – Performance based navigation.

6. BENEFITS OF PERFORMANCE-BASED NAVIGATION

Performance Based Navigation

6.1 Air traffic growth in the CAR/SAM Regions is foreseen at mid term, at the same time that the economical activity. A growth of 6.2, 5.5 y 5.6, % of regular passenger air traffic of CAR/SAM Regions airlines is foreseen in 2005/2006/2007, respectively, as compared to global growth forecast of 7.6, 6.5 and 6.2%, respectively. At long term, airlines passengers air traffic in the Region is expected to grow at an average of 4.0% until year 2015. This growth may lead to air traffic congestion periods which may guide to ATM lack of efficiency.

6.2 In order to ensure ATM efficiency and avoid unnecessary restrictions to airspace users, specifications should be avoided as to who to satisfy navigation requirements indicating only which is the performance and navigation functionality required from the RNAV system. Under the PBN concept, the generic navigation requirements are defined based on operational requirements. Thus, users may evaluate the available options as regards technology and air navigation services which could permit to satisfy these requirements. The solution elected should be the most cost-effective

6.3 The development of the Performance Based Navigation Concept recognizes that advanced aircraft RNAV systems are achieving a predictable level of navigation performance accuracy which, together with an appropriate level of functionality, allows a more efficient use of available

airspace to be realized. It also takes account of the fact that RNAV systems have developed over a 40 year period and as a result there are a large variety of implementations. Identifying navigation requirements rather than on the means of meeting the requirements will allow use of all RNAV systems meeting these requirements irrespective of the means by which these are met.

6.4 The main benefits derived from the implementation of PBN are:

a) Increased airspace safety through the implementation of continuous and stabilised descent procedures that avoid controlled flight into terrain (CFIT);
b) Reduced aircraft flight time due to the implementation of optimal flight paths, with the resulting savings in fuel and environmental protection.
c) Use of the RNAV and/or RNP capabilities that already exist in a significant percentage of the aircraft fleet flying in CAR/SAM airspace.
d) Improved airport and airspace arrival paths in all weather conditions, and the possibility of meeting critical obstacle clearance and environmental requirements through the application of optimised RNAV or RNP paths.
e) Implementation of more precise approach, departure, and arrival paths that will reduce dispersion and will foster smoother traffic flows.
f) Reduced delays in high-density airspaces and airports through the implementation of new parallel routes and new arrival and departure points in TMAs.
g) Possible reduction of spacing between parallel routes to accommodate more traffic in the same flow.
h) Reduced workload for air traffic controllers and pilots due to reduced communications time.

7. IMPLEMENTATION OF PERFORMANCE-BASED NAVIGATION

7.1 ATM operational requirements

7.1.1 The ATM World Plan makes necessary to adopt an airspace concept able to provide and operational scenery that includes Routes Network, Minimum separation, Assessment of obstacles clearance, and CNS infrastructure that satisfies safety specific strategic objectives, capacity, efficiency, environment and technology addressed to the implementation of performance/based navigation.

7.1.2 In this regard, the following programmes will be developed in different areas:

a) traffic and cost benefit studies
b) automation necessary update
c) operations simulation in different sceneries
d) ATC personnel training
e) FPL processing
f) AIS support
g) WGS 84 implementation when necessary
h) uniform classification of adjacent and regional airspaces
i) RNAV/RNP application in SIDs and STARs
j) RNAV routes implementation and coordination

7.2 RNAV/RNP approval will cover to types of approvals: airworthiness, which will exclusively deal with aircrafts approval, and operations, which will take care of the operational aspects of air transport operators. The fulfilment of these types of approvals will permit operators to obtain RNAV/RNP approval.

7.3 **Short term (up to 2010)**

7.3.1 En-route operations

7.3.1.1 Taking into account air traffic low density in oceanic airspaces, no significant changes are expected in the present airspace structure that will demand changes in applied RNAV values. The only exception will be RNP-10 application in the WATRS Region, which will demand a significant change in the CAR Region airspace structure. In airspaces where RNP-10 is applied (EUR/SAM Corridor, Lima-Santiago de Chile Routes and South Atlantic Random Routes System), no short-term changes are expected.

7.3.1.2 In the continental airspace, RNAV-5 implementation in selected airspaces is expected, where possible to obtain operational benefits and available CNS infrastructure is able to support it.

7.3.2 TMA operations (SIDs and STARs)

7.3.2.1 The application of RNAV-1 in State-selected TMAs, in radar environments, with ground navigation infrastructure is expected, which permits DME/DME and DME/DME/INS operations. In this phase mixed operations (equipped and non-equipped) will be admitted, and RNAV-1 operations shall be initiated when an adequate percentage of air operations are approved.

7.3.2.2 In non-radar environments and/or in environments that do not count with adequate ground navigation infrastructure, the application of RNP-1 is expected in State-selected TMAs with exclusive application of GNSS, whenever an adequate percentage of air operations are approved. In this TMA will also be admitted approved and non-approved aircrafts. The application of overlay procedures or exclusive RNP procedures will depend on air traffic complexity and density.

7.3.3 IFR approaches

7.3.3.1 The application of RNP 0,3 approach procedures (basic GNSS) is expected in the maximum possible of State-selected airports, principally in international airports, maintaining conventional approach procedures for non-equipped aircraft.

7.3.3.2 The application of RNP AR approach procedures is expected in State-selected airports, where obvious operational benefits can be obtained, based on the existence of significant obstacles.

Short Term (until 2010)	
Airspace	**RNAV or RNP Value**
Route (Oceanic o Remote)	RNP 10 Corridor EUR/SAM and Santiago/Lima/AORRA/WATRS
Route (Continental)	RNAV 5 in selected airspaces
TMA	RNAV-1 in radar environment and with adequate ground navigation infrastructure.
	RNP 1 – No radar environment and/or without appropriate DME coverage.
Approach	RNP 0,3 in most possible airports and in all international airports. RNP AR in airport where there are obvious operational benefits.
• Non compulsory installation of RNAV equipment on board of non equipped aircraft in TMA and APP • Mixed Operations (equipped and non equipped aircraft) in TMA and APP • Required RNAV 2 equipment above FL350 for flights to/from United States.	

7.4 **Medium term**

7.4.1 En-route operations

7.4.1.1 The application of RNP 4 in the oceanic airspace in EUR/SAM corridor is expected, with utilization of ADS/CPDLC, in order to permit the use of lateral and longitudinal separation of 30 NM. This application will depend on the evolution of the aircraft fleet flying in the airspace.

7.4.1.2 In this phase, the application of RNP-2 is expected in selected areas of the continental airspace, with high air traffic density and exclusive application of GNSS, depending on the analysis of ground infrastructure, which will indicate whether it is possible to use RNAV applications. The establishment of a backup system will be necessary as well as the development of contingency procedures in the event of GNSS failure. The application of RNP-2 will facilitate the PBN application is non surveillance airspace. With the exclusive application of GNSS more control of the GNSS signal is needed, through GPS Monitoring Systems that include NOTAM, FDE, etc.

7.4.2 TMA operations

7.4.2.1 In this phase, it is expected to extend the application of RNAV (RNP) 2/1 in State-selected TMAs, depending of ground infrastructure and of aircrafts navigation capacity. In TMAs of high air traffic complexity and movement (excluding airspaces), the use of RNAV or RNP 1 equipments will be mandatory. In TMAs of less air traffic complexity, mixed operations will be admitted (equipped or non-equipped).

7.4.3 IFR approaches

7.4.3.1 In this phase the extended application of procedures RNP 0.3 and RNP AR in selected airports is expected. Also, the initiation of application of GLS procedure is expected to guarantee a smooth transition between TMA phase and the approximation ´has, basically using GNSS for the two phases.

Medium Term (2011-2015)	
Airspace	**RNAV or RNP Value**
Route (Oceanic or Remote)	RNP 4 in EUR/SAM Corridor and Santiago/Lima
Route (Continental)	RNP 2 in selected airspaces
TMA (SID/STAR)	Expansion of RNAV-1 or RNP-1 application Compulsory RNAV 1 or RNP 1 approval for aircraft operating in greater air traffic density TMAs (exclusionary airspace)
Approach	Expansion of RNP 0,3 and RNP AR application Application of GLS procedures
• RNP2 required equipment over FL290 for flights to/from United States.	

8. SAFETY ASSESSMENT

8.1 The implementation of the performance based navigation forecast significant safety-related changes in the airspace structure as well as to the ATC system, including the implementation of reduced separation minima or new procedures that only shall be applied after a safety assessment has demonstrated that an acceptable level of safety will be met.

8.2 To demonstrate that the system is safe it will b necessary to execute a safety assessment of the proposed operation. This will take two forms:

1) A collision risk assessment for the proposed RNAV system specification;

2) A safety case for the operation.

8.3 After the PBN applications implementation, all the system should be monitored in order to ensure to maintain operational safety. In case of unforeseen events, dependency in charge of monitoring should propose and coordinate with all interested parts the implementation of mitigating measures as soon as possible.

A-1
APPENDIX X1

Reference documentation for developing operational and airworthiness approvals

Organisation	Code	Title
ICAO	Doc (under development by the RNPSORSG)	Performance-based navigation (PBN)
ICAO	Doc 8168 – OPS/611	Aircraft operations
ICAO	Doc 4444	Procedures for air navigation services – Air traffic management
ICAO	Doc 8733	CAR/SAM air navigation plan
ICAO	Doc 7030/4	SAM Regional supplementary procedures (SUPPS)
FAA	Order 8400.10	Required navigation performance 10 (RNP 10) operational approval
FAA	AC 90-96	Approval of US operators and aircraft to operate under instrument flight rules (IFR) in European airspace designated for basic area navigation (BRNAV/RNP 5)
FAA	AC 90-100	US Terminal and en route area navigation
FAA	AC 90-101	Approval guidance for RNP procedures with SAAAR
FAA	Order 8260.52	United States standards for required navigation performance (RNP) approach procedures with special aircraft and aircrew authorization required (SAAAR)
JAA	Leaflet No. 2 (TGL 2) Rev 1	Guidance material on airworthiness approval an operational criteria for the use of navigation systems in European airspace designated for basic RNAV operations
JAA	Leaflet No. 3 (TGL 3) Rev 1	Interim guidance material on airworthiness approval and operational criteria for the use of the NAVSTAR Global Positioning System (GPS)
JAA	Leaflet No. 10 (TGL 10)	Airworthiness an operational approval for precision RNAV operations in designated European airspace
EUROCONTROL	Doc 003-93	Area navigation equipment: operational requirements and functional requirements
RTCA	Do-236B	Minimum aviation system performance standards: Required navigation performance for area navigation
RTCA	Do-238A	Minimum operational performance standards for required navigation performance for area navigation

Documentation availability

The documentation described in paragraph 1 of this document may be obtained at the following websites:

a) Copies of EUROCONTROL documents may be requested from EUROCONTROL, Documentation Centre, GS4, Rue de la Fusee, 96, B-1130 Brussels, Belgium; (Fax: 32 2729 9109). Website: http://www.ecacnav,com.

b) Copies of EUROCAE documents may be purchased from EUROCAE, 17 rue Hamelin, 75783 Paris Cedex 16, France (Fax: 33 1 4505 7230). Web site: http://www.eurocae.org.

c) Copies of FAA documents may be obtained from the Superintendent of Documents, Government Printing Office, Washington, DC 20402-9325, USA. Website: http://www.faa.gov/certification/aircraft/ (Regulation and guidance library).

d) Copies of RTCA documents may be obtained from RTCA Inc., 1140 Connecticut Avenue, N.W., Suite 1020, Washington, DC 20036-4001, USA, (Tel: 1 202 833 9339). Website: www.rtca.org.

e) Copies of ARINC documents may be obtained from Aeronautical Radio Inc., 2551 Riva Road, Annapolis, Maryland 24101-7465, U.S.A. Website: http://www.arinc.com.

f) Copies of JAA documents are available from the JAA´s Publisher Information Handling Services (IHS). Information on prices, where and how to order is available in the JAA website: http://www.jaa.nl and in the IHS websites: http://www.global.his.com and http://www.avdataworks.com.

g) Copies of EASA documents may be obtained from EASA (European Aviation Safety Agency), 101253, D-50452 Koln, Germany.

h) Copies of ICAO documents may be purchased from the Document Sales Unit, International Civil Aviation Organization, 999 University Street, Montreal, Québec, Canada H3C 5H7, Fax: 1 514 954 6769, or at: sales_unit@icao.org, or through national agencies.

INTERNATIONAL CIVIL AVIATION ORGANIZATION

Caribbean/South American Air Traffic Flow Management Concept of Operation

(CAR/SAM CONOPS ATFM)

Version	Draft 0.1
Date	October 2006

FOREWORD

The *Caribbean/South American ATFM Concept of Operations (CAR/SAM CONOPS ATFM)* is published by the ATM/CNS Subgroup of the Caribbean/South American Regional Planning and Implementation Group (GREPECAS). It describes air traffic flow management concept operational to be applied in both regions.

The GREPECAS and its contributory bodies will issue revised editions of the Document as required to reflect ongoing implementation activities.

Copies of the *CAR/SAM ATFM Concept of Operations* can be obtained by contacting:

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The present edition (Draft Version 0.1) includes all revisions and modifications until October 2006. Subsequent amendments and corrigenda will be indicated in the Record of Amendment and Corrigenda Table, according to the procedure established in page 3.

The publication of amendments and corrigenda is regularly announced through correspondence with States, and the ICAO web site, which holders of this publication should consult. The space below is provided to keep a record of such amendments.

RECORD OF AMENDMENTS AND CORRIGENDA

AMENDMENTS			
No.	Date applicable	Date entered	Entered by

CORRIGENDA			
No.	Date applicable	Date entered	Entered by

AMENDMENTS TO THE DOCUMENT

1. The Caribbean and South American (CAR/SAM) ATFM Concept of Operations is a regional document that includes aeronautical scientific and technological advances; as well as the operational experiences, both of the CAR/SAM Regions as of the other ICAO Regions that may affect ATFM concepts and procedures therein established in the same.

2. Due to this particularity, the ATFM CONOPS is also a dynamic document, in permanent progress and permeable in order to accept every modification originated by the constant improvement in the aeronautical disciplines and activities that enable its harmonious use in the CAR/SAM Regions, ensuring air operations safety.

3. In order to keep this ATFM CONOPS updated and make the required changes and/or modifications, the following amendment procedures have been established.

4. The ATFM CONOPS consists of a series of loose-leaf pages organized in sections and parts describing the concepts and procedures applicable to ATFM operations in the CAR/SAM Regions.

5. The framework of the sections and parts, as well as the page numbering have been developed so as to provide flexibility, facilitating the review or the addition of new texts. Each Section is independent and includes an introduction giving its purpose and status.

6. Pages bear the date of publication, as applicable. Replacement pages are issued as necessary and any portions of the pages that have been revised are identified by a vertical line in the margin. Additional material will be incorporated in the existing Sections or will be the subject of new Sections, as required.

7. Changes to text are identified by a vertical line in the margin in the following manner:

Italics ***for new or revised text;***

Italics ***for editorial modification which does not alter the substance or meaning of the text; and***

Strikethrough ~~**for deleted text.**~~

8. The absence of change bars, when data or page numbers have changed, will signify re-issue of the section concerned or re-arrangement of text (e.g. following an insertion or deletion with no other changes).

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GLOSARIO DE ACRÓNIMOS/ACRONYMS GLOSSARY

ACC	Centro de control de área Area control center Aeronautical fixed service
AFTN	Red de telecomunicaciones fijas aeronáuticas Aeronautical fixed telecommunication network
AIP	Publicación de Información aeronáutica Aeronautical Information Publication
AIS	Servicio de información aeronáutica Aeronautical information service
ANP	Plan navegación aérea Air navigation plan
ANS	Servicios de navegación aérea Air navigation services
ANSP	Proveedor de servicios de navegación aérea Air navigation service provider
AO	Operador de aeronave Aircraft operator
APP	Oficina de control de aproximación Approach control office
ATC	Control de tránsito aéreo Air traffic control
ATFM	Gestión de la afluencia del tránsito aéreo Air traffic flow management
ATM	Gestión del tránsito aéreo Air traffic management
ATS	Servicios de tránsito aéreo Air traffic services
CAA	Administración de aviación civil Civil aviation authority
CAR/SAM	Regiones Caribe y Sudamérica Caribbean and South American Regions
CATFM	Dependencia de Gestión de la afluencia del tránsito centralizada Centralized air traffic flow management unit
CBA	Análisis de costo/beneficios Cost/benefit analysis
CNS/ATM	Comunicaciones, navegación y vigilancia/gestión del tránsito aéreo Communications, navigation, and surveillance/air traffic management
FDPS	Sistema de procesamiento de datos de vuelo Flight data processing system
FIR	Región de información de vuelo Flight information region
FMU	Dependencia de organización de la afluencia Flow management unit
FMP	Puestos de gestión de afluencia Flow management position

FPL	Plan de vuelo Flight plan
GREPECAS	Grupo regional de planificación y ejecución CAR/SAM CAR/SAM regional planning and implementation group
MET	Servicios meteorológicos para la navegación aérea Meteorological services for air navigation
OACI/ICAO	Organización de aviación civil internacional International civil aviation organization
PANS ATM	Procedimientos para los servicios de navegación aérea –Gestión de tránsito aéreo Procedures for Air Navigation Services –Air traffic management
PIRG	Grupo regional de planificación y ejecución Planning and implementation regional group
TBD	A ser determinado To be determined
TMA	Area de control terminal Terminal management area
TWR	Torre de control Tower
WWW	Red mundial World Wide Web

Explanation of terms and expressions

The writing and explanation of some terms and particular expressions used in this document are defined for a better understanding

Homogeneous ATM area. A homogeneous ATM area is an airspace with a common ATM interest, based on similar characteristics of traffic density, complexity, air navigation system infrastructure requirements or other specified considerations wherein a common detailed plan will foster the implementation of interoperable ATM systems.

Routing area. A routing area encompasses one or more major traffic flows, defined for the purpose of developing a detailed plan for the implementation of ATM systems and procedures.

Centralized ATFM.- A centralized unit responsible for the provision of air traffic flow management within a specific area.

Capacity (for ATFM purposes). The maximum number of aircraft that can be accommodated in a given time period by the system or one of its components (throughput).

ATM Community.- All the organizations, bodies or entities which might participate, collaborate and cooperate in the planning, development, use, regulation, operation and maintenance of the ATM System.

Demand.- The number of aircraft requesting to use the ATM system in a given time period.

Efficiency.- The ratio of the cost of ideal flight to the cost of procedurally constrained flight.

Air Traffic Flow Management (ATFM).- A service established with the objective of contributing to a safe, orderly and expeditious flow of air traffic by ensuring that ATC capacity is utilized to the maximum extent possible and that the traffic volume is compatible with the capacities declared by the appropriate ATS authority.

Air Traffic Management.- Service which comprises airspace management, air traffic flow management and air traffic services.

Flight Management Position/Unit – FMP/FMU).- A position or working unit established in an appropriate air traffic control unit to ensure the necessary interphase between the local ATFM and a centralized ATFM units related to air traffic flow management – ATFM.

Main Traffic Flows.- It is a concentration of significant volumes of air traffic on the same or proximate flight trajectories.

Air Traffic Management System.- A system which provides ATM through the integration in cooperation with human beings, information, technology, facilities and services, with the support of communications, navigation and surveillance on board and spatial based.

Air Traffic Volume.- The number of aircraft within a defined airspace or aircraft movement in an aerodrome, within a specific time frame.

Executive summary

GREPECAS considered that early ATFM implementation shall ensure optimum air traffic flow towards specific areas or through them during periods in which the demand exceeds or is foreseen to exceed available capacity of the ATC system. Therefore, an ATFM system should reduce aircraft delays both in flight and ground and avoid system overloading.

In this connection, GREPECAS approved the operational concept described herein, which reflects the expected order of events which might occur and should assist and guide the planners in the design and gradual development of ATFM system, in order to provide safety and effectiveness, and ensure an optimum air traffic flow towards certain areas or through them during periods in which the demand exceeds or is foreseen to exceed the available capacity of the ATC system.

The main actors involved in air traffic flow management have been identified taking considering as ATFM community the organizations, bodies or entities which might participate, collaborate and cooperate in the planning, development, use, regulation, operation and maintenance of the ATFM System.

From the analysis of the statistics it may be noted that during the period 1994-2004, the passengers regular traffic (in PKP) of airlines in the Latin American and Caribbean Region grew at an average annual rate of 3.3% (in comparison to the 5.1% annual rate of global growth, foreseeing that air traffic growth continues to gradually improve at mid term, at the same time that the economical activity.

The total of operations of the main airports of the CAR Region in the period 2002 to 2005 reflected a positive trend of 1.92%. However, in the same period the trend in the SAM Region was negative –0.56% being the global trend positive 0.66% for both regions.

Also, several airspaces with common interests have been identified as regards air traffic management, based on similar characteristics of traffic density, complexity and air navigation system infrastructure requirements within which a common plan shall foster the implementation of an ATM Global Concept. A description of such homogeneous and routing areas is attached as CAR/SAM ATFM CONOPS.

As established in ICAO documents, air traffic flow management should be implemented within a region or within other defined areas as a centralised ATFM organization, with the support of flow management units (FMU) established in each ACC within the region or area of application.

In view of the above, this document describes the main objective of the centralised ATFMs which has as main task to contribute so that the ATC may use to the maximum possible extent its capacity and, as required, issue flow management initiatives to maintain a safe, orderly and expeditious air traffic circulation, ensuring that air traffic volume is compatible with declared capacities making at the same time a description of principles and functions and establishing some requirements as regards units equipping or air traffic flow management units and the proper centralised ATFM units.

In the current operational concept, GREPECAS establishes a simple implementation strategy through the development in phases in order to ensure maximum utilisation of available capacity and permit all parties concerned to obtain sufficient experience. The implementation would be initiated with the application of basic ATFM procedures in airports and in an evolutionary manner to reach more complex phases, without the immediate need for a regional ATFM centre, since its implementation would demand further studies to define operational concepts, systems requirements and institutional aspects for its implementation.

Finally, GREPECAS deemed pertinent to establish exceptions for the application of ATFM measures for aircraft performing ambulance flights, humanitarian flights, search and rescue operations and State aircraft in international flights, leaving at the discretion of the States/Territories and International Organizations the measures to be adopted on this matter for domestic flights. It also set out that for a partial or total interruption of flow management and/or support services the corresponding contingency will also be available.

1. History

1.1 ICAO CNS/ATM Systems received support from the Tenth Air Navigation Conference held in 1991 at ICAO Headquarters in Montreal, Canada. The same year, the CAR/SAM Regional Planning and Implementation Group (GREPECAS) started to work towards a regional application of this new air navigation services concept.

1.2 Further, at the Eleventh Air Navigation Conference (AN-Conf/11, Montreal September 2003), States supported and approved the new ICAO ATM Global Operational Concept, which encourages the implementation of a services management system which enables an operationally continuous regional airspace through the application of a series of ATM functions.

1.3 As per the guidance principles established by ICAO Council with regard to the facilitation of the inter-regional harmonization, the regional plans for CNS/ATM systems implementation in the regions should be prepared in accordance to the general profiles defined in the Global Air Navigation Plan for CNS/ATM Systems. After a careful analysis of the guidance principles of this Global Plan, GREPECAS adopted them and incorporated characteristics inherent to the CAR/SAM Regions, using as a basis the definitions of Homogeneous Areas and Main Traffic Flows. Homogeneous areas are those airspace portions with ATM requirements and similar complexity degrees, while main air traffic flows are airspaces where a significant amount of air traffic exists.

1.4 From the analysis carried out by ICAO/UNDP Project RLA/98/003, it may be inferred that while in general terms in the CAR/SAM Regions environment, currently no traffic congestions are registered requiring a complex flow management, they have been identified in some airports and airspace sectors, mainly in special periods and specific hours, where some congestions are already produced, which should be avoided.

1.5 In view of the above, GREPECAS considered that the early implementation of the ATFM shall ensure an optimum air traffic flow towards some areas or through them, during periods in which the demand exceeds or is foreseen to exceed the available capacity of the ATC system. Therefore, an ATFM system should reduce aircraft delays both in flight and ground and avoid system overloading. The ATFM system shall assist the ATC to comply with its objectives and achieve a more effective utilisation of the airspace and airports available capacity. ATFM should also ensure that air operations safety is not compromised in case unacceptable levels of air traffic congestion occur and at the same time ensure that air traffic is effectively administered without applying unnecessary restrictions to flow.

2. Purpose of the document

2.1 This document on CAR/SAM Air Traffic Flow Management Operations Concept (ATFM) is oriented towards the description of a high level on the service to be provided in the CAR/SAM Regions in a specific time horizon. It explains the current situation and which shall be the future situation to be progressively reached through a series of specific change stages.

2.2 The operational concept described herein reflects the expected order of events which might occur and should assist and guide the planners in the design and gradual development of ATFM system, in order to provide safety and effectiveness, and ensure an optimum air traffic flow towards certain areas or through them during periods in which the demand exceeds or is foreseen to exceed the available capacity of the ATC system.

3. Actors involved in ATFM

3.1 The ATFM community includes organizations, bodies or entities which could participate, collaborate and cooperate in the planning, development, utilisation, regulation, operation and maintenance of ATFM system. Among them, the following may be emphasized:

3.2 ***Aerodrome Community***.- which includes aerodromes, aerodromes authorities and other parties involved in the provision and operation of the physical infrastructure needed to support the take-off, landing and ground handling of aircraft.

3.3 ***Airspace Providers***.- referring in general terms to Contracting States in their owners capacity with legal authority to permit or deny access to their airspace sovereignty. The expression may also be applied to organizations of the State to which the responsibility has been assigned to establish standards and guidelines for the airspace use.

3.4 ***Airspace users***.- mainly referring to airlines and pilots.

3.5 ***ATM service providers.-*** are constituted by all organizations and personnel (i.e. controllers, engineers, technicians) implied in the provision of ATFM services to airspace users.

3.6 ***Military aviation.-*** referring to personnel and material of military organizations as wardens and their vital role in States' security.

3.7 ***International Civil Aviation Organization (ICAO)***.- considered as the only international organization in conditions to efficiently coordinate implementation activities of global ATM leading to become real a continuous global ATM.

4. Trends and traffic forecasts in the main airports of the CAR/SAM Regions

4.1 During the period 1994-2004, the Latin American and Caribbean Region's airlines passengers' regular traffic (in PKP) grew at an annual average of 3.3% (in comparison to the global annual average growth rate of 5.1%). Until year 2000 privatisation of national carriers fusions and inter-regional alliances, together with a wide rationalization of fleets and routes, counted among the measures that enabled airlines of the regions to capture a greater portion of traffic of United States – Latin America and Caribbean, one of the aviation markets with greater growth rate. After high traffic growth rates in 1997 and 1998 (9.5% and 7.8% respectively), the passengers traffic decreased in 1999 in a 0.3% but it was recovered in 2000 with a growth rate of 4.4%, decreasing again in 2001 in 5.1%. The traffic decreased in 1.6% in 2002 before recovering in 2003 (3.8%) and 2004 (8.4%). In some CAR/SAM areas the traffic growth in 2005 registered scopes of up to 13%.

4.2 Aircraft movement in the main airports in the period 2002-2005 would indicate that, in the CAR Region the total operations reflect a positive trend of 1.92% observing that in some States particularly, positive trends are reflected that vary from 2.42% to 6.41%. In the SAM Region, the total of operations reflected a negative trend of -0.56% between years 2002 to 2005 observing that some States particularly reflect positive trends which vary from 0.85% to 4.79%.

4.3 Making a balance of the previous information, it is observed that during years 2002 to 2005 the global trend in the CAR/SAM Regions is reflected in a positive 0.66%. It is foreseen that the traffic growth continues to gradually improve at mid term at the same time than economical activity.

4.4 For a better illustration, the evaluation of the information submitted by CAR/SAM States is shown in **Appendix A.**

5. Main traffic flows

5.1 The CAR/SAM air navigation plan has identified several airspaces with common interests as regards air traffic management, based on similar characteristics of traffic density, complexity and air navigation system infrastructure requirements within which a common plan shall foster the implementation of the ATM Global Concept. Within these routing areas the main traffic flows have also been identified following the same or close flight trajectories between pairs of cities.

5.2 These routing areas and the respective traffic flows are described in the Table shown as **Appendix B** to this document.

6. Identification of areas and/or routes where traffic congestion is produced

6.1 Currently, saturation periods have been identified in several airports and traffic flows of some of the CAR/SAM Regions FIRs. In view of this, it is necessary that CAR/SAM States maintain identified the saturation periods of their respective airports, terminal areas and traffic flows.

7. Objectives, principles and functions of a Centralized ATFM

Objective of the Centralized ATFM

As established in the PANS ATM (Doc 4444) air traffic flow management should be implemented within a region or within other defined area, as a centralized ATFM organization with the support of flow management positions (FMP) established in each ACC within the region or area of application.

The objective of the Centralized ATFMs shall be to contribute so that the ATC use to the maximum possible extent its capacity and, as required, shall issue flow management initiatives to maintain a safe, orderly and expeditious air traffic circulation, assuring that the traffic volume is compatible with the declared capacities.

Consequently, and aware of their operational needs in agreement with its reality as regards ATC service, air traffic and airport problems, as well as air traffic volume, administrations should define whether a FMU is necessary, which in addition to communicating with the Centralized ATFM, may manage and coordinate the implemented Flow Management Position (FMP) implemented in ATC units which so require or adopt the direct communication process from these FMPs with the Centralized ATFM.

Principles in which ATFM will be based

Regional ATFM structure should be composed in such a manner that each State/Territory and International Organization of the CAR/SAM Regions may have access to a Centralised ATFM corresponding through an organization adequate to their needs and developed as per guidelines determined on this matter.

The Centralized ATFM, to comply with its objectives, should be based on the following principles:

To be at disposal of all States/Territories and International Organizations in the region under their responsibility, considering the requirements of operators, airports, ATC units and other pertinent ATFM units.

a) Use a common and permanently updated database.

b) Take pertinent measures well in advance to prevent and/or minimise overloads.

c) Keep close and continuous coordination with flow management units (FMUs) and/or flow management positions (FMPs), aircraft and airport operators, corresponding ATC units and other pertinent Centralized ATFM units.

d) Take measures that ensure that existing delays are equitably distributed among operators.

e) Apply quality management to the services provided.

f) Base the implementation of ATFM measures in the collaborative decision making (CMD) process.

g) Favour, to the maximum possible, the use of the existing capacity without compromising safety.

h) Contribute in the achievement of the global ATM objectives.

i) Have the necessary flexibility to enable operators to change their arrival or departure schedules.

Functions of a Centralized ATFM

7.1 To provide Air Traffic Flow Management (ATFM) service, the Centralized ATFM should comply with the following activities:

a) Establish and maintain a data base in the region under its responsibility on:

- *the air navigation infrastructure, ATS units and registered aerodromes;*
- *pertinent ATC and airport capacity; and*
- *flight data foreseen.*

b) Establish a coherent chart of foreseen air traffic demand, a comparison with available capacity and determination of areas, and a time-frame of critical air traffic overloads foreseen;

c) Make the necessary coordination to make every possible attempt to increase the capacity available, when necessary.

d) When deficiencies in the capacity available matter may not be eliminated, determine and timely apply ATFM measures, as required, previously coordinated with aircraft operators and interested aerodromes.

e) Carry out a follow-up on the result of measures adopted.

f) Coordinate ATFM service with the other centralized ATFM units, when so required.

8. Equipment requirements for FMU/FMP and Centralized ATFM

8.1 The implementation of the ATFM shall require identifying and determining which would be the minimum requirements for the implementation of the service and the Centralized ATFM, FMU, or FMP in each CAR/SAM Regions ATC unit.

*Note: A more detailed description of these requirements is shown in **Appendix C** to this document.*

9. Personnel requirements for FMU/FMP and Centralized ATFM

9.1 Personnel performing in the Centralized ATFM as well as FMU/FMP functions shall require training and shall be qualified to provide an efficient flow management service. A detailed planning of ATFM training in advance shall ensure the optimisation of benefits in terms of capacity and operational efficiency and that personnel from FMU/FMPs be able to satisfactorily face the important change in their operational environments, ensuring high levels of continuous security.

10. Operational procedures

The operational procedures of the Centralized ATFM as well as those for the FMUs and FMPs should be developed in separate documents. These documents should describe the procedures applicable between the ATFM and all the FMUs/FMPs. Changes in these procedures shall be first agreed upon and shall be published as amendments to operational procedures prior to consultation to all parties involved.

The purpose of these documents shall be to assist personnel from the Centralized ATFM and FMUs/FMPs to establish a common understanding of the roles of each party interested in the effective provision of the flow management service and the capacity to air traffic services control and to aircraft operators.

ATFM measures should be addressed to traffic flows or flight series and to specific flights and days. To this end, planning, strategies development, and day-to-day monitoring, should be made. With regard to the above, ATFM activities could be developed in three phases: strategic - up to 48 hours before the day of the operation; pre-tactical - during 48 hours prior to the operation day; and, tactical - during the day of the operation. During all ATFM phases, responsible units should maintain a close liaison with ATC and with aircraft operators to ensure an effective and equitable service.

11. ATFM Implementation Strategy

The operational concept establishes a simple implementation strategy. This strategy should be develop in phases, so as to ensure maximum utilisation of the available capacity and enable all concerned parties to obtain sufficient experience.

11.1 The experience acquired in other Regions and by some States in the CAR/SAM Regions permits States/Territories and International Organizations to apply basic ATFM procedures in airports, without the immediate need for a Regional ATFM Centre. A Regional ATFM Centre shall demand ample studies to define operational concepts, requirements of systems and institutional aspects for ATFM implementation in the CAR/SAM Regions.

12. ATFM implementation stages

12.1 In order to enable maximum use of all resources available in the regions, either from personnel, equipment, facilities and/or automated systems, the implementation process of ATFM should be established, planned and developed in stages, according to the following sequence:

ATFM Airport Strategic

12.2 Normally the adoption of strategic flow management measures in airports located in airspaces of air traffic low density, avoids congestion and saturation of such airspace. Another aspect to be considered is that the adoption of ATFM strategic measures in airports are more simple to apply, keeping in mind that they demand a reduced data collection of flight intentions (RPL, Official Airline Guide - OAG, flight lists etc) and the use of automation and existing infrastructure tools.

12.3 The implementation process of ATFM in the CAR/SAM Regions should start with the establishment of a common methodology of estimation of the airport capacity which would enable identification of airports where periods exist in which demand is higher than capacity. As of that identification, measures could be adopted with a view to optimise the utilisation of the existing capacity.

12.4 ATFM strategic measures in airports should be limited to the use of Airport Slots and would have as objective to ensure a balance between the demand of regular flights and airport capacity. The application of slots would ensure the hour distribution of flights in airports.

12.5 Therefore, airports slots distribution procedures should be developed to operators which perform regular flights in function to the saturation/congestion of airports. The necessary capacity for other airspace users (non-regular flights) should also be kept in mind.

ATFM Airport tactical

12.6 The evolution of ATFM measures in airports should evolve towards the inclusion of non-regular flights in balancing procedures between demand and capacity. The adoption of ATFM tactical measures in airports would be still of low complexity. However, it would demand an increase in the data collection programme for intention flights in order to include FPLs and it would be necessary in addition to the use of tools of automation and existing infrastructure tools, the use of an efficient communications means between aircraft operators which perform non-regular flights and FMUs or FMPs.

12.7 ATFM tactical measures in airports would continue to be limited to the use of airport slots. However, the balance between demand and airport capacity would also consider non-regular flights. At this phase, slots distribution procedures to operators should also consider non-regular flights.

12.8 It is expected that strategic measures in airports be sufficient to solve specific problems in airports where there is a significant demand of regular flights, while tactical measures would be applied only to airports in which a significant amount of non-regular flights are carried out.

ATFM Airspace strategic

12.9 From the experience acquired in the demand and airport capacity management, States/Territories and International Organizations should consider airspace analysis, mainly those in which ATFM measures in airports are not sufficient to solve congestion and airspace saturation problems.

These ATFM strategic measures should avoid congestion and airspace saturation. The adoption of these measures would be of low complexity since it would only include their influence in the establishment of airports slots. However, it would demand the use of more sophisticated automation and infrastructure tools which permit the analysis of air traffic movement in each airspace portion, in order to identify congestion or saturation in control sectors.

12.10 The balance between demand and capacity would consider regular flights that are carried out. At this phase airports slots distribution procedures should take into account airports and airspaces saturation/congestion previsions.

12.11 It is expected that strategic ATFM measures in the airspace are sufficient to prevent overload of control sectors, mainly in those airspaces in which there is a significant over-flights demand.

ATFM Airspace tactical

12.12 At this ATFM implementation phase, States/Territories and International Organizations should move to the most complex phase which involves ATFM tactical measures related to airspace, including dynamic procedures that are applied to flights carried out in few hours. The adoption of airspace tactical measures would be very complex since it would include the application of ATC slots, as per a continuous analysis of the relationship demand/capacity. This analysis would demand the use of more sophisticated automation and infrastructure tools than in the previous phase, which permit the assignment of ATC slots, addressed to avoid overloads of airspace sectors and airports.

12.13 It is expected that airspace tactical ATFM be implemented only in States/Territories and International Organizations where there is a clear operational requirement, keeping in mind that the complexity of the application of tactical measures in airspace shall have a high cost in automated systems, data bases, telecommunications system and human resources training.

12.14 States/Territories and International Organizations who decide to implement airspace tactical ATFM should develop standards, procedures and operational manuals applicable to ATFM service.

13. Centralized ATFM implementation strategy in the CAR/SAM Regions

13.1 GREPECAS/13 was of the opinion that two CAR and SAM scenarios should be taken into account, but that they could be modified insofar as the operational concept development and the implementation plans progress. The strategy is to develop a harmonized planning of a CAR and SAM interregional ATFM system.

13.2 In order to maximise its efficiency, it was considered that Centralized ATFM should have the responsibility of providing service on the maximum extension of airspace possible, provided that this is homogeneous. In accordance with ATFM planning in the CAR and SAM Regions, it will have at least two Centralized ATFMs, one for each region.

13.3 It was also considered necessary that the procedures during all the implementation process be developed in a harmonious manner among the ATFM units to avoid risking operational safety. This entails establishing a regional and interregional strategy to facilitate and harmonize all the implementation process. The ATFM Task Force will accomplish these planning and harmonization objectives while for the implementation, two scenarios will be established depending on the operational needs and own features of each CAR and SAM Region. The activation of two ATFM Implementation Groups was considered, one for each Region.

13.4 It was considered that operational implementation should be carried out in phases, according to ICAO Doc 9854 – *Global air traffic management operational concept*, in order to permit a progressive implementation and acquire necessary capacities for an adequate implementation. Each phase should be implemented, based on operational configurations, descriptive documents of the operational models and systems, as per the established strategy.

13.5 In order to harmonize the National Plans with the Regional CAR/SAM ATFM Regional Plan, it is necessary that the civil aviation administrations take the required measures and make a closer follow-up of the regional development of the ATFM and prepare a ATFM implementation programme where implementation needs are determined, the impact that will have in the national ATC system, air traffic services as well as in operations and airport services be analysed, and pertinent coordinations are established, which make it possible an integral regional, timely and harmonious implementation.

14. Special flights exempt from application of ATFM measures

14.1 Aircraft complying ambulance flights, humanitarian flights, search and rescue operations to State aircraft in international flights would be exempt from the application of ATFM measures. States would continue having under their criteria measures to be adopted on this matter regarding domestic flights.

15. Contingency plan

15.1 In case of a partial or total interruption of the flow management service and/or support services, ATFM and FMUs/FMPs will have the corresponding contingency plans prepared as per GREPECAS guidelines, in order to help to ensure the safe and orderly movement of air traffic. These plans should be incorporated to the documents related with operational procedures of the Centralized ATFM and FMUs/FMPs.

APPENDIX A

Evaluation of operations in the main airports of the Regions

1. The methodology used to verify the percentage trend of operations of an airport, a State, a Region, or both CAR/SAM Regions, was as follows:

a) The information was initially collected and processed in Excel.

b) A comparative procedure of one year with respect to the other was applied and it was divided between the year required for comparison either in percentage or numerical (operations).

c) A formula was applied to obtain global average of data collected in all years counted either by airport, State or Region.

d) Finally, to obtain the global data a sum was made of data processed in all years counted.

e) The data processed were designed in bar and linear graphics and numerical so that operational data appears in bars and lines by States. Even though this graphic may also be designed by airports.

2. Trends per regions as per aircraft movement in the period comprised between 2002 and 2005 were as follows:

a) CAR Region
The total of operations reflected a positive trend of 1.92% between years 2002 to 2005.

b) SAM Region
The total of operations reflected a negative trend of -0.56% between years 2002 to 2005.

c) CAR/SAM Regions
The global trend in both CAR/SAM Regions reflects in a positive manner 0.66% between years 2002 to 2005.

d) In the CAR Region, the following States reflect positive trends:

Cuba	6.41%
Dominican Republic	5.74%
Belice	4.77%
El Salvador	3.06%
México	2.57%
U. S. (P. R) (V. I)	2.51%
Guatemala	2.51%
Costa Rica	2.42%

e) In the SAM Region the following States reflect positive trends:

Venezuela	4.79%
Panamá	3.73%
Chile	2.59%
Bolivia	2.49%
Perú	0.85%

3. Analysis of data

Based on the information sent by States, an analysis on flights concentration in the CAR/SAM Regions was made. The result of such analysis is contained is as follows:

a) Approximately 80% of flights reported is concentrated in the following 7 countries, as shown below:

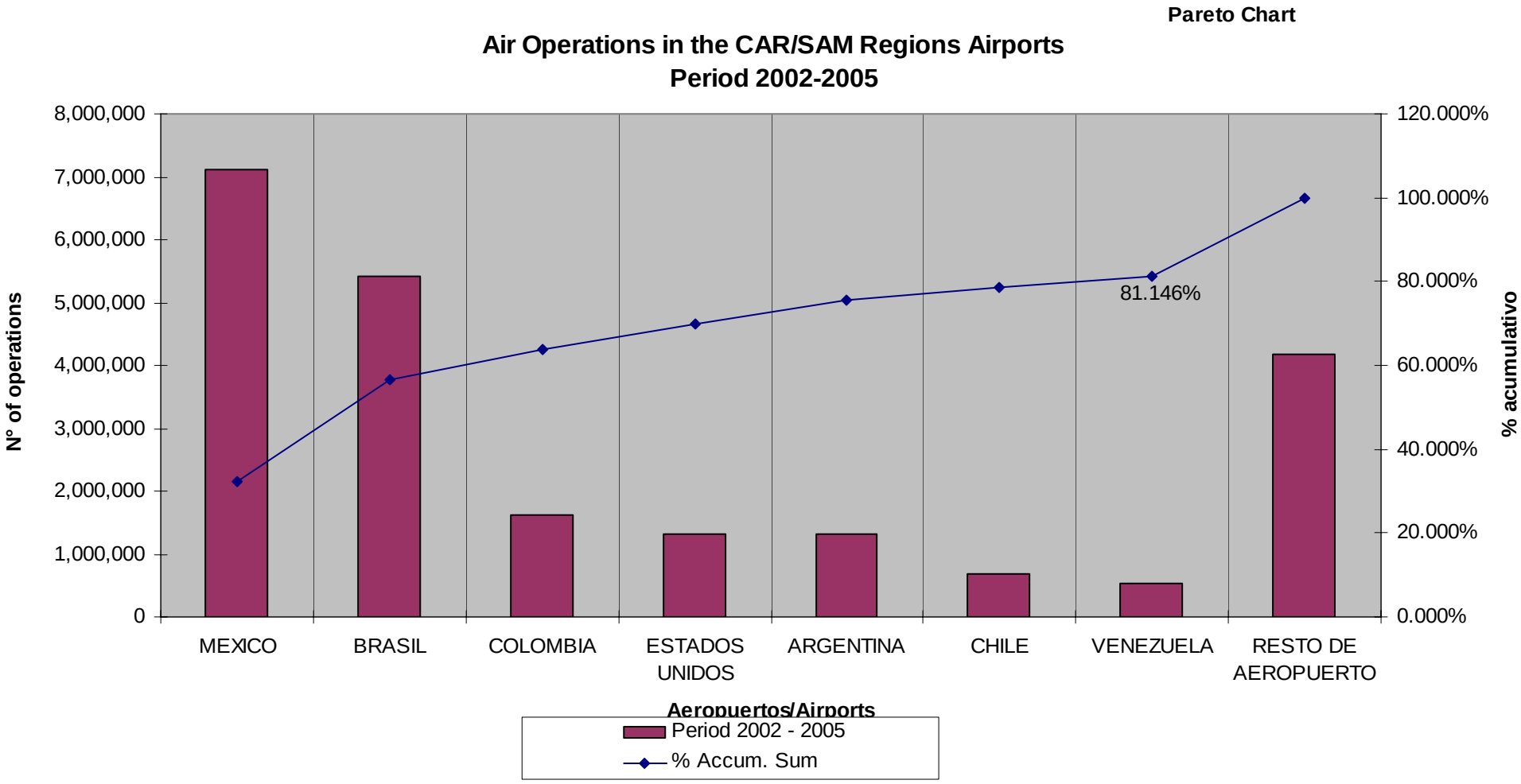
Nº	AEROPUERTOS DE LAS REGIONES CAR/ SAM AIRPORTS IN THE CAR/SAM REGIONS	Periodo / Period 2002 - 2005	%
1	MEXICO	7,116,319.00	32.090%
2	BRASIL	5,412,758.00	24.408%
3	COLOMBIA	1,630,559.00	7.353%
4	ESTADOS UNIDOS/USA	1,328,879.00	5.992%
5	ARGENTINA	1,307,842.00	5.898%
6	CHILE	676,718.00	3.052%
7	VENEZUELA	522,090.00	2.354%
8	RESTO DE AEROPUERTOS/REST OF AIRPORTS	4,181,009.00	18.854%
	TOTAL	**22,176,174.00**	**100.000%**

b) From these seven (7) countries, 2 belong to the CAR Region: México with the greatest percentage in the CAR/SAM Regions (32.09%) and United States which occupies fourth place 5.99%). The rest of the places belong to SAM Region States. The flight volume generated in Brazil should be highlighted, representing a 24.408%, corresponding to the second place in both Regions.

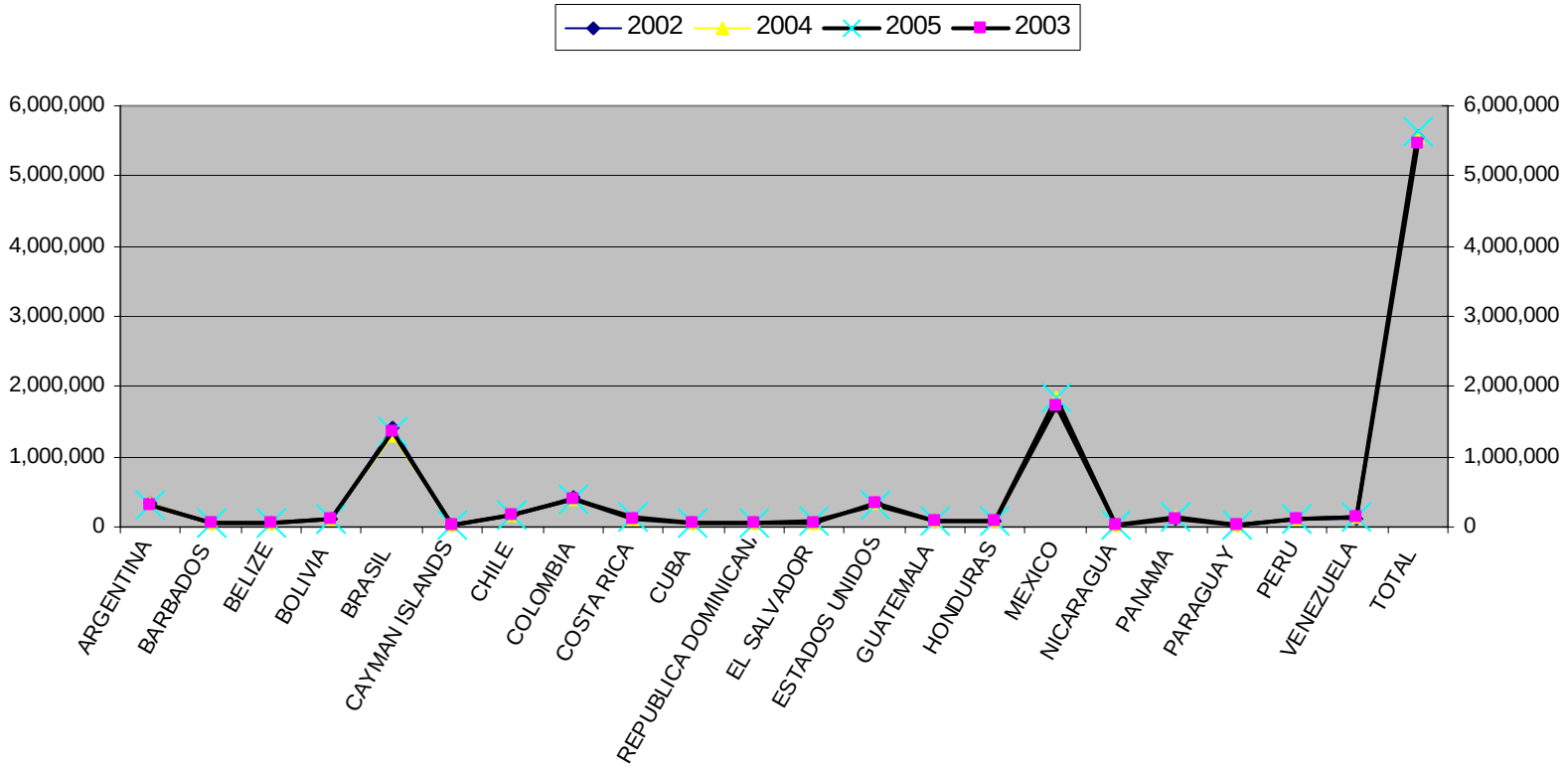
c) The rest of the States has been grouped in REST OF AIRPORTS, which individually contributes with non-significant margins (values of less than 5%) which jointly represent 18.854%.

d) It is considered that percentages reflected in the table of numeral i) shall not vary, taking into consideration that States which did not submit information (50%) are mostly Caribbean States from which it is deemed that their flight volumes are below **5%**, which would not affect the table shown above.

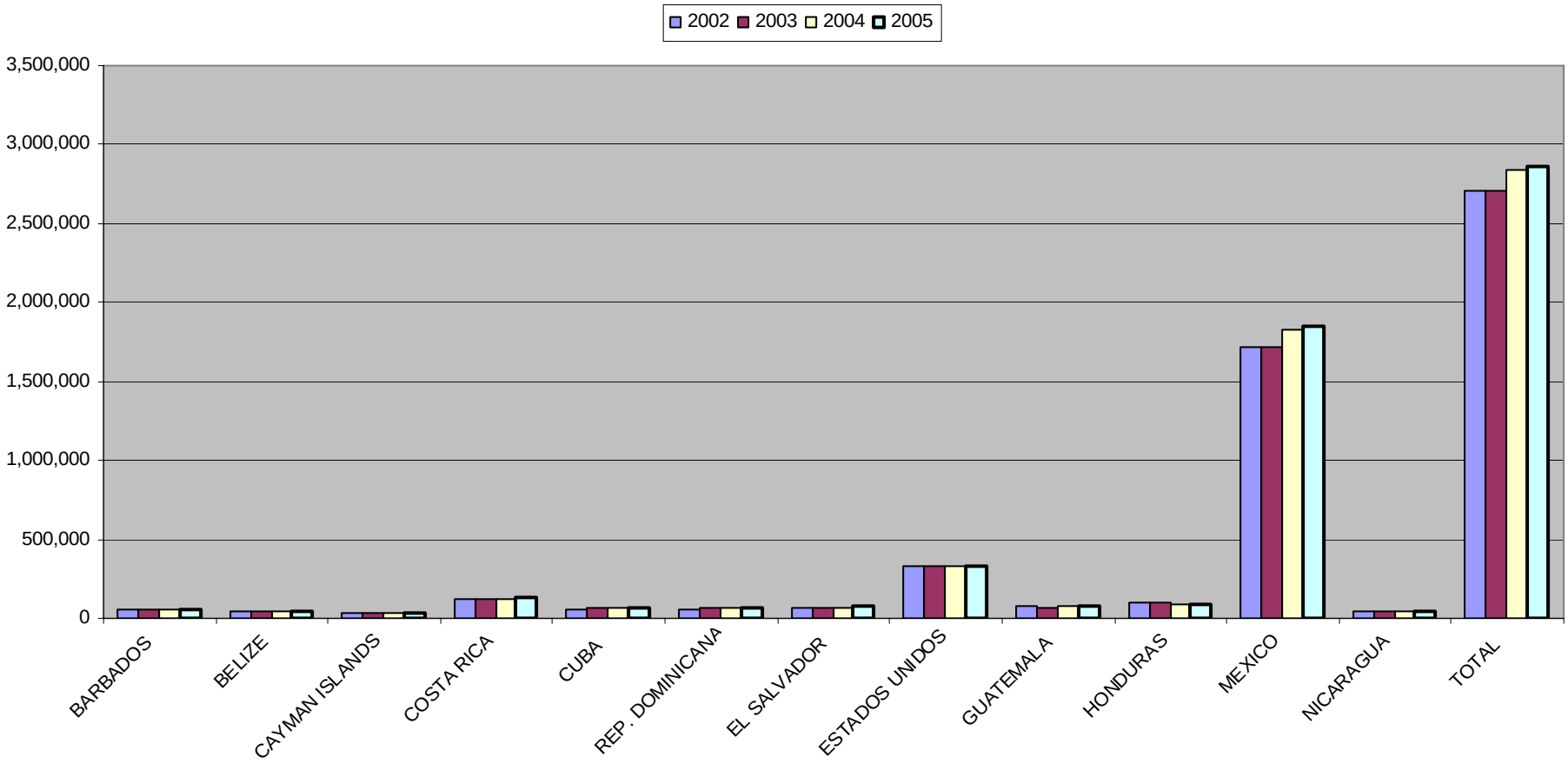
4. Resulting graphics


Pareto Chart
Air Operations in the CAR/SAM Regions Airports
Period 2002-2005
N° of operations
% acumulativo
8,000,000
7,000,000
6,000,000
5,000,000
4,000,000
3,000,000
2,000,000
1,000,000
0
120.000%
100.000%
80.000%
60.000%
40.000%
20.000%
0.000%
81.146%
MEXICO
BRASIL
COLOMBIA
ESTADOS UNIDOS
ARGENTINA
CHILE
VENEZUELA
RESTO DE AEROPUERTO
Aeropuertos/Airports
Period 2002 - 2005
% Accum. Sum

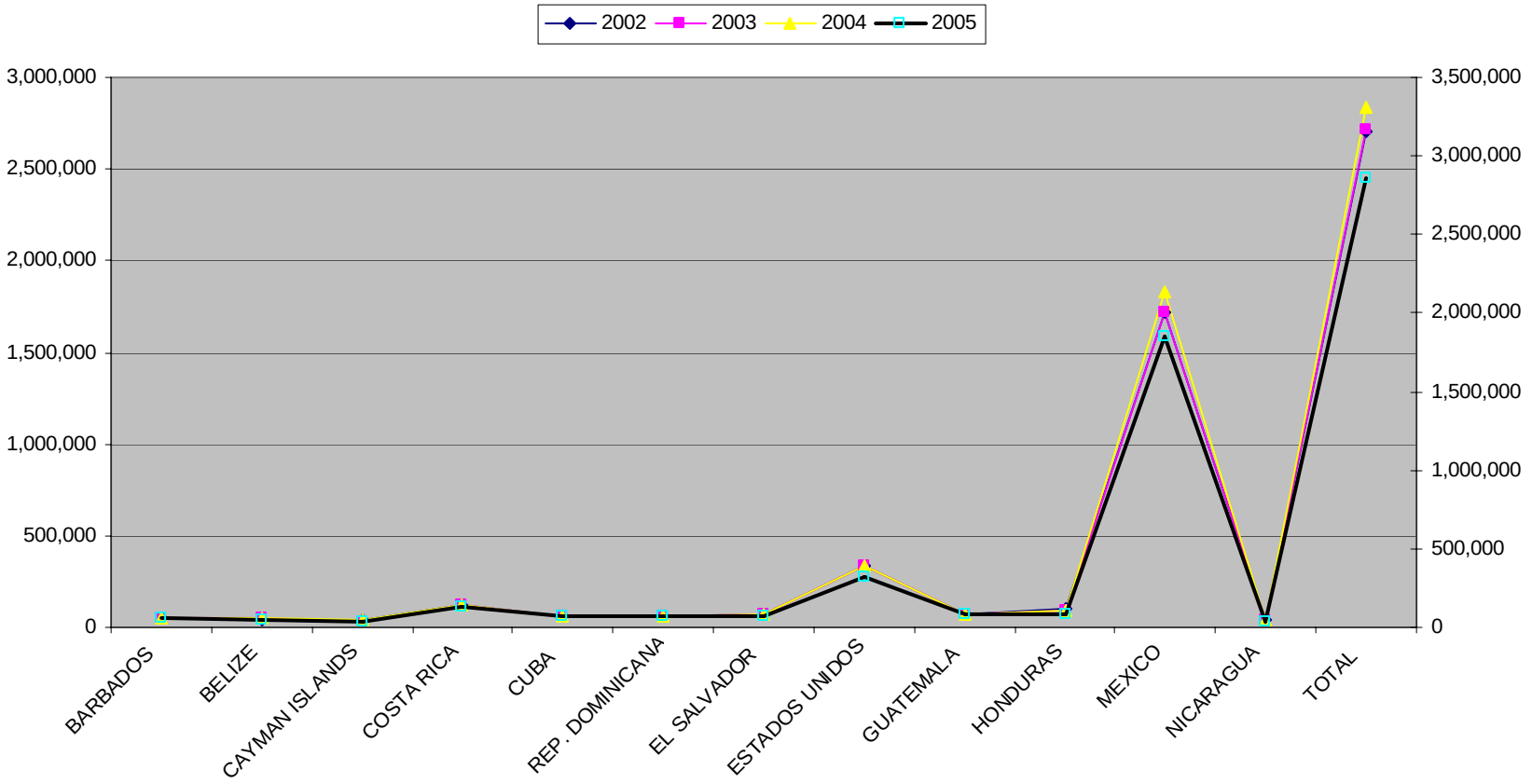
AIRCRAFT MOVEMENTS IN THE CAR/SAM REGIONS AIRPORTS
PERIOD 2002 - 2005



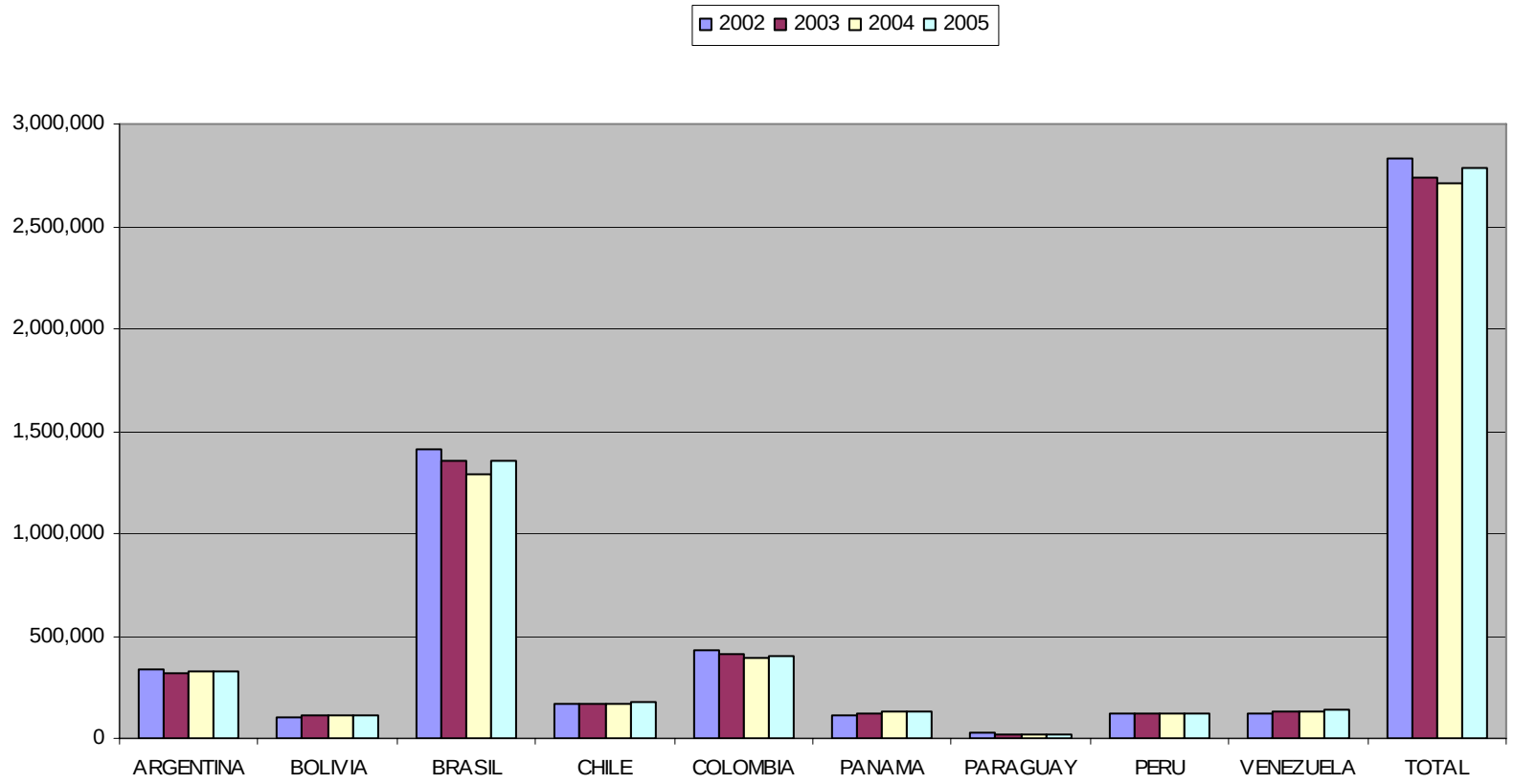
AIRCRAFT MOVEMENT IN THE CAR REGION AIRPORTS
PERIOD 2002 - 2005



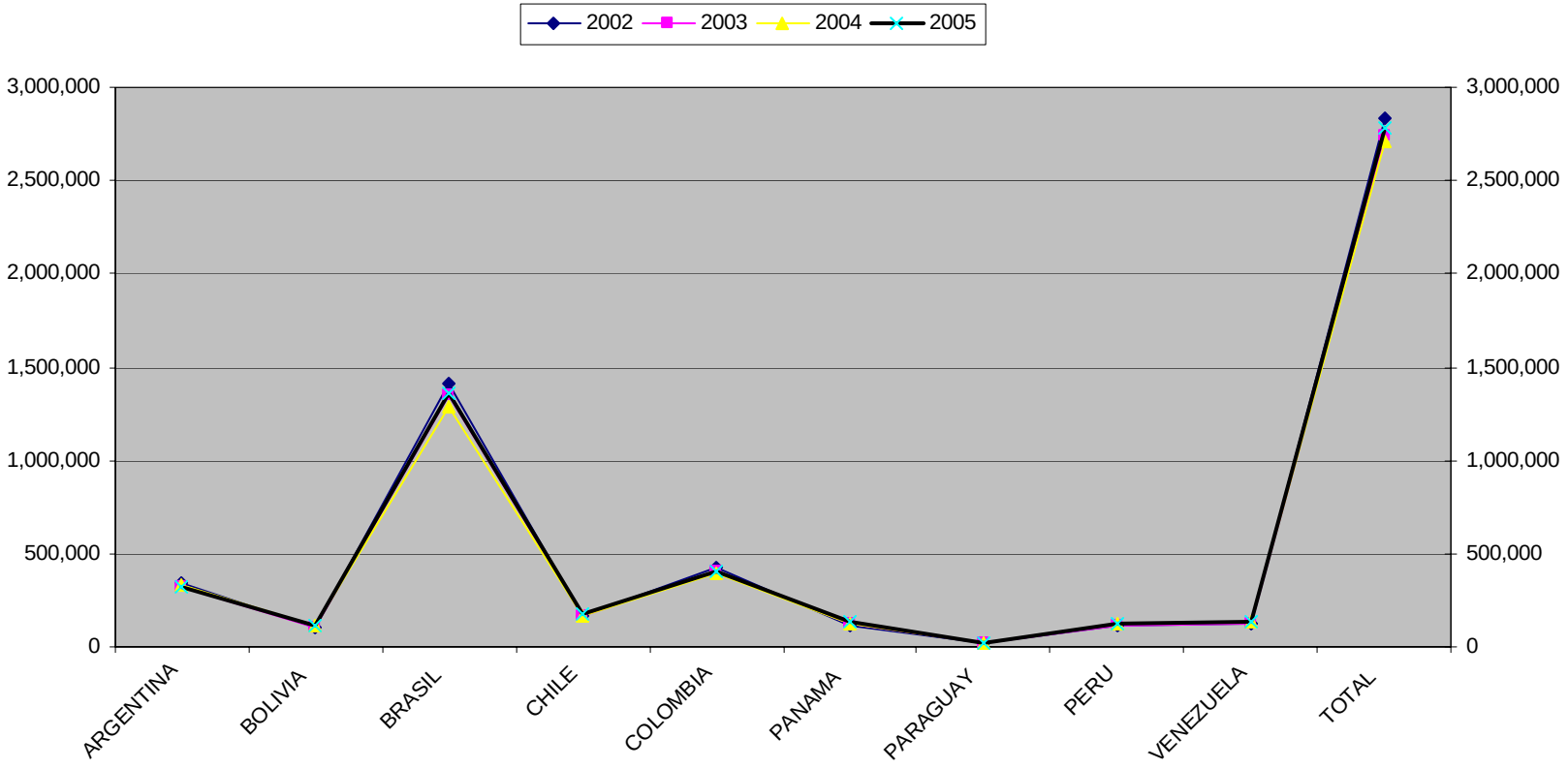
AIRCRAFT MOVEMENT IN AIRPORTS OF THE CAR REGION
PERIOD 2002 - 2005



AIRCRAFT MOVMENT IN AIRPORTS OF THE SAM REGION
PERIOD 2002 - 2005



AIRCRAFT MOVEMENT IN AIRPORTS OF THE SAM REGION
PERIOD 2002 - 2005



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APPENDIX B

Table

Routing Areas and Main Traffic Flows Identified in the CAR/SAM Regions

-1- Routing Area (AR)	-2- Traffic flows	-3- FIRs involved	-4- Type of area	-5- Remarks
Caribbean/South American Regions (CAR/SAM)				
AR 1	Buenos Aires-Santiago de Chile	Ezeiza, Mendoza, Santiago	Low density Continental	SAM intra-regional traffic flow
	Buenos Aires-Sao Paulo/Río de Janeiro	Ezeiza, Montevideo, Curitiba, Brasilia	Low density Continental	SAM intra regional traffic flow
	Santiago de Chile-Sao Paulo/Rio de Janeiro	Santiago, Mendoza, Córdoba, Resistencia, Asunción, Curitiba, Brasilia	Low density Continental	SAM intra regional traffic flow
	Sao Paulo/Rio de Janeiro-Europe	Brasilia, Recife	Continental / Low density Oceanic	SAM/AFI/EUR inter regional traffic flow
AR 2	Sao Paulo/Río de Janeiro-Miami	Brasilia, Manaus, Maiquetía, Curacao, Kingston, Santo Domingo, Port au Prince, Habana, Miami	Continental / Low density Oceanic	CAR/SAM/NAM inter- and intra-regional traffic flow
	Sao Paulo/Río de Janeiro- New York	Brasilia, Belem, Paramaribo, Georgetown, Piarco, Rochambeau, San Juan (New York)	Continental / Low density Oceanic	CAR/SAM/NAM/ NAT inter- and intra-regional traffic flow
AR 3	Sao Paulo/Río de Janeiro- Lima	Brasilia, Curitiba, La Paz, Lima	Low density Continental	SAM intra-regional traffic flow
	Sao Paulo/Río de Janeiro- Los Angeles	Brasilia, Porto Velho, Bogotá, Barranquilla, Panamá, Central América, Mérida, México, Mazatlán (Los Angeles)	Low density Continental	CAR/SAM/NAM inter- and intra-regional traffic flow
AR 4	Santiago - Lima - Miami	Santiago, Antofagasta, Lima, Guayaquil, Bogotá, Barranquilla, Panamá, Kingston, Habana, Miami.	Continental / Low density Oceanic	CAR/SAM/NAM inter- and intra-regional traffic flow

-1- Routing Area (AR)	-2- Traffic flows	-3- FIRs involved	-4- Type of area	-5- Remarks
	Buenos Aires - New York	Ezeiza, Resistencia, Asunción, La Paz, Porto Velho, Manaus, Maiquetía, Curacao, Santo Domingo, Miami (New York)	Continental / Low density Oceanic	CAR/SAM/NAM/ NAT NAM inter- and intra-regional traffic flow
	Buenos Aires - Miami	Ezeza, Resistencia, Córdoba, La Paz, Porto Velho, Bogotá, Barranquilla, Kingston, Habana, Miami	Continental / Low density Oceanic	CAR/SAM/NAM NAM inter- and intra-regional traffic flow
AR 5	North of South America - Europe	Guayaquil, Bogotá, Maiquetía, Piarco (NAT-EUR)	Continental / high density Oceanic	SAM/NAT/EUR inter-regional traffic flow
AR 6	Santiago - Lima - Los Angeles	Santiago, Antofagasta Lima, Guayaquil, Central Amérca, México	Low density oceanic	CAR/SAM /NAM intra- and inter-regional traffic flow
AR 7	South America – South Africa	Ezeiza, Montevideo, Brasilia, Johanesburgo (AFI)	Low density oceanic	SAM/AFI inter-regional traffic flow
	Santiago de Chile - Isla de Pascua - Papeete (PAC)	Santiago, Pascua, Tahiti	Low density oceanic	SAM/PAC inter-regional traffic flow
GM-1	Mexico, Toluca, Guadalajara, Monterrey, Mazatlán, La Paz, Acapulco, Puerto Vallarta, Huatulco, Cancún Gulf of Mexico— North America	Mexico, Houston, Miami; Albuquerque; Los Angeles	Continental/oceanic high density	CAR/NAM inter-regional major traffic flow
	Cancún, Guatemala, El Salvador, Nicaragua, Honduras, Costa Rica – Miami	Mexico, Central America, Havana, Miami	Continental/oceanic high density	CAR/NAM interregional traffic flow
GM-2	Mexico, Cancun, La Havana, Nassau — Europe	Mexico, Havana, Miami -NAT-EUR	Continental/oceanic high density Major traffic flow	CAR/NAM/NAT/ EUR inter-regional traffic flow
GM-3	Costa Rica, Panama, Honduras Kingston, Haiti, Santo Domingo San Juan, The Caribbean — Europe	Central America, Panama, Kingston, Port-au-Prince, Curacao, Santo Domingo, San Juan – EUR	Oceanic high density	CAR/ NAT/EUR intra and interregional major traffic flow

-1- Routing Area (AR)	-2- Traffic flows	-3- FIRs involved	-4- Type of area	-5- Remarks
	North America – East Caribbean	New York, Miami, Havana, San Juan, Santo Domingo Piarco	Oceanic high density	West Atlantic Route System CAR/NAM inter-regional traffic flow

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APPENDIX C

General Considerations for the implementation process of a Centralized ATFM

The implementation of the Centralized ATFM should consider the following requirements:

a) Access to the operational status of the air navigation infrastructure.

b) Access to aeronautical information and cartography.

c) Access to meteorological information.

d) Database of:

- *aerodromes;*
- *airport capacity;*
- *ATC capacity*
- *Air traffic demand*
- *Airspace structure*
- *Radio navigation aids*
- *Aircraft performance; and*
- *Utilization of airports and control sectors.*

e) Access to flight planning data (FPL, RPL, etc.).

f) Flight plans processing.

g) Access to surveillance data (SSR, ADS, etc.)

h) Automated resources:

- *Processing and data visualization system for flow management, having, among other thing, the following sub-systems:*

  - *Flight data processing*
  - *Airspace and airports structure data;*
  - *Situation analysis (capacity and demand);*
  - *Presentation of air traffic situation;*
  - *Monitoring of the operational status of the infrastructure;*
  - *Support to collaborative decision making (ATC slots, alternate routes, etc.).*
  - *Database maintenance.*

i) Communication to coordinate with:

- *Other centralized ATFMs*
- *Operators (airlines, general aviation, State, etc.);*
- *Airport management;*
- *FMUs and/or FMPs and/or ATS units;*
- *Aeronautical meteorological units;*
- *AIS units.*

j) Human resources

- *qualified personnel;*
- *support personnel;*
- *recurrent training.*

k) Use of adequate tools for statistics

l) Infrastructure

- *buildings*
- *equipment*
- *electrical power*
- *air conditioning*
- *supplies*
- *software*

m) Implementation of FMUs and/or FMPs, as required.

n) Redundancy of critical systems.

MODELO DE CATALOGO REGIONAL / REGIONAL CATALOGUE MODEL

Catálogo de los Planes de contingencia de los Estados, Territorios y Organizaciones Internacionales CAR/SAM
Catalogue of Contingency Plans of the CAR/SAM States, Territories and International Organisations

Estado State	**Estado adyacente Adjacent Sate**	**Situación Status**		**Punto de Contacto Contact Point**	**Descripción general de facilidades y servicios que garantizan la continuidad General description of facilities and services available which ensure continuity**	**Observaciones Remarks**
		Borrador Draft	**Final**			
1	**2**	**3**	**4**	**5**	**6**	**7**

Nota/Note:

Columna 1: Indicar Estado, Territorio u Organismo Internacional / Indicate State, Territory or International Organization
Columna 2: Indicar Estado, Territorio u Organismo Internacional con quien debe coordinarse el Plan de Contingencia del Estado citado en la Columna 1/ Indicate State, Territory or International Organization with whom the contingency plan of the State mentioned in column 1 should be coordinated
Columna 3: Marcar con **X** en el caso que el Plan de contingencia se encuentre en proceso para su armonización con el Estado en cuestión / Mark with an X in case the contingency plan is in process for its harmonization with the referred State.
Columna 4: Marcar con **X** en el caso que el Plan de contingencia se encuentre armonizado con el Estado en cuestión / Mark with an X in case the contingency plan is in process for its harmonization with the referred State.
Columna 5: Indicar Cargo del Punto de Contacto y medio de comunicación a utilizar en caso de ser necesario / Indicate position of the point of contact and communications means to be used, if necessary.
Columna 6: Indicar cuáles son, en general, las facilidades y los servicios disponibles mientras el Plan de Contingencia se encuentra activado / Indicate which are, in general, the facilities, available services while the contingency plan is activated.
Columna 7: Comentarios adicionales, si los hubiera / Additional comments, if any

APPENDIX Z / APENDICE Z
ACTION PLAN FOR IMPLEMENTATION OF MEVA II AND REDDIG INTERCONNECTIONS
PLAN DE ACCIÓN PARA IMPLANTACIÓN DE LAS INTERCONEXIONES MEVA II Y REDDIG

Date/Fecha: 9 March/Marzo 2007

Item No.	Action / Acción	Responsible / Responsable	Date of Implementation/ Fecha de Implantación	Difficulties encountered/ Dificultades encontradas
1	2	3	4	5
1	RFP	COCESNA	30-Apr-07	
2	Required connections: / Conexiones requreridas: Aruba COCESNA Ecuador Colombia Peru Venezuela Brazil / Brasil Panama United States / Estados Unidos Jamaica Curacao / Curazao	MEVA II Service Provider and REDDIG Administrator / Proveedor Servicio MEVA II y Administrador REDDIG	30-Apr-07	
3	Identification of Current Equipment / Identificación de Equipo Actual	MEVA II Service Provider and REDDIG Administrator / Proveedor Servicio MEVA II y Administrador REDDIG	30-Apr-07	
4	Completion of SLA / Finalización de SLA	MEVA II Service Provider and REDDIG Administrator / Proveedor Servicio MEVA II y Administrador REDDIG	30-Apr-07	
5	Review of RFP / Revisión de RFP	MEVA II and REDDIG Members / Miembros MEVA II y REDDIG	31-May-07	

Item No.	Action / Acción	Responsible / Responsable	Date of Implementation/ Fecha de Implantación	Difficulties encountered/ Dificultades encontradas
1	2	3	4	5
6	Proposals response / Respuesta de propuestas	MEVA II Service Provider and REDDIG Administrator / Proveedor Servicio MEVA II y Administrador REDDIG	16-Jul-07	
7	Proposals review / Revisión de propuestas	Coordination meeting / Reunión de coordinación	06-Aug-07	
8	MoU Signature / Firma del MoU	MEVA II and REDDIG Members / Miembros MEVA II y REDDIG	18-May-07	
9	Implementation	MEVA II and REDDIG Members, MEVA II Service Provider and REDDIG Administrator / Miembros MEVA II y REDDIG, Proveedor Servicio MEVA II y Administrador REDDIG	30-Nov-07	

APPENDIX AA

Table CNS 2A C Tableau CNS 2A C Tabla CNS 2A

AERONAUTICAL MOBILE SERVICE AND AMSS
SERVICE MOBILE AÉRONAUTIQUE ET SMAS
SERVICIO MÓVIL AERONÁUTICO Y SMAS

EXPLANATION OF THE TABLE

Column

1 The name of the State and the locations within the same where the service is provided.

2 The required services or functions are provided. Suitable abbreviations for these services or functions are listed below.

ACC-L	Area control service for flights up to FL 250.
ACC-SR-I	Area radar control service up to FL 250.
ACC-SR-U	Area radar control service up to FL 450.
ACC-U	Area control service up to FL 450.
AFIS	Aerodrome flight information service.
APP-L	Approach control services below FL 120.
APP-I	Approach control service below FL 250.
APP-PAR	Precision approach radar service up to FL 40.
APP-SR-I	Surveillance radar approach control service up to FL 250.
APP-SR-L	Surveillance radar approach control service up to FL 120.
APP-SR-U	Surveillance radar approach control service up to FL 450.
APP-U	Approach control service below FL 450.
ATIS	Automatic terminal information service.
D-ATIS	Data link-automatic terminal information service.
CLRD	Clearance delivery.
FIS	Flight information service.
VHF-ER	VHF C Extended range.
GP	Facility providing VHF or HF en-route general purpose system (GPS) communication. These facilities provide air-ground radiotelephony for all categories of messages listed in Annex 10, Volume II, 5.1.8. This system of communication is normally indirect, i.e. exchanged through the intermediary of a third person who is usually a communicator at

an aeronautical station.

SMC Surface movement control up to limits of aerodrome.

TWR Aerodrome control service.

VOLMET VOLMET broadcast.

3 Number of voice VHF channels for the corresponding services indicated in column 2. The number of implemented channels is shown in parentheses.

4 Number of VHF channels for data communication for the corresponding services indicated in column 2. The implementation date (month/year) is shown in parentheses.

5 HF network designators for the corresponding services indicated in column 2. The number of implemented frequencies is shown in parentheses.

6 Requirement for HF data link (x) for the corresponding services indicated in column 2. The implementation date (month/year) of the service is shown in parentheses.

7 Requirement for satellite voice communications (x) for the corresponding services indicated in column 2. The implementation date (month/year) of the service is shown in parentheses.

8 Requirement for satellite data communications (x) for the corresponding services indicated in column 2. The implementation date (month/year) of the service is shown in parentheses.

9 Requirement for Mode S data communications (x) for the corresponding services indicated in column 2. The implementation date (month/year) of the service is shown in parentheses.

10 Remarks.

Note.C The implementation year for the data links and satellite voice communication are indicated by two digits.

EXPLICATION DU TABLEAU

Colonne

1 Nom de l=État et des emplacements de cet État où le service est assuré.

2 Services ou fonctions requis assurés. Les abréviations utilisées ont les significations suivantes:

ACC-L Contrôle régional jusqu=au FL 250

ACC-SR-I Contrôle radar régional jusqu=au FL 250

ACC-SR-U Contrôle radar régional jusqu=au FL 450

ACC-U Contrôle régional jusqu=au FL 450

AFIS Service d=information de vol d=aérodrome

APP-L Contrôle d=approche au-dessous du FL 120

APP-I	Contrôle d=approche au-dessous du FL 250
APP-PAR	Radar d=approche de précision jusqu=au FL 40
APP-SR-I	Contrôle d=approche au radar de surveillance jusqu=au FL 250
APP-SR-L	Contrôle d=approche au radar de surveillance jusqu=au FL 120
APP-SR-U	Contrôle d=approche au radar de surveillance jusqu=au FL 450
APP-U	Contrôle d=approche au-dessous du FL 450
ATIS	Service automatique d=information de région terminale
D-ATIS	Service automatique d=information de région terminale par liaison de données
CLRD	Délivrance des autorisations
FIS	Service d=information de vol
VHF-ER	VHF à portée étendue
GP	Installation de communications VHF ou HF en route d=emploi général (GP). Permet des communications radiotéléphoniques air-sol pour toutes les catégories de messages énumérées dans l=Annexe 10, Volume II, 5.1.8. Système normalement indirect, c=est-à-dire dans lequel les communications se font par l=intermédiaire d=un tiers, généralement un opérateur de télécommunications situé dans une station aéronautique.
SMC	Contrôle des mouvements à la surface jusqu=aux limites de l=aérodrome
TWR	Contrôle d=aérodrome
VOLMET	Émissions VOLMET

3 Nombre de canaux vocaux VHF pour les services indiqués dans la colonne 2. Le nombre des canaux mis en œuvre est indiqué entre parenthèses.

4 Nombre de canaux VHF pour les communications de données des services indiqués dans la colonne 2. La date de mise en œuvre (mois/année) est indiquée entre parenthèses.

5 Identification du réseau HF pour les services indiqués dans la colonne 2. Le nombre de fréquences utilisées est indiqué entre parenthèses.

6 Besoin d=une liaison de données HF (X) pour les services indiqués dans la colonne 2. La date de mise œuvre (mois/année) est indiquée entre parenthèses.

7 Besoin de communications vocales par satellite (X) pour les services indiqués dans la colonne 2. La date de mise en œuvre (mois/année) est indiquée entre parenthèses.

8 Besoin de communications de données par satellite (X) pour les services indiqués dans la colonne 2. La date de mise en œuvre (mois/année) est indiquée entre parenthèses.

9 Besoin de communications de données mode S (X) pour les services indiqués dans la colonne 2. La date de mise en œuvre (mois/année) est indiquée entre parenthèses.

10 Remarques

Note.C L=année de mise en œuvre des liaisons de données et des communications vocales par satellite est indiquée par deux chiffres.

EXPLICACIÓN DE LA TABLA

Columna

1 El nombre del Estado y de las localidades dentro del mismo donde se proporciona el servicio.

2 Se proporcionan los servicios o funciones que se requieren. Se enumeran a continuación las abreviaturas correspondientes a estos servicios o funciones.

ACC-L	Servicio de control de área hasta el FL 250
ACC-SR-I	Servicio de control de área radar hasta el FL 250
ACC-SR-U	Servicio de control de área radar hasta el FL 450
ACC-U	Servicio de control de área hasta el FL 450
AFIS	Servicio de información de vuelo de aeródromo
APP-L	Servicio de control de aproximación por debajo del FL 120
APP-I	Servicio de control de aproximación por debajo del FL 250
APP-PAR	Servicio radar para la aproximación de precisión hasta el FL 40
APP-SR-I	Servicio de aproximación de control con radar de vigilancia hasta el FL 250
APP-SR-L	Servicio de aproximación de control con radar de vigilancia hasta el FL 120
APP-SR-U	Servicio de aproximación de control con radar de vigilancia hasta el FL 450
APP-U	Servicio de control de aproximación por debajo del FL 450
ATIS	Servicio automático de información terminal
D-ATIS	Servicio automático de información terminal por enlace de datos
CLRD	Servicio de entrega de autorización de tránsito
FIS	Servicio de información de vuelo
VHF-ER	VHF CAlcance ampliado
GP	Instalación que proporciona comunicaciones VHF o HF en ruta para fines generales (GPS). Estas instalaciones suministran transmisión radiotelefónica aeroterrestre en todas las categorías de mensajes citadas en el Anexo 10, Vol II, 5.1.8. En este sistema las comunicaciones son normalmente indirectas, es decir, que son intercambiadas por intermedio de un tercero que habitualmente es un operador de comunicaciones de una estación aeronáutica.
SMC	Control del movimiento en la superficie hasta los límites del aeródromo.
TWR	Servicio de control de aeródromo.
VOLMET	Radiodifusiones VOLMET.

3 Número de canales VHF para comunicaciones orales para los correspondientes servicios indicados en la Columna 2. El número de canales implantados se indica entre paréntesis.

4 Número de canales VHF para comunicaciones en datos para los correspondientes servicios indicados en la Columna 2. La fecha de implantación (mes/año) se indica entre paréntesis.

5 Designadores de red HF para comunicaciones orales para los correspondientes servicios indicados en la Columna 2. El número de frecuencias implantados se indica entre paréntesis.

6 Requisito para enlace de datos HF (x) para los correspondientes servicios indicados en la Columna 2. La fecha de implantación (mes/año) del servicio se indica entre paréntesis.

7 Requisito para comunicaciones orales por satélite (x) para los correspondientes servicios indicados en la Columna 2. La fecha de implantación (mes/año) del servicio se indica entre paréntesis.

8 Requisito para comunicaciones de datos por satélite (x) para los correspondientes servicios indicados en la Columna 2. La fecha de implantación (mes/año) del servicio se indica entre paréntesis.

9 Requisito para comunicaciones de datos en Modo S (x) para los correspondientes servicios indicados en la Columna 2. La fecha de implantación (mes/año) del servicio se indica entre paréntesis.

10 Observaciones.

Nota.C El año de implementación para los enlaces de datos y comunicaciones orales por satélite se indican en dos dígitos.

Country and location Pays et emplacement País y localidad	Service or function Service ou fonction Servicio o función	VHF voice Voix VHF Voz VHF	VHF data Données VHF Datos VHF	HF voice Voix HF Voz HF	HF data Données HF Datos HF	Satellite voice Voix satellite Voz por satélite	Satellite data Données satellite Datos por satélite	Mode S Modo S	Remarks Remarques Observaciones
1	2	3	4	5	6	7	8	9	10
ANGUILLA (United Kingdom)									
TQPF THE VALLEY/Wall Blake, Anguilla I.	TWR	(1) 1							
ANTIGUA AND BARBUDA									
TAPA SAINT JOHNS/ V.C. Bird Antigua I.	APP TWR SMC APP-SR-I D-ATIS	1 (1) 1 (1) 1 (1) 1 1							
ARGENTINA									
SAEU BUENOS AIRES	ACC-U GP	11(11) 2(2)	2 (06/0~~5~~8)	SAM-1(~~5~~2) SAM-2 (~~5~~2)	X (06/~~08~~10)	X (06/~~08~~10)	X (06/~~08~~10)		
SABE BUENOS AIRES/ Aeroparque Jorge Newbery	APP-L APP-SR-I TWR SMC ATIS CLRD	~~1~~2 (~~1~~2) ~~1~~2(2) ~~1~~2(2) 1 (1) 1 (1) 1 (1)							
SAEZ BUENOS AIRES/ Ezeiza, Ministro Pistarini	APP-SR-I APP-L ATIS SMC TWR ~~CLRD~~	~~1~~2 (~~1~~2) ~~1~~2(2) 1 (1) 1 (1) ~~1~~2 (~~1~~2) ~~1*~~							* ~~Implementation by 2002~~ ~~*Mise en œuvre en 2002~~ ~~*Implantación prevista en 2002~~
SADD BUENOS AIRES/Don Torcuato	TWR SMC	1 (1) 1 (1)							
SADF BUENOS AIRES/San Fernando	APP TWR SMC	1 1 (1) 1 (1)							
SARI CATARATAS DEL IGUAZU/My. Carlos Eduardo K.	TWR	~~1~~2 (~~1~~2)							
SAVF COMODORO RIVADAVIA	ACC-U ACC-L GP	2 (2) 1 (1) 1 (1)	1 (06/~~06~~10)	SAM-1 (~~5~~2)	X (06/~~08~~10)	X (06/~~08~~10)	X (06/~~08~~10)		
SAVC COMODORO RIVADAVIA/General Mosconi	APP TWR	1(1) ~~1~~2 (~~1~~2)							Implementation by 2008 Implementación prevista en 2008

Country and location Pays et emplacement País y localidad	Service or function Service ou fonction Servicio o función	VHF voice Voix VHF Voz VHF	VHF data Données VHF Datos VHF	HF voice Voix HF Voz HF	HF data Données HF Datos HF	Satellite voice Voix satellite Voz por satélite	Satellite data Données satellite Datos por satélite	Mode S Modo S	Remarks Remarques Observaciones
1	2	3	4	5	6	7	8	9	10
SACF CORDOBA	ACC-U GP	~~34~~ (~~34~~) 1	1 (06/0~~6~~9)	SAM-1 (~~31~~)					Implementation by 2008 Implementación prevista en 2008
SACO CORDOBA/Ing. A. Taravella	APP-SR-I TWR SMC	1(1) ~~1~~2 (~~1~~2) 1 (1)							
SARF FORMOSA/Formosa	APP-L TWR	1(1) 1 (1)							
SASJ JUJUY/Gobernador Guzmán	APP-SR-1 TWR	1(1) 1 (1)							
SAZM MAR DEL PLATA/ Brig. Gral. B. de la Colina	APP-SR-I TWR SMC ATIS	1 (1) 1 (1) 1 (1) 1 (1)							
SAMF MENDOZA	ACC-U GP	3 (~~1~~3) 1 (1)	1 (06/~~06~~10)	SAM-1 (~~31~~)					
SAME MENDOZA/El Plumerillo	APP-SR-I TWR SMC ATIS	1 1 (1) 1 (1) 1 (1)							
SAZN NEUQUEN/Presidente Perón	APP TWR	1 1 (1)							
SARP POSADAS/Libertador Gral. D. José de San Martín	APP-L TWR	1(1) 1 (1)							
SARR RESISTENCIA	ACC-U GP	3 (3) 1 (1)	1 (06/06)	SAM-1 (~~31~~)	X (06/06)				
SARE RESISTENCIA/ Resistencia	APP-SR-I TWR ATIS	1 (1) 1 (1) 1							Implementation by 200~~2~~8 Mise en œuvre en 200~~2~~8 Implantación prevista en 200~~2~~8
SAWG RIO GALLEGOS/ Piloto Civil N. Fernández	APP-L TWR ATIS GP	1 (1) 1 (1) 1 (1) 1(1)							
SAWE RIO GRANDE/ Rio Grande	APP TWR	1 1 (1)							
SAAR ROSARIO/Rosario	APP-L TWR ATIS	1 (1) 1 (2) 1							Implementation by 2002 Mise en œuvre

Country and location Pays et emplacement País y localidad	Service or function Service ou fonction Servicio o función	VHF voice Voix VHF Voz VHF	VHF data Données VHF Datos VHF	HF voice Voix HF Voz HF	HF data Données HF Datos HF	Satellite voice Voix satellite Voz por satélite	Satellite data Données satellite Datos por satélite	Mode S Modo S	Remarks Remarques Observaciones
1	2	3	4	5	6	7	8	9	10
									en 2002 Implantación prevista en 2002
SASA SALTA/Salta	APP-L TWR GP	1(1) 1 (1) ~~1~~2 (~~1~~2)							Implementation by 2008 Implementación prevista en 2008
SAZS SAN CARLOS DE BARILOCHE/San Carlos de Bariloche	APP-SR-I TWR ATIS	1 1 (1) 1 (1)							
SANT TUCUMAN/Tte. Benjamin Matienzo	APP-L TWR GP	1(1) 1 (2) 1 (1)							
SAWH USHUAIA/Malvinas	APP-L	1 (1)							Implementation by 2008 Implementación prevista en 2008
Argentinas	TWR GP	1 (1) 1 (1)							
ARUBA (Netherlands)									
TNCA ORANJESTAD/ Reina Beatriz, Aruba I.	APP-SR-L APP-L TWR SMC D-ATIS	1 (1) 1 (1) 1 (1) 1 (1) 1 (1)							
BAHAMAS									
MYBS ALICE TOWN/ South Bimini, Bimini I.	TWR	1							
MYSM COCKBURN TOWN/ San Salvador I.	TWR	1							
MYGF FREEPORT/Intl., Grand Bahama I.	APP-U APP-L TWR SMC	1 1 1 1							
MYEG GEORGETOWN/ Georgetown, Exuma Intl.	APP-L TWR	1 1							
MYEM GOVERNOR=S HARBOUR/ Governor=s Harbour, Eleuthera I.	APP-L TWR	1 1							
MYNA NASSAU	ACC-U GP ACC-L	3 1 1							

Country and location Pays et emplacement País y localidad	Service or function Service ou fonction Servicio o función	VHF voice Voix VHF Voz VHF	VHF data Données VHF Datos VHF	HF voice Voix HF Voz HF	HF data Données HF Datos HF	Satellite voice Voix satellite Voz por satélite	Satellite data Données satellite Datos por satélite	Mode S Modo S	Remarks Remarques Observaciones
1	2	3	4	5	6	7	8	9	10
MYNN NASSAU/Intl., New Providence I.	APP-I TWR SMC APP-SR-I D-ATIS	1 1 1 1 1							
MYEH NORTH ELEUTHERA/ New Providence I.	TWR	1 1							
MYLS STELLA MARIS/Long Island I.	TWR	1							
MYAT TREASURE CAY/ Treasure Cay, Abaco I.	TWR APP-L	1 1							
MYGW WEST END/West End, Grand Bahama I.	TWR	1							
BARBADOS									
TBPB BRIDGETOWN/ Grantley Adams Intl.	APP-U APP-I TWR SMC APP-SR-U D-ATIS	1 5 1 1 1 1							
BELIZE									
MZBZ BELIZE/Intl.	APP-I APP-I TWR SMC D-ATIS	1 1 1 1 1							
BOLIVIA									
SLCB COCHABAMBA/Jorge Wilsterman	TWR APP-I SMC	1 (1) 2 (1) 1 (1)							
SLLP LA PAZ	ACC-U ACC-U ~~GP~~ ACC-L	1 1 (1)-ER ~~1~~ 1 (1)	1 (06/06)	SAM-1 (3) SAM-2 (3)	X (06/06)				
SLLP LA PAZ/El Alto Intl.	APP-I TWR SMC ~~ATIS~~	3 1 (1) 1 (1) ~~1~~							
SLVR SANTA CRUZ/Viru-Viru Intl.	APP-I TWR SMC ~~ATIS~~	3 (1) 1 (1) 1 (1) ~~1~~							
SLTJ TARIJA/Oriel Lea Plaza	APP-I TWR	1 (1) 1 (1)							

Country and location Pays et emplacement País y localidad	Service or function Service ou fonction Servicio o función	VHF voice Voix VHF Voz VHF	VHF data Données VHF Datos VHF	HF voice Voix HF Voz HF	HF data Données HF Datos HF	Satellite voice Voix satellite Voz por satélite	Satellite data Données satellite Datos por satélite	Mode S Modo S	Remarks Remarques Observaciones
1	2	3	4	5	6	7	8	9	10
SLTR TRINIDAD/Tte. Av. Jorge Henrich Arauz	APP-I TWR SMC	2 (1) 1 (1) 1							
BRAZIL									
SB.. AMAZONICA	ACC-SR-U GP	24 (24) 1	2 (06/08)	SAM-2 (4)	X (06/08)				
SB.. ATLANTICA	ACC-U			SAM-2 (4) SAT-1 SAT-2	X (06/08)	X (06/08)	X (06/68)		
SBBE BELEM/Val de Câes Intl.	APP-SR-I TWR SMC	4 (4) 1 (1) 1 (1)							
SBCF BELO HORIZONTE/ Tancredo Neves Intl.	APP-SR-I TWR SMC CLRD ATIS	4 (4) 1 (1) 1 (1) 1 (1) 1 (1)	1 (06/01)						
SBBS BRASILIA	ACC-SR-U	16 (16)	8 (06/085)	SAM-2 (4)	X (06/08)				
SBBR BRASILIA/Brasilia Intl.	APP-SR-I TWR SMC CLRD ATIS	4 (3) 1 (1) 1 (1) 1 (1) 1 (1)	1 (06/01)						
SBBV BOA VISTA/ Boa Vista Intl.	APP-I TWR SMC	1 (1) 2 (2) 1							
SBKP CAMPINAS/Viracopos Intl.	APP-SR-I TWR SMC	1 (1) 1 (1) 1							
SBCG CAMPO GRANDE/ Campo Grande Intl.	APP-SR-I TWR ATIS	1 (1) 1 (1) 1							
SBCR CORUMBA/ Corumba Intl.	AFIS	1 (1)							
SBCZ CRUZEIRO DO SUL/ Cruzeiro do Sul Intl.	AFIS	1 (1)							
SBCY CUIABA/Marechal Rondon Intl.	APP-SR-I TWR	1 (1) 1 (1)							
SBCW CURITIBA	ACC-SR-U	10 (10)	2 (06/085)	SAM-2 (4)	X (06/08)				
SBCT CURITIBA/ Afonso Peña Intl.	APP-SR-I TWR ATIS	3 (3) 2 (2) 1							

Country and location Pays et emplacement País y localidad	Service or function Service ou fonction Servicio o función	VHF voice Voix VHF Voz VHF	VHF data Données VHF Datos VHF	HF voice Voix HF Voz HF	HF data Données HF Datos HF	Satellite voice Voix satellite Voz por satélite	Satellite data Données satellite Datos por satélite	Mode S Modo S	Remarks Remarques Observaciones
1	2	3	4	5	6	7	8	9	10
	SMC CLRD	1 (1) 1 (1)							
SBFL FLORIANÓPOLIS/ Hercílio Luz Intl.	APP-SR-I TWR SMC	3 (3) 2 (2) 1							
SBFZ FORTALEZA/ Pinto Martins Intl.	APPBSR-I TWR SMC CLRD	2 (2) 1 (1) 1 (1) 1 (1)							
SBFI FOZ DO IGUACU/ Cataratas Intl.	APP-SR-I TWR	2 (2) 1 (1)							
SBMQ MACAPA/ Macapa Intl.	APP-I TWR	1 1							
SBEG MANAUS/Eduardo Gomes Intl.	APP-SR-I TWR SMC	4 (4) 1 (1) 1 (1)							
SBNT NATAL/Augusto Severo Intl.	APP-SR-I TWR SMC CLRD	4 (4) 2 (2) 1 (1) 1							
SBPP PONTA PORÃ/ Ponta Porã Intl.	AFIS	1 (1)							
SBPA PORTO ALEGRE/ Salgado Filho Intl	APP-SR-I TWR SMC CLRD ATIS	4 (4) 1 (1) 1 (1) 1 1							
SBRE RECIFE	ACC-SR-U GP	16 (16) 1	5 (06/08)	SAT-2 (4)	X (06/08)				
SBRF RECIFE/Guararapes Intl.	APP-SR-I TWR SMC ATIS CLRD	4 (4) 1 (1) 1 (1) 1 1							
SBGL RIO DE JANEIRO/ Galeão Antonio Carlos Jobim Intl.	APP-SR-I TWR SMC CLRD ATIS	6 (6) 2 (2) 1 (1) 1 (1) 1 (1)	1 (06/01)						
SBSV SALVADOR/Deputado Luis Eduardo Magalhães Intl.	APP-SR-I TWR SMC GP ATIS	4 (4) 1 (1) 1 (1) 1 1							
SBSN SANTAREM/ Santarem Intl.	APP-I TWR	2 (2) 1 (1)							

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1	2	3	4	5	6	7	8	9	10
SBSL SÃO LUIS/Marechal Cunha Machado Intl.	APP-I TWR	1 (1) 1 (1)							
SBGR SÃO PAULO/ Guarulhos Intl.	TWR SMC CLRD ATIS	3 (3) 1 (1) 1 (1) 1 (1)	1 (06/01)						
SBTT TABATINGA/ Tabatinga Intl.	AFIS	1 (1)							
SBUG URUGUAIANA/ Rubem Berta Intl.	AFIS	1 (1)							
CAPE VERDE									
GVSC SAL I.	ACC-U ACC-L	2-ER 1		SAT-1 SAT-2					
CAYMAN ISLANDS (United Kingdom)									
MWCB CAYMAN BRAC/ Gerrard Smith Intl.	TWR SMC	1 (1) 1							
MWCR GEORGETOWN/ Owen Roberts Intl.	APP-I TWR SMC D-ATIS	1 -1 1 1 (1)							
CHILE									
SCFA ANTOFAGASTA/ Cerro Moreno	APP-SR-I TWR SMC ~~ATIS~~ GP	2 (2) 1 (1) 1 (1) ~~1~~ 1 (1)-ER	2 (06/08)	SAM-1 (4)	X (06/08)	X (06/08)	X (06/08)		
SCAR ARICA/Chacalluta	APP-I TWR SMC	1 (1) 1 (1) 1 (1)							
SCIE CONCEPCION/ Carriel Sur	APP-I TWR SMC	1 (1) 1 (1) 1 (1)							
SCDA IQUIQUE/Gral. Diego Aracena	APP-SR-I TWR SMC GP	1 (1) 1 (1) 1 (1) 1(1)-ER							
SCTZ PUERTO MONTT Tepual	ACC-U ACC-U GP ~~APP-SR-I~~	2 (1) 1 (1)-ER 1 (1)-ER ~~2 (1)~~	2 (06/08)	SAM-1 (4)	X (06/08)	X (06/08)	X (06/08)		
SCTE PUERTO MONTT/ ~~E~~l Tepual	TWR SMC ~~ATIS~~	1 (1) 1 (1) ~~1~~							

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1	2	3	4	5	6	7	8	9	10
SCCZ PUNTA ARENAS	ACC-U GP-ER APP-SR-I	3 (2) 1 (2) 2 (1)	2 (06/08)	SAM-1 (3)	X (06/08)	X (06/08)	X (06/08)		
SCCI PUNTA ARENAS/ Pdte. C. Ibáñez del Campo	TWR SMC ~~ATIS~~	1 (1) 1 (1) ~~1~~							
SCEZ SANTIAGO	ACC-U GP APP-SR-I	4 (4)-ER 2 (2)-ER 4 (4)	2 (06/08)	SAM-1 (3)	X (06/08)	X (06/08)	X (06/08)		
SCEL SANTIAGO/ Arturo Merino Benitez	CLRD TWR SMC ATIS	1 (1) 2 (1) 2(1) 1 (1)	1 (06/08)						
SCTC TEMUCO/Manquehue	APP-L TWR SMC	1 (1) 1 (1) 1 (1)							
COLOMBIA									
SKEC BARRANQUILLA	ACC-U GP	2 (2) 1 (1)	2 (06/08)	CAR-A (2)	X (06/06)				
SKBQ BARRANQUILLA/ Ernesto Cortissoz	APP-SR-I TWR SMC ATIS CLRD	2 (2) 1 (1) 1 (1) 1 1	1 (06/01)						
SKED BOGOTA	ACC-U GP	5 (5) 1 (1)-ER	4 (06/08)	SAM-2 (2)	X (06/06)	X (06/06)			
SKCL CALI	ACC-SR-I GP	1 (1) 1 (1)		SAM-1	X (06/06)				
SKCL CALI/Alfonso Bonilla Aragón	APP-SR-I TWR SMC ATIS	1 (1) 1 (1) 1 (1) 1							
SKCG CARTAGENA/ Rafael Núñez	TWR	1 (1)							
SKCC CUCUTA/Camilo Daza	APP-I TWR	1 (1) 1 (1)							
SLLT LETICIA/Alfredo Vásquez Cobo	APP-SR-I TWR	1 (1) 1 (1)							
SKRG RIO NEGRO/ José María Córdova	APP-SR-I TWR SMC ATIS	1 (1) 1 (1) 1 (1) 1 (1)							
SKSP SAN ANDRES I./	APP-SR-I	1 (1)							

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1	2	3	4	5	6	7	8	9	10
Sesquicentenario	APP-I TWR SMC	1 (1) 1 (1) 1							
SKBO SANTA FE DE BOGOTA/Eldorado	APP-SR-I TWR SMC ATIS CLRD	3 (3) 2 (2) 2 (2) 1 (1) 1 (1)	 1 (06/01)						
COSTA RICA									
MROC ALAJUELA/ Juan Santamaria Intl.	APP-SR-I TWR SMC D-ATIS GP	2 (1) 1 (1) 1 (1) 1 (1) 1 (1)							
MRLB LIBERIA/Tomás Guardia Intl.	APP-I TWR SMC	1 (1) 1 (1) 1 (1)							
MRLM LIMON/Limón Intl.	AFIS	1 (1)							
MRPV PAVAS/Tobías Bolaños Intl.	TWR SMC	1 (1) 1 (1)							
CUBA									
MUCM CAMAGUEY/ Ignacio Agramonte	APP-SR-L TWR	1 1 (1)							
MUCL CAYO LARGO DEL SUR/Vilo Acuña	APP-L TWR	1 (1) 1 (1)							
MUCA CIEGO DE AVILA/ Máximo Gómez	APP-L TWR	1 1 (1)							
MUHA HABANA	ACC-SR-U ACC-SR-I GP-U	5 (4)-ER 3 (1)-ER 2 (1)	2 (06/08)	CAR-A (6)	X (06/08)				
MUHA HABANA/José Martí	APP-SR-L APP-SR-I TWR SMC D-ATIS	1 1 (1) 1 (1) 1 (1) 1 (1)							 2008
MUHG HOLGUIN/Frank País	APP-SR-L TWR	1 1(1)							
MUCU SANTIAGO DE CUBA/ Antonio Maceo	APP-SR-I TWR SMC	1 (1) 1 (1) 1							
MUVR VARADERO/Juan	APP-SR-L	1							

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1	2	3	4	5	6	7	8	9	10
Gualberto Gomez	TWR SMC D-ATIS	1 (1) 1 1							 2008
DOMINICA									
TDPB MELVILLE HALL/ Dominica	TWR	1 (1)							
TDPR ROSEAU/Canefield	TWR	1 (1)							
DOMINICAN REPUBLIC									
MDBH BARAHONA/ Maria Montes Intl.	TWR	1 (1)							
MDCY EL CATEY/ El Catey Intl.	TWR APP SMC D-ATIS	2 1 1 1							
~~MDHE HERRERA/ Herrera Intl.~~	~~TWR~~	~~1 (1)~~							
MDEH EL HIGÜERO/ Dr. Joaquín Balaguer Intl.	TWR APP SMC	2 1 1							
MDLR LA ROMANA/ La Romana Intl.	APP-L TWR	1 (1) 1 (1)							
MDPP PUERTO PLATA/ Gregorio Luperon	APP-SR-I TWR SMC	1 (1) 1 (1) 1 (1)							
MDPC PUNTA CANA/Punta Cana Intl.	APP-L TWR	1 1 (1)							
MDST SANTIAGO/Cibao Santiago Intl.	APP-L TWR	1 1 (1)							
MDCS SANTO DOMINGO	ACC-U ACC-SR-U GP	4 1 (1) 1	1 (06/08)						
MDSD SANTO DOMINGO/ De las Américas Intl.	APP-SR-I TWR SMC D-ATIS CLRD	2 (1) 1 (1) 1 (1) 1 (1) 1							
ECUADOR									
SEGU GUAYAQUIL	ACC-U ACC-U GP	2 (2) 1-ER 1 (1)	~~1 (06/08)~~	SAM-1 (4)	~~X (06/06)~~	~~X (06/06)~~	~~X (06/06)~~		
SEGU GUAYAQUIL/	APP-SR-I	1 (1)							

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1	2	3	4	5	6	7	8	9	10
Simón Bolívar	APP-I TWR SMC ATIS	2 (1) 1 (1) 1 (1) 1							
SELT LATACUNGA/Cotopaxi	APP-I TWR	1 (1) 1 (1)							
SEMT MANTA/Eloy Alfaro	APP-I TWR	1 (1) 1 (1)							
SEQU QUITO/Mcal. Sucre	APP-SR-I TWR SMC ATIS	1 (1) 1 (1) 1 (1) 1 (1)							
EL SALVADOR									
MSLP SAN SALVADOR/ El Salvador Intl.	APP-I APP-I APP-SR-I TWR SMC GP D-ATIS	1 1 1 (1) 1 (1) 1 (1) 1 (1) 1 (1)							
MSSS SAN SALVADOR/ Ilopango Intl.	APP-I TWR TWR SMC	1 (1) 1 (1) 1 (1) 1 (1)							
FRENCH ANTILLES (France)									
TFFF FORT-DE-FRANCE Le Lamentin, Martinique	APP-U APP-I TWR APP-SR-I D-ATIS SMC	1 1 1 (1) 1 (1) 1 (1) 1 (1)							
TFFR POINTE-A-PITRE/ Le Raizet, Guadeloupe	APP-U APP-I TWR APP-SR-I D-ATIS SMC	1 2 1 (1) 1 (1) 1 (1) 1							
TFFJ SAINT-BARTHELEMY/ Saint-Barthelemy	AFIS	1							
TFFG SAINT MARTIN/ Grand Case, Guadeloupe	AFIS	1							
FRENCH GUIANA (France)									

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1	2	3	4	5	6	7	8	9	10
SOOO CAYENNE	ACC-U GP	2 (1) 1		CAR-A (1) SAM-2 (1) SAT-2 (1)					
SOCA CAYENNE/ Rochambeau	APP-SR-I TWR SMC ATIS	1 (1) 1 (1) 1 1							
GRENADA									
TGPZ LAURISTON/ Carriacou	TWR	1							
TGPY SAINT GEORGES/ Point Salines	APP-L TWR SMC	1 (1) 1 (1) 1 (1)							
GUATEMALA									
MGFL FLORES/Flores	APP-L TWR	1 1							
MGGT GUATEMALA/ La Aurora	APP-SR-I TWR SMC D-ATIS GP	1 1 1 1 1							
MGPB PUERTO BARRIOS/ Puerto Barrios	TWR	1 (1)							
MGSJ SAN JOSE/San José	TWR	1 (1)							
GUYANA									
SYGC GEORGETOWN	ACC-U ACC-U GPS ACC-L	1(1) 1-ER 1 (1) 1	1 (06/08)	CAR-A SAM-2	X (06/08)				
SYCJ TIMEHRI/ Cheddi Jagan Intl.	APP-L TWR SMC	1 1 (1) 1 (1)							
HAITI									
MTCH CAP HAITIEN/Intl.	APP-L TWR	1 1 (1)							
MTEG PORT-AU-PRINCE	ACC-SR-U GP	~~1~~ 2(1) 1	1 (06/08)						
MTPP PORT-AU-PRINCE/Intl.	APP-SR-I APP-I	1 1 (1)							

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1	2	3	4	5	6	7	8	9	10
	TWR SMC D-ATIS	1 (1) 1 1							
HONDURAS									
MHLC LA CEIBA/ Golosón Intl.	APP-L TWR SMC	1 1 (1) 1							
MHRO COXEN HOLE/Juan Manuel Gálvez Intl.	TWR SMC	1 (1) 1 (1)							
MHLM SAN PEDRO SULA/ La Mesa Intl.	APP-I TWR SMC GP D-ATIS	1 (1) 1 (1) 1 (1) 1 (1) 1 (1)							
MHTG TEGUCIGALPA (CENAMER)	ACC-SR-U GP	7 (4) 1	3 (06/08)	CAR-A (6) SAM-1 (2)	X (06/08)	X (06/08)	X (06/08)		
MHTG TEGUCIGALPA/ Toncontin	APP-I TWR SMC GP D-ATIS	1 (1) 1 (1) 1 (1) 1 (1) 1 (1)							
JAMAICA									
MKJK KINGSTON	ACC-SR-U ACC-U GP	1 5 (2) 1	2 (06/~~06~~8)		X (06/0~~6~~8)	X (06/0~~6~~8)	X (06/0~~6~~8)		
MKJP KINGSTON/Norman Manley Intl.	APP-SR-1 APP-I TWR SMC D-ATIS	1 1 (1) 1 1 (1) 1							
MKJS MONTEGO BAY/ Sangster Intl.	APP-SR-I APP-I TWR SMC D-ATIS	1 1 1 (1) 1 (1) 1							
MEXICO									
MMAA ACAPULCO/Gral. Juan Alvarez Intl.	APP-SR-I APP-SR-L D-ATIS SMC TWR GP	1 (1) 1 (1) 1 1 1 (1) 1							
MMBT BAHIAS DE HUATULCO/ Bahías de Huatulco	TWR	1 (1)							

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1	2	3	4	5	6	7	8	9	10
MMCP CAMPECHE/Ignacio Alberto Acuña Ongay Intl.	TWR	1 (1)							
MMUN CANCUN/Cancún Intl.	APP-L APP-I SMC TWR D-ATIS CLRD GP	1 (1) 1 (1) 1 1 (1) 1 1 1							
MMCM CHETUMAL/ Chetumal Intl.	TWR	1 (1)							
MMCU CHIHUAHUA/Gral. Roberto Fierro Villalobos Intl.	APP-I TWR D-ATIS GP	1 (1) 1 (1) 1 1							
MMMC CIUDAD ACUÑA/Intl.	AFIS	1 (1)							
MMCS CIUDAD JUAREZ/ Abraham González Intl.	APP-I TWR	1 1 (1)							
MMCZ COZUMELCozumel/ Intl.	TWR	1 (1)							
MMCL CULIACAN/Fidel Bachigualato	APP-I TWR GP	1 (1) 1 (1) 1							
MMDO DURANGO/Pte. Guadalupe Victoria, Intl.	TWR	1 (1)							
MMGL GUADALAJARA/ Don Miguel Hidalgo y Costilla Intl.	APP-SR-I APP-SR-L D-ATIS SMC TWR CLRD GP	1 (1) 1 (1) 1 (1) 1 (1) 1 (1) 1 1							
MMGM GUAYMAS/Gral. José María Yáñez Intl.	TWR	1 (1)							
MMHO HERMOSILLO/Gral. Ignacio Pesqueira Garcia Intl.	APP-I D-ATIS TWR SMC	1 (1) 1 (1) 1 (1) 1							
MMZH IXTAPA-ZIHUATANEJO/ Ixtapa-Zihuatanejo Intl.	APP-I TWR	1 (1) 1 (1)							
MMLP LA PAZ/Gral. Manuel Márquez de León Intl.	APP-I TWR	1 (1) 1 (1)							
MMLO LEON/Guanajuato	APP-L TWR	1 1 (1)							

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1	2	3	4	5	6	7	8	9	10
MMLT LORETO/Loreto Intl.	TWR	1 (1)							
MMZO MANZANILLO/Playa de Oro Intl.	APP-L TWR	1 1 (1)							
MMMA MATAMOROS/Gral. Servando Canales	APP-L TWR	1 1 (1)							
MMMZ MAZATLAN/Gral. Rafael Buelna Intl.	ACC-SR-L ACC-SR-U APP-I SMC TWR D-ATIS GP	4 4 (5) 1 (1) 1 1 (1) 1 (1) 1	5 (06/08)		X (06/08)	X (06/08)	X (06/08)		
MM~~MO~~IDMERIDA/Lic. Manuel Crescencio Rejón Intl.	ACC-SR-L ACC-SR-U APP-I D-ATIS GP TWR	3 4 (4) 1 (1) 1 1 (1) 1 (1)	3 (06/08)	CAR-A (5)	X (06/08)	X (06/08)	X (06/08)		
MMML MEXICALI/Gral. Rodolfo Sánchez Taboada Intl.	APP-I TWR	1 1 (1)							
MMMX MEXICO/Lic. Benito Juárez Intl.	ACC-SR-L ACC-SR-U APP-SR-I APP-SR-L D-ATIS GP SMC TWR CLRD	5 5 (7) 1 (1) 1 (1) 1 (1) 1 (1) 1 (1) 1 (1) 1 (1)	3 (06/08)		X (06/08)	X (06/08)	X (06/08)		
MMAN MONTERREY/ Aeropuerto Del Norte Intl.	TWR	1 (1)							
MMMY MONTERREY/Gral. Mariano Escobedo Intl.	ACC-SR-L ACC-SR-U APP-SR-I APP-SR-L D-ATIS GP SMC TWR	2 2 (3) 1 (1) 1 (1) 1 (1) 1 1 (1) 1 (1)	3 (06/08)		X (06/08)	X (06/08)	X (06/08)		
MMMM MORELIA/ Gral. Francisco Mujica Intl.	APP-L TWR	1 1 (1)							
MMNG NOGALES/Nogales Intl.	AFIS	1							

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1	2	3	4	5	6	7	8	9	10
MMNL NUEVO LAREDO/	APP-L	1							
Quetzalcoatl Intl.	TWR	1 (1)							
MMPG PIEDRAS	D-ATIS	1 (1)							
NEGRAS/Intl.									
MMPR PUERTO VALLARTA/	APP-SR-I	1 (1)							
	APP-SR-L	1 (1)							
Lic. Gustavo Díaz Ordaz	D-ATIS	1							
Intl.	SMC	1							
	TWR	1 (1)							
MMRX REYNOSA/Gral. Lucio	APP-L	1							
Blanco Intl.	TWR	1 (1)							
MMSF SAN FELIPE/	AFIS	1 (1)							
San Felipe Intl.									
MMSD SAN JOSE DEL	APP-I	1							
CABO/San José del	TWR	1 (1)							
Cabo Intl.	GP	1							
MMTM TAMPICO/Gral.	APP-I	1 (1)							
Francisco Javier Mina Intl.	TWR	1 (1)							
	GP	1							
MMTP TAPACHULA/	TWR	1 (1)							
Tapachula Intl.									
MMTJ TIJUANA/	APP-SR-I	1 (1)							
	APP-SR-L	1 (1)							
Gral. Abelardo	D-ATIS	1 (1)							
L. Rodríguez Intl.	GP	1 (1)							
	TWR	1 (1)							
	SMC	1							
MMTO/TOLUCA/Lic. Adolfo	TWR	1 (1)							
Lopez Mateos	GP	1							
MMTC TORREON/Torreón	APP-L	1 (1)							
Intl.	TWR	1 (1)							
MMVR VERACRUZ/Gral.	APP-L	1 (1)							
Heriberto Jara Intl.	TWR	1 (1)							
MMVA VILLAHERMOSA/	APP-L	1							
C.P.A. Carlos Rovirosa	TWR	1 (1)							
MMZC ZACATECAS/Gral.	APP-I	1							
Leobardo Ruíz Intl.	TWR	1 (1)							
MONTSERRAT (United Kingdom)									
TRPM PLYMOUTH/	APP-L	1							
Blackburne, Montserrat I.	TWR	1							
NETHERLANDS ANTILLES (Netherlands)									
TNCF CURACAO	ACC-U	3 (2)-ER	2 (06/08)		X (06/08)	X (06/08)	X (06/08)		

Country and location Pays et emplacement País y localidad	Service or function Service ou fonction Servicio o función	VHF voice Voix VHF Voz VHF	VHF data Données VHF Datos VHF	HF voice Voix HF Voz HF	HF data Données HF Datos HF	Satellite voice Voix satellite Voz por satélite	Satellite data Données satellite Datos por satélite	Mode S Modo S	Remarks Remarques Observaciones
1	2	3	4	5	6	7	8	9	10
	GP	1 (1)							
TNCB KRALENDIJK/ Flamingo, Bonaire I.	APP-I TWR	1 1 (1)							
TNCE ORANJESTAD/ F.D. Rossevelt, St. Eustacius I.	TWR	1							
TNCM PHILIPSBURG/Prinses Juliana, St. Maarten I.	APP-I TWR SMC	1 1 1							
TNCC WILLEMSTAD/Hato, Curacao I.	APP-I TWR SMC APP-SR-I D-ATIS	1 1 (1) 1 1 (1) 1							
NICARAGUA									
MNMG MANAGUA/Augusto César Sandino Intl.	APP-I TWR SMC GP D-ATIS	1 (1) 1 (1) 1 (1) 1 (1) 1							
MNPC PUERTO CABEZAS/ Puerto Cabezas	TWR	1							
PANAMA									
MPBO BOCAS DEL TORO/ Bocas del Toro	AFIS	1 (1)							
MMPCH CHANGUINOLA/ Cap. Manuel Niño	TWR	1 (1)							
MPDA DAVID/Enrique Malek	TWR SMC	1 (1) 1 (1)							
MPMG PANAMA/Marcos A. Gelabert	TWR SMC CLRD	1 (1) 1 (1) 1 (1)							
MPZL PANAMA	ACC-U ACC-SR-U APP-SR-I GP	2 (1) 1 (1) 3 (3) 1 (1)	1 (06/08)	CAR-A (3) SAM-1 (2)	X (06/08)	X (06/08)	X (06/08)		
MPTO PANAMA/Tocumen	TWR SMC ATIS-D CLRD	1 (1) 1 (1) 1 1							
PARAGUAY									
SGFA ASUNCION	ACC-U ACC-U	1 (1) 1 (1)-ER	1 (06/08)	SAM-1 (3) SAM-2 (3)	X (06/08)				

Country and location Pays et emplacement País y localidad	Service or function Service ou fonction Servicio o función	VHF voice Voix VHF Voz VHF	VHF data Données VHF Datos VHF	HF voice Voix HF Voz HF	HF data Données HF Datos HF	Satellite voice Voix satellite Voz por satélite	Satellite data Données satellite Datos por satélite	Mode S Modo S	Remarks Remarques Observaciones
1	2	3	4	5	6	7	8	9	10
	GP	1 (1)							
SGAS ASUNCION/ Silvio Pettirossi	APP-SR-I APP-I TWR SMC	1 (1) 2 (2) 1 (1) 1 (1)							
SGES CIUDAD DEL ESTE/ Guarani	APP-SR-I TWR	1 (1) 1 (1)							
PERU									
SPQU AREQUIPA/ Rodríguez Ballón Intl.	APP-SR-U TWR	1 (1) 1 (1)							
SPHI CHICLAYO/ Cap. José Quiñones Gonzáles	APP-SR-I TWR	1 (1) 1 (1)							
SPZO CUZCO/Velazco Astete	APP-SR-U TWR ATIS	1 1 (1) 1 (1)							
SPQT IQUITOS/Cnel. FAP Francisco Secada Vignetta	APP-SR-I TWR	1 (1) 1 (1)							
SPIM LIMA	ACC-SR-U GP	3 (3)-ER 1 (1)	2 (06/06)	SAM-1 (2)	X (06/06)	X (06/06)	X (06/06)		
SPIM LIMA-CALLAO/Jorge Chávez Intl.	APP-SR-I APP-SR-U TWR SMC CLRD ATIS	1 (1) 2 1 (1) 1 (1) 1 (1) 1(1)	1 (06/01)						
SPSO PISCO/Pisco	APP-I TWR SMC	1 1 (1) 1 (1)							
SPTN TACNA/Cnel. FAP Carlos Ciriani Santa Rosa	APP-I TWR	1 1 (1)							
SPRU TRUJILLO/Cap. Carlos Martínez de Pinillos	APP-I TWR	1 (1) 1 (1)							
PUERTO RICO (United States)									
TJBQ AGUADILLA/Rafael Hernández Intl.	TWR	1 (1)							
TJFA FAJARDO/Diego Jiménez Torres	TWR	1 (1)							
TJMZ MAYAGUEZ/Mayaguez	SMC TWR	1 1							
TJPS PONCE/Mercedita	TWR SMC APP-L	1 1							

Country and location Pays et emplacement País y localidad	Service or function Service ou fonction Servicio o función	VHF voice Voix VHF Voz VHF	VHF data Données VHF Datos VHF	HF voice Voix HF Voz HF	HF data Données HF Datos HF	Satellite voice Voix satellite Voz por satélite	Satellite data Données satellite Datos por satélite	Mode S Modo S	Remarks Remarques Observaciones
1	2	3	4	5	6	7	8	9	10
TJZS SAN JUAN	ACC-U GP-U	11	4 (06/08)	CAR-A (6) CAR-B (1) NAT-A (5)	X (06/08)	X (06/08)	X (06/08)		
TJSJ SAN JUAN, PUERTO RICO/Luis Muñóz Marin Intl.	D-ATIS TWR SMC APP-SR-I	1 (1) 2 (1) 1 (1) 2 (2)							
TJVQ VIEQUES/Antonio Rivera	TWR	1 (1)							
SAINT KITTS AND NEVIS									
TKPK BASSETERRE/Golden Rock, Saint Kitts I.	APP-L TWR	1 (1) 1 (1)							
TKPN CHARLESTOWN/ Newcastle, Nevis I.	TWR	1							
SAINT LUCIA									
TLPC CASTRIES/Vigie	TWR SMC	1 (1) 1 (1)							
TLPL VIEUX-FORT/ Hewanorra Intl.	APP-L TWR SMC	1 (1) 1 (1) 1 (1)							
SAINT VINCENT AND THE GRENADINES									
TVSV BEQUIA/J. F. Mitchel	TWR	1 (1)							
TVSC CANOUAN/Canouan	TWR	1 (1)							
TVSV KINGSTOWNE/ E.T. Joshua	APP-L TWR	1 (1) 1 (1)							
TVSM MUSTIQUE/Mustique	TWR	1 (1)							
TVSU UNION ISLAND/ Union Island	TWR	1							
SENEGAL									
GOOO DAKAR	ACC-U	1 (1)-ER		SAT-1 SAT-2	X (06/08)	X (06/08)	X (06/08)		
SURINAME									
SMNI NEW NICKERIE/ Maj. Fernandes	TWR SMC	1 (1) 1							

Country and location Pays et emplacement País y localidad	Service or function Service ou fonction Servicio o función	VHF voice Voix VHF Voz VHF	VHF data Données VHF Datos VHF	HF voice Voix HF Voz HF	HF data Données HF Datos HF	Satellite voice Voix satellite Voz por satélite	Satellite data Données satellite Datos por satélite	Mode S Modo S	Remarks Remarques Observaciones
1	2	3	4	5	6	7	8	9	10
SMPM PARAMARIBO	ACC-U GP	1 (1)-ER 1							
SMZO PARAMARIBO/ Zorg en Hoop	TWR SMC	1 (1) 1 (1)							
SMJP ZANDERY/Johan A. Pengel	APP-I TWR SMC	1 (1) 1 (1) 1 (1)							
TRINIDAD AND TOBAGO									
TTZP PIARCO	ACC-SR-U ACC-U GP	3 4 (2) 1 (1)	2 (06/08)	CAR-A (3) CAR-B (1) SAM-2 (2)	X (06/08)	X (06/08)	X (06/08)		
TTPP PORT OF SPAIN/ Piarco Intl., Trinidad I.	APP-I APP-SR-I TWR SMC ATIS	1 2 (1) 1 (1) 1 (1) 1 (1)							
TTCP SCARBOROUGH/ Crown Point, Tobago I.	APP-I TWR SMC	1 (1) 1 (1) 1 (1)							
TURKS AND CAICOS ISLANDS (United Kingdom)									
MBGT GRAND TURK/ Grand Turk Intl.	APP-L TWR	1 1 (1)							
MBPV PROVIDENCIALES/ Intl.	APP-L TWR	1 (1) 1 (1)							
MBSC SOUTH CAICOS/Intl.	APP-L TWR	1 1 (1)							
UNITED STATES									
KZWY NEW YORK	GP-U	1-ER	1 (06/08)	CAR-A CAR-B	X (06/08)	X (06/08)	X (06/08)		
URUGUAY									
SUCA COLONIA/ Departamental de Colonia	TWR	1 (1')							
SULS MALDONADO C/C Carlos A. Curbelo Intl Laguna del Sauce	TWR SMC ATIS	1 (1) 1 1							
SUAA MONTEVIDEO/Angel S. Adami Intl.	TWR	1 (1)							
SUEO MONTEVIDEO	ACC-U	3 (2)	1 (06/085)	SAM-1 (3) SAM-2 (5)	X (06/08)	X (06/08)	X (06/08)		

Country and location Pays et emplacement País y localidad	Service or function Service ou fonction Servicio o función	VHF voice Voix VHF Voz VHF	VHF data Données VHF Datos VHF	HF voice Voix HF Voz HF	HF data Données HF Datos HF	Satellite voice Voix satellite Voz por satélite	Satellite data Données satellite Datos por satélite	Mode S Modo S	Remarks Remarques Observaciones
1	2	3	4	5	6	7	8	9	10
				SAT-X*					*Frequency to be designated *Fréquence à déterminer *Frecuencia por designar
SUMU MONTEVIDEO/ Carrasco Intl. Gral. Cesareo Berisso	APP-SR-I APP-I	1 (1) 1 (1)							
	SMC TWR ATIS	1 (1) 1 (1) 1							
SURV RIVERA/Cerro Chapeau Intl.	TWR	1 (1)							
SUSO SALTO/Intl. Nueva Hesperides	TWR	1 (1)							
VENEZUELA									
SVBC BARCELONA/Gral. José Antonio Anzoátegui Intl.	APP-SR-I TWR SMC ATIS	2 (2) 1 (1) 1 (1) 1 (1)							
SVZM MAIQUETIA	ACC-SR-U GP	5 (6) 1 (2)	3 (06/08)	CAR-A (4) SAM-2 (3)	X (06/08)	X (06/08)	X (06/08)		
SVMI CARACAS/Maiquetía, Simón Bolívar	APP-SR-L TWR SMC ATIS CLRD	2 (2) 2 (2) 2 (2) 1 (1) 1	~~1 (06/01)~~						
SVMC MARACAIBO/ La Chinita Intl.	APP-SR-I TWR SMC ATIS GP	2 (2) 1 (1) 1 (1) 1 (1) 1 (1)							
SVMG MARGARITA/Intl. Del Caribe, General Santiago Marino	APP-SR-I TWR SMC ATIS	1 (1) 1 (1) 1 (1) 1 (1)							
SVJC PARAGUANA/Josefa Camejo	APP TWR (1)								
SVSA SAN ANTONIO DEL TACHIRA/San Antonio del Tachira	APP TWR (1)								
SVVA VALENCIA/Zim Valencia	APP TWR	1 (1)							

Country and location Pays et emplacement País y localidad	Service or function Service ou fonction Servicio o función	VHF voice Voix VHF Voz VHF	VHF data Données VHF Datos VHF	HF voice Voix HF Voz HF	HF data Données HF Datos HF	Satellite voice Voix satellite Voz por satélite	Satellite data Données satellite Datos por satélite	Mode S Modo S	Remarks Remarques Observaciones
1	2	3	4	5	6	7	8	9	10
VIRGIN ISLANDS (United Kingdom)									
TUPJ ROADTOWN/ Beef Island	APP-L TWR	1 1 (1)							
TUPW VIRGIN GORDA/ Virgin Gorda	TWR	1							
VIRGIN ISLANDS (United States)									
TISX SAINT CROIX/Henry E. Rohlsen, St. Croix	APP-I TWR SMC	1 (1) 1 (1) 1 (1)							
TIST SAINT THOMAS/ Cyril E. King	APP-I TWR SMC D-ATIS	1 (1) 1 (1) 1 (1) 1 (1)							

APPENDIX AB

TABLE CNS 1BB – ATN GROUND-GROUND APPLICATIONS PLAN / TABLA CNS1 BB – PLAN DE APLICACIONES TIERRA-TIERRA ATN (CAR REGION / REGIÓN CAR)

ATN GROUND-GROUND APPLICATIONS PLAN / PLAN DE APLICACIONES TIERRA-TIERRA					
Administration and Location/ Administración y localidad	**Application Type/ Tipo de Aplicación**	**Conneted with Administration & Location of/ Conectada con Administración y Localidad de**	**Used Standard / Norma usada**	**Implementation Date/ Fecha de Implementación**	**Remarks/ Observaciones**
1	2	3	4	5	6
ARUBA, Aruba	AMHS	FAA-Atlanta	ATN	TBD/Por determinar	
BAHAMAS, Nassau,	AMHS	FAA-Atlanta	ATN	TBD/Por determinar	
CAYMAN ISLANDS, Grand Cayman ISLAS CAIMANES , Gran Caimán	AMHS	FAA-Atlanta	ATN	TBD/Por determinar	
CUBA, Havana CUBA, La Habana	AMHS	FAA-Atlanta	ATN	2008	
	AIDC	TBD/Por determinar	ATN	TBD/Por determinar	
DOMINICAN REPUBLIC, Santo Domingo/ REPÚBLICA DOMINICANA, Santo Domingo	AMHS	FAA-Atlanta	ATN	2008	
	AIDC	TBD/Por determinar	ATN	TBD/Por determinar	
HAITI, Port-au-Prince/ HAITÍ, Puerto Príncipe,	AMHS	FAA-Atlanta	ATN	2008	
HONDURAS, Tegucigalpa (COCESNA)	AMHS	FAA-Atlanta	ATN	2007	
	AIDC	TBD/Por determinar	ATN	TBD/Por determinar	
JAMAICA, Kingston	AMHS	FAA-Atlanta	ATN	2008	
	AIDC	TBD/Por determinar	ATN	TBD/Por determinar	

ATN GROUND-GROUND APPLICATIONS PLAN / PLAN DE APLICACIONES TIERRA-TIERRA					
Administration and Location/ Administración y localidad	**Application Type/ Tipo de Aplicación**	**Conneted with Administration & Location of/ Conectada con Administración y Localidad de**	**Used Standard / Norma usada**	**Implementation Date/ Fecha de Implementación**	**Remarks/ Observaciones**
1	2	3	4	5	6
MEXICO, Mexico City MÉXICO, Ciudad de México	AMHS	FAA-Atlanta	ATN	TBD/Por determinar	
	AIDC	FAA- TBD/Por determinar	ATN	TBD/Por determinar	
	AIDC	TBD/Por determinar	ATN	TBD/Por determinar	
NETHERLANDS ANTILLES (Curacao) / ANTILLAS NEERLANDESAS (Curazao)	AMHS	FAA-Atlanta	ATN	TBD/Por determinar	
PANAMA, Panama City/ PANAMÁ, Ciudad de Panamá	AMHS	FAA-Atlanta	ATN	TBD/Por determinar	
TRINIDAD AND TOBAGO, Piarco	AMHS	FAA-Atlanta	ATN	TBD/Por determinar	
	AIDC	TBD/Por determinar	ATN	TBD/Por determinar	
UNITED STATES, Atlanta ESTADOS UNIDOS, Atlanta	AMHS	Aruba	ATN	TBD/Por determinar	03 2007 - USA Availability to connect to the CAR/SAM Regions/ Disponibilidad de conectar con las Regiones CAR/SAM
	AMHS	Bahamas Nassau,		TBD/Por determinar	
	AMHS	Cayman Islands, Grand Cayman Islas Caimanes , Gran Caimán		TBD/Por determinar	
	AMHS	Cuba, Havana Cuba, La Habana		2008	
	AMHS	Dominican Republic, Santo Domingo/ República Dominicana, Santo Domingo		2008	
	AMHS	Haiti, Port-au-Prince/ Haití, Puerto Príncipe,		2008	

ATN GROUND-GROUND APPLICATIONS PLAN / PLAN DE APLICACIONES TIERRA-TIERRA					
Administration and Location/ Administración y localidad	**Application Type/ Tipo de Aplicación**	**Conneted with Administration & Location of/ Conectada con Administración y Localidad de**	**Used Standard / Norma usada**	**Implementation Date/ Fecha de Implementación**	**Remarks/ Observaciones**
1	2	3	4	5	6
	AMHS	Honduras, Tegucigalpa (COCESNA)		2007	
	AMHS	Jamaica, Kingston		2008	
	AMHS	Mexico, Mexico		TBD/Por determinar	
	AMHS	Netherlands Antilles (Curacao) / Antillas Neerlandesas (Curazao)		TBD/Por determinar	
	AMHS	Panama, Panama City/ Panamá, Ciudad de Panamá		TBD/Por determinar	
	AMHS	Peru, Lima		TBD/Por determinar	
	AMHS	Trinidad and Tobago, Piarco		TBD/Por determinar	
	AMHS	Venezuela, Maiquetía		2009	
UNITED STATES, TBD ESTADOS UNIDOS, Por determinar	AIDC	MEXICO, Por determinar		TBD/Por determinar	
	AIDC	TBD/Por determinar		TBD/Por determinar	

APPENDIX AC

TABLE CNS 1BB – ATN GROUND-GROUND APPLICATIONS PLAN / TABLA CNS1 BB – PLAN DE APLICACIONES TIERRA-TIERRA ATN (SAM REGION / REGIÓN SAM)

ATN GROUND-GROUND APPLICATIONS PLAN / PLAN DE APLICACIONES TIERRA-TIERRA					
Administration and Location/ Administración y localidad	**Application Type/ Tipo de Aplicación**	**Conneted with Administration & Location of/ Conectada con Administración y Localidad de.**	**Used Standard / Norma usada**	**Implementation Date/ Fecha de Implementación**	**Remarks/ Observaciones**
1	2	3	4	5	6
Argentina, Buenos Aires	AMHS	Bolivia, Brasil, Chile, Paraguay Perú, Uruguay y AFI	ATN	2005	
	AIDC	Bolivia, Brasil, Chile, Paraguay Perú, Uruguay y AFI	ATN	TBD /Por determinar	
Bolivia , La Paz	AMHS	Argentina , Perú	ATN	2008	
	AIDC	Argentina , Perú	ATN	TBD /Por determinar	
Brasil, Brasilia	AMHS	Argentina, Guyana Francesa,Paraguay, Peru,Uruguay, NAM,EUR,AFI	ATN	2008	
	AIDC	Argentina, Guyana Francesa,Paraguay, Peru,Uruguay, NAM,EUR,AFI	ATN	TBD/ Por determinar	
Chile, Santiago	AMHS	Argentina,Perú y PAC.	ATN	2007	
	AIDC	Argentina,Perú y PAC.	ATN	TBD/Por determinar	
Colombia , Bogotá	AMHS	Ecuador,Perú y Venezuela	ATN	2008	
	AIDC	Ecuador,Perú y Venezuela	ATN	TBD/Por determinar	
Ecuador,Quito	AMHS	Colombia y Perú	ATN	2009	
	AIDC	Colombia y Perú	ATN	TBD/Por determinar	
French Guyana ,Cayenne	AMHS	Brasil, Surinam	ATN	2009	
	AIDC	Brasil, Surinam	ATN	TBD/Por determinar	
Guyana,Georgetown	AMHS	Brasil, Trinidad Tobago y Venezuela	ATN	2009	
	AIDC	Brasil, Trinidad Tobago y Venezuela	ATN	TBD/Por determinar	
Paraguay,Asunción	AMHS	Argentina, Brasil	ATN	2007	
	AIDC	Argentina, Brasil	ATN	TBD/Por determinar	
Perú	AMHS	Argentina,Bolivia,Brasil,Chile Colombia,Ecuador,Venezuela y NAM	ATN	2007	
	AIDC	Argentina,Bolivia,Brasil,Chile Colombia,Ecuador,Venezuela y NAM	ATN	TBD/Por determinar	
Surinam	AMHS	Brasil,French Guyana y Venezuela	ATN	2009	
	AIDC	Brasil,French Guyana y Venezuela	ATN	TBD/Por determinar	
Uruguay	AMHS	Argentina, Brasil	ATN	2008	
	AIDC	Argentina, Brasil	ATN	TBD/Por determinar	
Venezuela	AMHS	Brasil,Colombia,Perú,Suriname,NAM,CAR y EUR	ATN	2008	
	AIDC	Brasil,Colombia,Perú,Suriname,NAM,CAR y EUR	ATN	TBD/Por determinar	

APPENDIX AD

Table CNS 1Ba – ATN AIR-GROUND APPLICATIONS PLAN / Tabla CNS1 Ba – PLAN DE APLICACIONES AIRE-TIERRA ATN

ATN AIR-GROUND APPLICATIONS PLAN / PLAN DE APLICACIONES AIRE-TIERRA						
Administration and Center/ Administración y Centro	Application Type/ Tipo de Aplicación	Served air space / Espacio aéreo servidos	COM Infrastructure / Infraestructura COM	Used Standard / Norma usada	Implementation Date/ Fecha de Implementación	Remarks/ Observaciones
1	2	3	4	5	6	7

APPENDIX AE

AMHS IMPLEMENTATION PLANS IN THE CAR AND SAM REGIONS

AMHS Implementation Plans in the CAR Region	
Date	**Management**
Implemented	COCESNA and Central American States
2007	Atlanta (United States), Puerto Rico and Trinidad and Tobago
2008	Cuba, Jamaica, Haiti and Dominican Republic
2009	Others

AMHS Implementation Plans in the SAM Region	
Date	**Management**
Implemented	Argentina
2007	Chile, Paraguay and Peru
2008	Bolivia, Brazil, Colombia, Uruguay y Venezuela
2009	Ecuador, Guyana, French Guiana, Suriname, Uruguay and Panama

APPENDIX AF

REGIONAL PLAN OF DEACTIVATION OF NDB STATIONS
PLAN REGIONAL DE DESACTIVACIÓN DE ESTACIONES NDB

Administration/ Location Administración/ Lugar	Identification Identificación	Function Función	Deactivation date / Fecha de desactivación	Remarks Observaciones
1	2	3	4	5

APPENDIX AG

DRAFT ELEMENTS FOR A REGIONAL STRATEGY FOR SURVEILLANCE SYSTEMS

- **Short term: (until 2011)**

Installation of surveillance systems on ground

- Implementation of SSR radars Mode S only in high-traffic-density approach, en route, and terminal areas,
- Implementation of monopulse SSR, adaptable to Mode S, in medium- and high-traffic en route and terminal areas.
- Begin ground implementation for ADS-B (ES Mode S receivers) for en route and terminal areas not covered with radar, and strengthen surveillance in areas covered with SSR Modes A/C and S.
- Begin the implementation of multilateration, where aircraft respond to SSR Mode A/C or SSR Mode S queries for aerodrome surface movement surveillance

Aircraft

- Assignment of *24-bit addressing for unique aircraft identification*
- Complete the implementation of ACAS II systems throughout commercial and general aviation. Use of basic Mode S transponder
- Begin the update of Mode S transponder so that it can operate in ADS-B and multilateration environments

- **Medium term: (2011 – 2015)**

Installation of surveillance systems on ground

- Implementation of Mode S in those monopulse SSRs that have Mode S capabilities, in areas with coverage and increased air traffic.
- SSR Mode A/C and SSR Mode S continue to be the main surveillance elements for approach, en route, and terminal areas.
- Increase ADS-B installations on ground (ES Mode S receivers) for en route and terminal areas not covered by radar, and strengthen surveillance in areas covered by SSR Mode A/C and SSR Mode S.
- Increase the implementation of multilateration, where aircraft respond to SSR Modes A/C and S queries for surveillance of aerodrome surface movements, and begin the implementation of surveillance applications in approach, en route and terminal areas (wide area multilateration, WAM) in areas that are not covered by radar surveillance and to strengthen radar surveillance

Aircraft

- Increase updating of Mode S transponder for ADS-B and multilateration operations

- **Long term: (2015 - 2025)**

Installation of surveillance systems on ground

- Begin the non-replacement of SSR Mode A/C radars that have completed their life cycle.
- Implement ADS-B or multilateration systems to replace the SSRs that have completed their life cycle
- Begin the implementation of new ICAO-approved surveillance systems

Aircraft

- New updates of Mode S transponder to support new ADS-B functions, such as improved information transmission capability, more information on board to give the pilot the capability to make decisions on separation.

APPENDIX AH

CAR/SAM Regional Strategy for the ADS-C and ADS-B Systems Implementation

Near-Term (until 2011)

1. The ADS-C surveillance implementation is used in oceanic and remote airspace associated with FANS capacities. The ADS-B surveillance implementation should be prioritize in the continental airspaces where there is no radar surveillance available, taking into consideration the density of traffic, the operational requirements and aircrafts capability. Also, consideration should be given to the potentialities to complement or replace the SSR in a scarcely to medium traffic density area, for route surveillance, in terminal areas, for surface movement control (ADS-B) and other applications.
2. Each State/Territory/International Organization needs to evaluate the: maximum density traffic nowadays and expected for the year 2015. The useful life of their radars and the potentiality for their replacement with ADS-B, the locations of potential ADS-C or ADS-B ground station sites, and the capabilities of existing and planned ATC automation systems to support the ADS-C or ADS-B.
3. The proportions of equipped aircrafts are also critical for the ADS-C and ADS-B deployment, for which it is required to periodically provide, al least, the following information: number of equipped aircrafts operating in the concern airspace, number and name of the airlines that have equipped aircrafts for ADS-C and ADS-B, type of equipped aircrafts, categorization of the accuracy/integrity data available in the aircrafts.
4. The ADS-B deployment should be associated at early stages in coordination with the States/Territory/International Organizations responsible for the control of adjacent areas, and the correspondent ICAO Regional Office, establishing a plan in the potential areas of ADS-B data sharing, aimed at a coordinated, harmonious and interoperable implementation.
5. Each State/Territory/Organization should investigate and report their own Administration's policy in respect to the ADS-B data sharing with their neighbours and from cooperative goals.
6. The ADS-B data sharing plan should be based selecting centres by pairs and analyzing the benefits and formulating proposals for the ADS-B use for each pair of centre/city with the purpose to improve the surveillance capacity.
7. Likewise, it is necessary to consider implementing surveillance solutions for surface movement control by the implementation of ADS-B.
8. To support the ADS-C and ADS-B regional plan, the States/Territories/International organizations, as well as the entity representing the airspace users, should organized and provide the following information; a focal point of contact, its respective implementation plan, including a time-table, and information on its air-ground communications and automation systems.
9. The ADS-B data links technology that will be use for the Mode S 1,090 MHz extended squitter to (1090 ES). Likewise, al the end of the medium term the introduction of ADS-B data sharing could be initiated and be approved by ICAO for its use in a long-term to satisfy the new requirements of the global ATM system.
10. The implementation would be in conformity with the SARPs, ICAO guidelines and the GREPECAS conclusions.

Medium-Term (2011 – 2015)

11. Continuation of the ADS-B use with the 1090 ES technique and the planning initiation for the ADS-B implementation by new data links to satisfy the ATM global system requirements.

Longer-Term (From 2015 to 2025)

12. The planning and implementation would be carried out according to the ADS and ADS-B evolution, with the associated technology developments, in conformity with the global ATM systems, with the new SARPs and ICAO guidance.

APPENDIX AI

POTENTIAL AIR SPACE TO IMPLEMENT ADS-C AND ADS-B CONSIDERED BY CAR/SAM STATES, TERRITORIES, AND INTERNATIONAL ORGANIZATIONS / ESPACIOS AÉREOS POTENCIALES PARA IMPLANTAR ADS-C Y ADS-B CONSIDERADOS POR LOS ESTADOS/ TERRITORIOS/ORGANIZACIONES INTERNACIONALES DE LAS REGIONES CAR/SAM

No.	State or Oganization/ Estado u Organización/ Center/Centro	Air Space/ Espacio aéreo	ADS Type/ Tipo	Status/ Estado	ADS-B data sharing with/ Intercambio de datos ADS-B con	Impl. Date Fecha de Impl.	Remarks/ Observaciones
1	2	3	4	5	6	7	8
	CAR						
1.	**Bahamas/** Nassau ACC	**Nassau FIR**	**ADS-B**	**S**			Studies are being carried out. /Se están realizando estudios.
2.	**Cuba/** Habana ACC	**Havana FIR** (South East Zone)	**ADS-B**	**S**			Studies are being carried out. /Se están realizando estudios.
3.	**Haiti/** Port au Prince ACC	**Port au Prince FIR**	**ADS-B**	**S**			Studies are being carried out. /Se están realizando estudios.
4.	**Mexico/** Mérida ACC Monterrey ACC	**Golf of Mexico** (Central zone between Houston Oceanic and Mexico FIRs / Zona central entre las FIRS Houston Oceanic y México)	**ADS-B**	**P**	**Houston ARTCC**		Based on an agreement Mexico - USA/ Basado en acuerdo México - Estados Unidos.
5.	**Trinidad and Tobago/** Piarco ACC	**Piarco FIR**	**ADS-B** **ADS-C***	**P**			Studies are being carried out. /Se están realizando estudios. * Oceanic East Sector/Sector Este oceánico
6.	**United States/** Houston ARTCC Miami ARTCC	**Golf of Mexico** (Central zone between Houston Oceanic and Mexico FIRs / Zona central entre las FIRS Houston Oceanic y México) **Miami Oceanic FIR (Domestic zone)**	**ADS-B** **ADS-B**	**P** **P**			Based on an agreement Mexico - USA/ Basado en acuerdo México - Estados Unidos.

No.	State or Organization/ Estado u Organización/ Center/Centro	Air Space/ Espacio aéreo	ADS Type/ Tipo	Status/ Estado	ADS-B data sharing with/ Intercambio de datos ADS-B con	Impl. Date Fecha de Impl.	Remarks/ Observaciones
1	2	3	4	5	6	7	8
7.	**COCESNA/** Cenamer ACC	**Cenamer FIR** (Caribbean and Pacific Oceanic sectors / Sectores oceánicos Caribe y Pacífico)	**ADS-B**	**S**			Studies are being carried out. /Se están realizando estudios.
8.		**Other air spaces./ Otros espacios aéreos**					Studies are pending / Pendiente de estudios.
	SAM						
9.	**Argentina**	**Ezeiza FIR Oceanic Zone / Zona Oceánica**	**ADS-C**	**P**			Planned to be implemented at the end of the first trimester of 2007 / Planificado para ser instalado a finales del primer trimestre de 2007
10.	**Brasil/** Atlántico ACC	**Atlántico FIR**	**ADS-C**	**P**			Trials have been carried out and It has an installation plan in the EUR/SAM corridor / Se han realizado ensayos y existe un plan de implantación en el corredor EUR/SAM.
11.	**Chile/** Chile´s ACC/ ACCs de Chile	**Chile FIRs (Continental and Oceanic air space./ Espacios aéreos continental y oceánicos)**	**ADS-C**	**S**			In the 2005 tests will be begun to implement ADS./ En el 2005 se comenzarán pruebas para implementar ADS.
12.		**Other air spaces./ Otros espacios aéreos**					Studies are pending / Pendiente de estudios.

P – Planned/Planificado S – Study/Estudio

APPENDIX/APENDICE AJ

Table CNS 4A - SURVEILLANCE SYSTEMS (Updated)
Tabla CNS 4A - SISTEMAS DE VIGILANCIA (Actualizada)

State(Territory)/Location Estado(Territorio)/Ubicación	ATS Unite Served Unidad ATS Servida	PSR			SSR				ADS		Remarks Observaciones
		Funtion Función	Coverage Cobertura (NM)	Status Impl. Estado	Funtion Función	Modes Modos (A,C& S)	Coverage Cobertura (NM)	Status Impl. Estado	Type Tipo	Status Impl. Estado	
1	3	4	5	6	7	8	9	10	11	12	13
ANGUILA (UK)								NP			
ANTIGUA & BARBUDA											
Airport (4 NM North)	V.C. Bird APP				T	A/C	180	I*			* MSSR
ARGENTINA											
~~Aeroparque Jorge Newbery~~	~~Ezeiza ACC~~ ~~Aeroparque APP~~	~~T~~	~~60~~	~~P~~	~~E~~	~~A/C~~	~~220~~	~~P*~~			~~* MSSR~~
~~Bahía Blanca, Airport~~	~~Ezeiza ACC~~ ~~Bahía Blanca APP~~	~~T~~	~~60~~	~~P~~	~~E~~	~~A/C~~	~~220~~	~~P*~~			~~* MSSR~~
Bolívar, Airport	Ezeiza ACC				E	A/C/S	220	P*			* MSSR
~~Colonia Catriel, Airport~~	~~Ezeiza ACC~~				~~E~~	~~A/C~~	~~220~~	~~P*~~			~~* MSSR~~
Córdoba, Airport	Córdoba ACC Ezeiza ACC Córdoba APP	T	60	I	E/T	A/C	180	I/P*	C y B	P	* MSSR
Ezeiza, Airport	Ezeiza ACC Buenos Aires APP	T	90	I	E	A/C	220	I*	C y B	P	* MSSR
Jujuy, Airport	Córdoba ACC				E	A/C/S	220	p*			* MSSR
~~La Rioja, Airport~~	~~Córdoba ACC~~				~~E~~	~~A/C~~	~~220~~	~~p*~~			~~* MSSR~~
~~Las Lomitas, Airport~~	~~Ezeiza ACC~~ Córdoba ACC				~~E~~	~~A/C~~	~~220~~	~~p*~~			~~* MSSR~~
Mar de Plata, Airport	Ezeiza ACC Mar del Plata APP	T	60	I	E	A/C	220	I*			* MSSR
Monte Quemado , Santiago del Estero	Ezeiza ACC Cordoba ACC				E	A/C/S	220	P*			* MSSR
Mendoza, Airport	Cordoba ACC Mendoza APP	T	60	I	E	A/C	180	I*			* MSSR
Merlo (Buenos Aires)	Ezeiza ACC	T	220	P	E	A/C/S	220	P*			* MSSR
Paraná, Airport	Ezeiza ACC Córdoba ACC				E	A/C	220	I*			* MSSR
Posadas Airport	Ezeiza ACC				E	A/C	220	P*			* MSSR
~~Reconquista Airport~~	~~Ezeiza ACC~~ Córdoba ACC				~~E~~	~~A/C~~	~~220~~	~~P*~~			~~* MSSR~~
Resistencia, Airport	Ezeiza ACC Córdoba APP Resistencia APP	T	60	P	E	A/C	220	P*			* MSSR
Neuquen Airport	Ezeiza ACC Neuquen TMA APP				E	A/C/S	220	P*			* MSSR
Las Lomitas Airport	Ezeiza ACC Cordoba ACC	E	220	P	E	A/C/S	220	P*			* MSSR
La Boulaye Airport	Ezeiza ACC Cordoba ACC				E	A/C/S	220	P*			* MSSR
San Carlos de Bariloche,	Ezeiza ACC	T	60	P	E/T	A/C	220	P*			* MSSR

State(Territory)/Location Estado(Territorio)/Ubicación	ATS Unite Served Unidad ATS Servida	PSR			SSR				ADS		Remarks Observaciones
		Funtion Función	Coverage Cobertura (NM)	Status Impl. Estado	Funtion Función	Modes Modos (A,C& S)	Coverage Cobertura (NM)	Status Impl. Estado	Type Tipo	Status Impl. Estado	
1	3	4	5	6	7	8	9	10	11	12	13
Airport	Bariloche APP										
~~San Luis, Airport~~	~~Córdoba APP~~				~~E~~	~~A/C~~	~~220~~	~~P*~~			~~* MSSR~~
	~~Ezeiza ACC~~										
~~Santa Rosa, Airport~~	~~Ezeiza ACC~~				~~E~~	~~A/C~~	~~220~~	~~P*~~			~~* MSSR~~
	~~Ezeiza ACC~~										
~~Tartagal, Airport~~	~~Córdoba APP~~				~~E~~	~~A/C~~	~~220~~	~~P*~~			~~* MSSR~~
Tucumán, Airport	Córdoba APP Ezeiza ACC				E	A/C	220	P*			* MSSR
Comodoro Rivadavia	Ezeiza ACC								C y B	P	
ARUBA (Kingdom of the Netherlands)	Reina Beatrix APP	T	80	I	T	A/C	256	I*			*MSSR
BAHAMAS											
Nassau	Miami ACC Nassau APP	E/T		I	E/T	A/C		I			
BARBADOS											
Aiport	Adams APP				T	A/C	250	I*			*MSSR
BELIZE	Belize APP							NP			
BOLIVIA											
La Paz	La Paz ACC				E	A/C		I/P*			*It is recomended to widen widen coverage and replacem to MSSR/ Se
La Paz	La Paz APP	T		P*	T	A/C		I/P**			*Recommended/ Recomendado **Replacem ent recommended to MSSR / Recomendado reemplazo por MSSR
Cochabamba	Cochabamba APP				E/T	A/C		I			MSSR
BRASIL											
Barra do Carcas	Brasilia ACC	E		I	E	A/C		I			
Belém	Belem ACC	E		I	E	A/C		I			
Belém	Belem APP	T		I	T	A/C		I			
Boa Vista	Manaus ACC	E		I	E	A/C		I			
Bom Jesus da Lapa	Recife ACC				E	A/C		I			*MSSR <-2000
Brasilia (Gama)	Brasilia ACC	E		I	E	A/C		I			
Brasilia	Brasilia APP	T		I	T	A/C		I			
Cachimbo					E	A/C		I			*MSSR
Campinas	Campinas APP	T		P	T	A/C		I			*MSSR
Cangucu	Curitiba ACC	E		I	E	A/C		I			
Catanduvas	Curitiba ACC	E		I	E	A/C		I			
Chapada Dos Guimaraes	Brasilia ACC	E		I	E	A/C		I			

State(Territory)/Location Estado(Territorio)/Ubicación	ATS Unite Served Unidad ATS Servida	PSR			SSR				ADS		Remarks Observaciones
		Funtion Función	Coverage Cobertura (NM)	Status Impl. Estado	Funtion Función	Modes Modos (A,C& S)	Coverage Cobertura (NM)	Status Impl. Estado	Type Tipo	Status Impl. Estado	
1	3	4	5	6	7	8	9	10	11	12	13
Confins	Belo Horizonte APP	T		I	T	A/C		I			
Conceicao do Araguia		E		P	E	A/C		I			*MSSR
Cruzeiro do Sul		E		P	E	A/C		I			*MSSR
Curitiba (Morro da Igreja)	Curitiba ACC	E		I	E	A/C		I			
Curitiba	Curitiba APP	T		I	T	A/C		I			
~~Dianopolis~~					~~E~~	~~A/C~~		~~P*~~			~~*MSSR~~
Eirunepe		E		P	E	A/C		P*			*MSSR
Fernando Noronha	Recife ACC				E	A/C		I			
Fortaleza	Recife ACC	E		I	E	A/C		I			
Fortaleza	Fotaleza APP	T		I	T	A/C		I			
Foz do Iguazu	Foz do Iguacu APP	T		I	T	A/C		I			
Guajara - Mirim		E		P	E	A/C		P*			*MSSR
Guarulhos	Sao Paulo APP	T		I	T	A/C		I			
Imperatriz					E	A/C		I			*MSSR
Jacarcacanga					E	A/C		I			*MSSR
Jaraguari	Curitiba ACC	E		I	E	A/C		I			
Macapa		E		P	E	A/C		I			*MSSR
Maceió	Recife ACC	E		I	E	A/C		I			
Manaus (E. Gomes)	Manaus ACC	E		I	E	A/C		I			
Manaus (E. Gomes)	Manaus APP	T		I	T	A/C		I			
Natal	Recife ACC	E		I	E	A/C		I			
Natal	Natal APP	T		I	T	A/C		I			
Petrolina	Recife ACC				E	A/C		I			*MSSR <-1999
Pico do Couto	Brasilia ACC	E		I	E	A/C		I			
Porto Alegre	Porto Alegre APP	T		I	T	A/C		I			
Porto Espiridiao		E		P	E	A/C		I			*MSSR
Porto Seguro	Recife ACC	E		P	E	A/C		I			*MSSR <-2000
Porto Velho		E		P	E	A/C		I			*MSSR
Recife	Recife ACC	E		I	E	A/C		I			
Recife	Recife APP	T		I	T	A/C		I	ADS-C		
Río Branco		E		P	E	A/C		I			*MSSR
Río de Janeiro (Galeao)	Río APP	T		I	T	A/C		I			*MSSR
Salvador	Recife ACC	E		I	E	A/C		I			
Salvador	Salvador APP	T		I	T	A/C		I			
Sabtarém		E		P	E	A/C		I			*MSSR
Santiago	Curitiba ACC	E		I	E	A/C		I			
Sao Felix do Aragunia					E	A/C		I			*MSSR
S.Feliz do Xingu					E	A/C		I			*MSSR
Sao Gabriel Cachoeira	Manaus ACC	E		I	E	A/C		I			
Sao Luis		E		P	E	A/C		I			*MSSR
Sao Paulo	Sao Paulo APP	T		I	T	A/C		I			
Sao Roque	Brasilia ACC	E		I	E	A/C		I			
Sinop	Brasilia ACC	E		P	E	A/C		I			*MSSR
Tabatinga	Manaus ACC	E		I	E	A/C		I			
Tanabi	Brasilia ACC	E		I	E	A/C		I			
Tefé		E		P	E	A/C		I			*MSSR
Tirios					E	A/C		P*			*MSSR
Tres Marias	Brasilia ACC	E		I	E	A/C		I			
Vilhena		E		P	E	A/C		I			*MSSR

State(Territory)/Location Estado(Territorio)/Ubicación	ATS Unite Served Unidad ATS Servida	PSR			SSR				ADS		Remarks Observaciones
		Funtion Función	Coverage Cobertura (NM)	Status Impl. Estado	Funtion Función	Modes Modos (A,C& S)	Coverage Cobertura (NM)	Status Impl. Estado	Type Tipo	Status Impl. Estado	
1	3	4	5	6	7	8	9	10	11	12	13
CHILE											
Antofagasta	Santiago ACC	T		I	E/T	A/C		I*			*MSSR
	Antofagasta APP										
Cerrillos	Santiago ACC				T	A/C		I*			*MSSR
Iquique	Santigo ACC	T		I	T	A/C		I			
	Iquique APP										
Los Angeles	Santiago APP				E	A/C		I*			*MSSR
Puerto Montt	Puerto Montt APP	T		I	T	A/C		I			
Punta Arena	Punta Arena ACC	E/T		I	E/T	A/C		I			
	Punta Arena APP										
Santiago	Santiago ACC	T		I	T	A/C		I*	ADS-C	P	*MSSR
	Santiago APP										
Vallenar					E	A/C		I*			*MSSR
COLOMBIA											
Araraguara	Bogotá ACC				E/T	A/C	250	I*			*MSSR
	Villavicencio APP										
Bucaramanga	Barranquilla ACC				E/T	A/C	250	P			<2005
	Bogotá ACC										
	Bucaramanga APP										
	Cúcuta APP										
Cali	Bogotá ACC	T	80	P	T	A/C	250	I*			*MSSR
	Cali APP										
Carepa	Barranquilla ACC	E/T	80	I	E/T	A/C/S	250	I*			*MSSR, <2004
	Bogotá ACC										Used SAC-
	Rio Negro APP										ASTERIX Code
Carimagua	Bogotá ACC	E/T	200	I	E/T	A/C	200	I			
	Villavicencio APP										
Cerro Maco	Barranquilla ACC	E/T	165	I	E/T	A/C	250	I*			*MSSR
	Bogotá ACC										
	Barranquilla APP										
	Cartagena TWR										
	Rio Negro APP										
Cerro Verde	Barranquilla ACC	E/T	60	I	E	A/C	200	I*			*MSSR
	Bogotá ACC										
	Barranquilla APP										
	Cali APP										
	Pereira APP										
	Rio Negro APP										
El Dorado	Bogotá ACC	E/T	60	I	E/T	A/C	200	I*			*MSSR
	Bogotá APP										
	Villacencio APP										
Espinal	Bogotá ACC				E/T	A/C	250	P			<2005
	Bogotá APP										
Leticia	Bogotá ACC	E/T	200	I	E/T	A/C	250	I			*MSSR
	Leticia APP										<2004
	Villavicencio APP										
Leticia (MIL)	Villavicencio APP	T	240	P	T	A/C	240	P			
Marandúa	Bogotá ACC	E/T	240	I	E/T	A/C	240	I			

State(Territory)/Location Estado(Territorio)/Ubicación	ATS Unite Served Unidad ATS Servida	PSR			SSR				ADS		Remarks Observaciones
		Funtion Función	Coverage Cobertura (NM)	Status Impl. Estado	Funtion Función	Modes Modos (A,C& S)	Coverage Cobertura (NM)	Status Impl. Estado	Type Tipo	Status Impl. Estado	
1	3	4	5	6	7	8	9	10	11	12	13
	Villavicencio APP										
Pereira	Bogotá ACC				E/T	A/C	250	P			<2005
	Bogotá APP										
	Cali APP										
	Pereira APP										
	Rio Negro APP										
Ríohacha	Barranquilla ACC	E	240	I	E	A/C	240	I			
S. J. Guaviare	Bogotá ACC	E/T	240	I	E/T	A/C	240	I			
	Villavicencio APP										
San Andrés (MIL)	Barranquilla ACC	E/T	240	I	E/T	A/C	240	I			
	San Andrés APP										
San Andrés	Barranquilla ACC				E/T	A/C	250	I*			*MSSR, <2007
	San Andrés APP										
Santa Ana	Bogotá ACC	E/T	165	I	E/T	A/C	250	I*			*MSSR
	Cali ACC/APP										
	Pereira APP										
Tablazo	Bogotá ACC	E/T	80	P	E/T	A/C	250	I/P*			*MSSR, <2004
	Bogotá APP										
	Cali APP										
	Pereira APP										
	Rio Negro APP										
	Villavicencio APP										
Tubará (Barranquilla)	Barranquilla ACC	E/T	80	I	E/T	A/C	250	I*			*MSSR
	Barranquilla APP										
	San Andrés APP										
Villavicencio	Villavicencio APP	T	80	I	E	A/C	150	I			
COSTA RICA											
El Coco	El Coco APP	E/T		I	E/T	A/C	245	I*			*MSSR
CUBA											
Camagüey	Habana ACC				E/T	A/C	200	I/P*			*MSSR
	Camagüey APP										
Habana	Habana TMA	T		P	T	A/C	200	I/P*			*MSSR
	Habana APP										
Holguín	Habana ACC				E/T	A/C	200	I/P*			*MSSR
	Santiago de Cuba TMA										
	Holguín APP										
Menocal	Habana ACC				E/T	A/C	200	I*			*MSSR
	Habana TMA										
	Habana APP										
	Varadero APP										
San Julián	Habana ACC				E	A/C	200	I/P*			*MSSR
Sta. Clara	Habana ACC				E	A/C	200	I/P*			*MSSR
DOMINICA											

State(Territory)/Location Estado(Territorio)/Ubicación	ATS Unite Served Unidad ATS Servida	PSR			SSR				ADS		Remarks Observaciones
		Funtion Función	Coverage Cobertura (NM)	Status Impl. Estado	Funtion Función	Modes Modos (A,C& S)	Coverage Cobertura (NM)	Status Impl. Estado	Type Tipo	Status Impl. Estado	
1	3	4	5	6	7	8	9	10	11	12	13
				NP				NP			
DOMINICAN REPUBLIC											
Barahona	Barahona APP	T	70	I							
Puerto Plata	Puerto Plata APP	T	70	I							
Punta Cana	Santo Domingo ACC	T	70	P	E/T	A/C	250	P*			*MSSR
	Punta Cana APP										
Santo Domingo	Santo Domingo ACC	E/T	70	I	E/T	A/C	250	I*			*MSSR
	Santo Domingo APP										
ECUADOR											
Guayaquil	Guayaquil ACC	E/T			E	A/C	200	I*			
	Guayaquil APP										
Quito APP	Quito APP	T		I	T	A/C		I/P*			* 2000
EL SALVADOR											
El Salvador	El Salvador APP	T		I	T	A/C	200	I*			*MSSR
FRENCH ANTILLES											
Fort-de-France	Fort-de-France APP				T	A/C	250	I*			*MSSR
Point-à-Pitre	Point-à-Pitre APP				T	A/C	250	I*			*MSSR
GRENADA											
	Point Salines APP							N/P			
GUATEMALA											
C. Guatemala	La Aurora APP	T		I	T	A/C	250	I*			*MSSR
GUYANA											
	Georgetown ACC							N/P			
HAITI											
	Port-au-Prince ACC				E/T	A/C		P*			*MSSR
	Port-au-Prince APP				T	A/C		P*			*MSSR
HONDURAS											
San Pedro Sula	La Mesa APP	T		I	T	A/C	250	I*			*MSSR
JAMAICA											
Kingston	Kingston APP	T	60	I	E/T	A/C	250	I*			*MSSR
Montego Bay	Montego Bay APP	T	60	I	T	A/C	250	I*			*MSSR
Mount Denham	Kingston ACC	E	120	I	E	A/C	250	I*			*MSSR
MEXICO											
Acapulco	Acapulco APP	T		I	T	A/C	240	I*			*MSSR
Bajio Gto	México ACC				E/T	A/C, S	240	I*			*MSSR
	Bajio APP										
Cancún	Mérida ACC	E/T	60	I	E/T	A/C	240	I*			*MSSR
	Cancún APP										
Cerro Potosi	Monterrey ACC				E	A/C	240	I*			*MSSR
	México ACC										

State(Territory)/Location Estado(Territorio)/Ubicación	ATS Unite Served Unidad ATS Servida	PSR			SSR				ADS		Remarks Observaciones
		Funtion Función	Coverage Cobertura (NM)	Status Impl. Estado	Funtion Función	Modes Modos (A,C& S)	Coverage Cobertura (NM)	Status Impl. Estado	Type Tipo	Status Impl. Estado	
1	3	4	5	6	7	8	9	10	11	12	13
Cerro Rusias	Mazatlán ACC				E	A/C	240	I*			*MSSR
	México ACC										
	Monterrey ACC										
Cerro Los Gallos	Mazatlán ACC				E	A/C	240	I*			*MSSR
	México ACC										
	Monterrey ACC										
Cerro Santa Eulalia	Monterrey ACC				E/T	A/C	240	I*			*MSSR
	Chihuaha APP										
Guadalajara	Guadalajara APP	T	80	I	T	A/C	240	I*			*MSSR
Hermosillo	Mazatlán ACC				E/T	A/C	240	I*			*MSSR
	Hermosillo APP										
	Tijuana APP										
Los Mochis	Mazatlán ACC				E	A/C	240	I*			*MSSR
Mazatlán	Mazatlán ACC				E	A/C	240	I*			*MSSR
Mérida	Mérida ACC	E/T		I	E/T	A/C	240	I*			*MSSR
	Mérida APP										
Cerro Sordo	México ACC				E	A/C	240	I*			*MSSR
	Monterrey ACC										
Monterrey	Monterrey ACC	E/T	80	I	E/T	A/C	240	I*			*MSSR
	Monterrey APP										
Peñón	México APP				E	A/C	240	I*			*MSSR
Puerto Peñasco	Mazatlán ACC				E	A/C	240	I*			*MSSR
Puerto Vallarta	Puerto Vallarta APP				T	A/C	240	I*			*MSSR
San José del Cabo	Mazatlán ACC				E	A/C, S	240	I*			*MSSR
Tampico	México ACC				E	A/C, S	240	I*			*MSSR
	Mérida ACC										
	Monterrey ACC										
Tijuana	Tijuana APP				T	A/C	240	I*			*MSSR
Toluca	México ACC	E/T	80	I	E/T	A/C	240	I*			*MSSR
	Toluca APP										
Veracruz	México ACC				E	A/C	240	I*			*MSSR
	Mérida ACC										
Villahermosa	México ACC				E	A/C, S	240	I*			*MSSR
	Mérida ACC										
MONTSERRAT (United Kingdom)								N/P			
NETHERLANDS ANTILLES (Netherlands)											
Willemstad	Curaçao ACC	E/T	120	I	E/T	A/C	256	I*			*MSSR
	Curaçao APP										
Saint Maarten	Juliana APP	T	60	I	T	A/C	256	I*			*MSSR
NICARAGUA											
Managua	Managua APP	T		P	T	A/C	250	P*			*MSSR
Bluefields	Bluefields TWR				T	A/C	250	N/I			
PANAMA											
Panamá	Panamá ACC	T	60	I	E/T	A/C		I*			*MSSR

State(Territory)/Location Estado(Territorio)/Ubicación	ATS Unite Served Unidad ATS Servida	PSR			SSR				ADS		Remarks Observaciones
		Funtion Función	Coverage Cobertura (NM)	Status Impl. Estado	Funtion Función	Modes Modos (A,C& S)	Coverage Cobertura (NM)	Status Impl. Estado	Type Tipo	Status Impl. Estado	
1	3	4	5	6	7	8	9	10	11	12	13
PARAGUAY	Panamá APP										
Asunción	Asunción ACC	T	60	I	E/T	A/C		I			Sistema PSR y SSR necesita remplazo
Ciudad del Este	Ciudad del Este APP	T	60	I	E/T	A/C		I			
PERU											
Arequipa	Lima ACC / Arequipa APP	~~T~~		~~P~~	E/T			P ~~R~~			
Ayacucho	Lima ACC				E			P			
Cajamarca	Lima ACC				E			P			
Cusco	Lima ACC / Cusco APP	~~T~~		~~P~~	E/T			P ~~R~~			
Iquitos	Lima ACC / Iquitos APP	~~T~~		~~P~~	E/T			P ~~R~~			
Talara	Lima ACC / Talara APP				E/T			P			
Lima	Lima ACC / Lima APP	T		I*	E/T	A/C		I*			*MSSR, Se
Lima	Lima ACC / Lima APP	~~T~~		~~I~~	E/T	S ~~A/C~~		P ~~I*~~			recomienda ampliar la cobertura de la FIR
Pucallpa	Lima ACC / Pucallpa APP				E/T			P			
PUERTO RICO (United States)											
Pico del Este	San Juan ACC	E/T		I	E	A/C		I			
San Juan	San Juan APP				T	A/C		I			
SAINT KITTS AND NEVIS								NP			
SAINT LUCIA	Santa Lucia APP							NP*			* Radar data sharing with Martinica planned/ Proyecta compartir datos radar con Martinica.
SAINT VINCENT & THE GRENADINES	E.T.Joshua APP							NP			
SURINAME											
Zandery (Johan Pengel)	Zandery APP	E/T		P	E/T			P			
TRINIDAD & TOBAGO											
Piarco (15 NM north)	Piarco ACC Piarco APP	E/T		I	E/T	A/C	230	I*			*MSSR
TURKS & CAICOS IS. (United Kingdom)											
Grand Turks	Miami ACC				E	A/C		I			
URUGUAY											

State(Territory)/Location Estado(Territorio)/Ubicación	ATS Unite Served Unidad ATS Servida	PSR			SSR				ADS		Remarks Observaciones
		Funtion Función	Coverage Cobertura (NM)	Status Impl. Estado	Funtion Función	Modes Modos (A,C& S)	Coverage Cobertura (NM)	Status Impl. Estado	Type Tipo	Status Impl. Estado	
1	3	4	5	6	7	8	9	10	11	12	13
Carrasco	Montevideo ACC Carrasco APP	E/T	80	I	E/T	A/C	180	I*			MSSR MSSR
Durazno	Montevideo ACC Carrasco APP				E/T	A/C	256	P			
VENEZUELA											
Barquisimeto	Baruisimeto APP	T	60	I	T	A/C	200	I/P*			*MSSR
Isla Margarita	Margarita APP	T	60	I	T	A/C	200	I/P*			*MSSR
Maiquetía	Maiquetía ACC Maiquetía APP	E/T	60	I	E/T	A/C	200	I*			*MSSR
Maracaibo	Maracaibo APP	T	60	I	T	A/C	200	I*/P*			*MSSR
Pto Ayacucho	Maiquetía ACC	E/T	60	P	E/T	A/C	200	P*			* MSSR
Cerro San Jacinto Puerto Ordaz Paramo La Negra , Edo Merida	Maiquetía ACC	E/T	60	P	E/T	A/C	200	P*			* MSSR
San Carlos de Rio Negro	Maiquetía ACC				E	A/C	200	P*			* MSSR
Santa Elena de Uairen	Maiquetia ACC				E	A/C	200	P*			* MSSR
VIRGIN IS. (United Kingdom)								NP			
VIRGIN IS. (United States)											
Saint Thomas	San Juan ACC San Juan APP	E/T		I	E/T	A/C		I			
COCESNA											
Cerro Santiago, Guatemala	CENAMER ACC				E	A/C*	245	I*			*MSSR-Modo S
Costa Rica	CENAMER ACC				E	A/C*	245	I*			*MSSR-Modo S
Grand Cayman, Cayman I.	CENAMER ACC				E	A/C*	245	I*			*MSSR-Modo S
Guatemala	CENAMER ACC				E	A/C*	245	I*			*MSSR-Modo S
Mata de Caña, Costa Rica	CENAMER ACC				E	A/C*	245	I*			*MSSR-Modo S
Puero Cabezas, Nicaragua	CENAMER ACC				E	A/C*	245	I*			*MSSR-Modo S
Dixon Hill, Honduras	CENAMER ACC				E	A/C*	245	I*			*MSSR-Modo S
Monte Crudo, Honduras	CENAMER ACC				E	A/C*	245	I*			*MSSR-Modo S

Agenda Item 4 Air Navigation Planning and Implementation Deficiencies/Problems in the CAR/SAM Regions

4.1 Report of the ASB/7 Meeting

4.1.1 The Meeting reviewed the ASB/6 Report, as approved by GREPECAS/13, and used it as a basis for its discussions.

4.1.2 Regarding Conclusion 6/4, Follow-up of ATM Deficiencies, the Meeting noted that it was still pending implementation and agreed that due to its complexity it should be deleted.

4.1.3 Likewise, regarding Decision 6/5, the delegate for IATA informed that they were finalizing the database on deficiencies and that the information referred to in this decision would be provided by the end of April 2007.

Review of Deficiencies, Appendices A, B, C, and D

4.1.4 The Meeting recalled that, based on the Uniform Methodology for the Assessment and Assignment of Deficiencies of the ICAO Council, the ASB had classified "U" deficiencies in Appendices A, B, C, and D as follows:

Appendix A Specific deficiencies

Appendix B Deficiencies upon which the ASB found requirements for region-wide action

Appendix C Corrected deficiencies

Appendix D Action Plan for resolving regional air navigation deficiencies

4.1.5 The Secretariat presented information on deficiencies currently available in the GREPECAS Air Navigation Deficiencies Database (GANDD) classified as described in the previous paragraph. The Meeting noted that Appendix A to this part of the Report contained those deficiencies that have been recurrent for the last several years and that require immediate action/solution.

4.1.6 The Meeting took note that region-wide deficiencies, AGA 139S and AIS 309S, were the only items that appeared in Appendix B. It also noted that some States/Territories had already resolved the deficiencies contained in this Appendix and, consequently, these deficiencies should no longer be associated with those States/Territories.

4.1.7 In view of the foregoing, the Meeting formulated the following draft decision:

DECISION 14/58 ELIMINATION OF APPENDIX B

That,

a) GREPECAS move deficiencies classified as region-wide deficiencies from Appendix B into Appendix A, Specific Deficiencies, showing still unresolved deficiencies in association with the specific State/Territory;

b) once the action specified in the previous paragraph has been completed, Appendix B be eliminated.

4.1.8 The Meeting noted that many of the problems concerning deficiencies could be solved through better coordination between the States/Territories and their respective Regional Offices. It also recognised that the GANDD was the best tool to improve this coordination.

4.1.9 The Meeting noted that failure by States/Territories to update the GANDD could be due to the coordination of the number of fields and lack of personnel responsible for this function in the State/Territory. Therefore, it was deemed necessary for each State/Territory to designate a National Coordinator to oversee this function so as to expedite the administrative coordination of the database with those responsible for the various air navigation service areas in their States/Territories. Accordingly, the Meeting formulated the following conclusion:

CONCLUSION 14/59 NATIONAL COORDINATOR RESPONSIBLE FOR UPDATING THE GREPECAS AIR NAVIGATION DEFICIENCY DATABASE

That,

a) the States/Territories designate a National Coordinator responsible for updating the GREPECAS Air Navigation Deficiency Database (GANDD);

b) the name, e-mail address, phone and fax numbers, etc., of the National Coordinator be forwarded to the ICAO Regional Offices **no later** than 31 May 2007; and

c) the Regional Offices foster a workshop to train identified National Coordinators so that they can fully master all aspects of the GANDD.

4.1.10 The Meeting went on to recall GREPECAS Conclusion 13/92, which is the concept of *last resort action,* that shall be applied to "U" deficiencies, after 31 December 2007, that remained unresolved as of that date. On the other hand, the Meeting noted some inconsistencies in the classification of "U" deficiencies due to different classification criteria being applied. This has resulted in different classifications for similar deficiencies in several CAR/SAM States/Territories.

4.1.11 Proceeding with the discussion of this topic, the Meeting received a proposal to develop procedures for the Identification, Assessment, and Reporting of Air Navigation Deficiencies. It was agreed that a complete review of the GREPECAS deficiency system was necessary, including the procedures, database, the database user's guide, etc., and that this review should be applied by the Regional Offices to all "U" deficiencies prior to 31 December 2007, using standardised criteria. In this regard, it was deemed advisable to develop procedures for addressing "U" deficiencies within GREPECAS. The Meeting agreed that the aforementioned proposal should be taken into account when developing the procedures.

4.1.12 For the approval of procedures described in the previous paragraph, the GREPECAS Secretariat should use the Fast-Track System contained in its Procedural Manual, and once approved, it should be applied to "U" deficiencies contained in the GANDD. The result of this work should be submitted to an extraordinary meeting of the ASB to be convened in early 2008.

4.1.13 The Meeting agreed that, acting as specified in the previous paragraphs, GREPECAS would be in a position to identify "U" deficiencies with a high degree of certainty so that an extraordinary meeting of the ASB could review the implementation of Conclusion 13/92 and safely apply *last resort action*. Based on the above, the Meeting agreed to adopt the following decision:

DECISION 14/60 PROCEDURES FOR CLASSIFYING AND ADDRESSING GREPECAS "U" DEFICIENCIES

That,

a) the ICAO Regional Offices, in accordance with the Uniform Methodology of the Council, develop procedures for classifying and addressing GREPECAS deficiencies, which should contain at a minimum the following:

i) common classification criteria;
ii) procedures for using the database;
iii) reports on deficiencies to be submitted to GREPECAS;
iv) the responsibility of the States for database maintenance;
v) the responsibility of the States for presenting action plans to correct deficiencies;
vi) the responsibility of the Regional Offices for completing coordination;
vii) follow-up of deficiencies, etc.

b) the procedures referred to in the previous paragraph be sent to the members of GREPECAS for approval, using the Fast-Track System;

c) once the procedures are approved, the Regional Offices apply it to "U" deficiencies contained in the GANDD; and

d) the Secretary of GREPECAS convene a meeting of the ASB for the first quarter of 2008.

The ASB and its Relationship with the Safety Programmes established by ICAO

4.1.14 The Meeting recognised that the audits conducted by ICAO under the Universal Safety Oversight Audit Programme (USOAP) contributed to the promotion of best safety management practices. It also considered that the ASB could be the link between the actions recommended by the USOAP and their implementation by States/Territories.

4.1.15 The Meeting also took note of the action taken by ICAO regarding the safety programme to be implemented by States/Territories and the training they are receiving to be ready for accepting and monitoring the implementation of Safety Management Systems (SMS) by air service operators, certified aerodrome operators, air traffic service providers, and maintenance and repair organisations.

4.1.16 Furthermore, the Meeting discussed the possibility of the ASB being more proactive and serving as a catalyst in the promotion of coordinated and harmonious work between the States/Territories and the Regional Offices with various ICAO undertakings, mainly those related to ICAO Strategic Objective A - Safety.

4.1.17 Some aspects were discussed in relation to the ASB not only handling "U" deficiencies, but also the major safety-related issues. Among the aspects discussed were: the special attention that should be paid to those deficiencies that occurred in more than two States/Territories, the statistical *versus* the individual analysis of deficiencies, the preparation of effective reports that could be used by the World Bank, among others, to fund the efforts of the States/Territories in eliminating/mitigating those deficiencies that require additional financial resources, etc.

Language proficiency

4.1.18 The Meeting took note of the concern of some States/Territories regarding language proficiency requirements aimed at providing their personnel with the level required by Annex 1 prior to the target date of 2008. In this sense, one suggestion was to intensify the application of Quality Assurance Programmes.

4.2 Specific Air Navigation Planning and Implementation Deficiencies/Problems in the CAR/SAM Regions

4.2.1 Based on the standardised methodology for the identification, evaluation and reporting of air navigation deficiencies formulated by the ICAO Council, the Meeting took note of the updated information regarding correction of deficiencies with priority "A","B" and "U" in each field of States/Territories/International Organizations of the CAR/SAM Regions air navigation services, as well as their action plans. The status of outstanding deficiencies can be found in the GREPECAS Air Navigation Deficiencies Database (GANDD).

4.2.2 The Meeting took note that not all States have provided the Regional Offices with their action plans to resolve deficiencies. It was also recognised that potential advantage has not been taken of the GANDD, which is available electronically on the NACC and SAM Office websites. The Meeting invited States, Territories and International Organizations to contact the focal point of the NACC Office, Mr. Gabriel Meneses (gmeneses@mexico.icao.int) and/or Mr. Arturo Martínez (am@lima.icao.int) of the SAM Office, for assistance as required.

4.2.3 In the same manner, according to the ALLPIRG/5, the operational safety impact of each deficiency must be identified as soon as it is published in the GANDD. Also, when efforts to eliminate deficiencies have been unsuccessful, and after exhausting all alternatives, the following measures should be considered as last resort actions:

a) propose the inclusion of an alternative installation/procedure in the Air Navigation Plan (ANP); or

b) when a corrective measure, such as mentioned in a) above cannot be recommended, provide the States/Territories/Users and ICAO, with an analysis related to the associated risk of such deficiency.

4.2.4 Upon reviewing the reports on deficiencies, the Meeting noted a high percentage of outstanding AGA and AIS deficiencies that could have a direct impact on aircraft/airport safety. The Meeting recalled that the same was valid for "U" deficiencies. Consequently, States/Territories should make the resolution of deficiencies in the AGA and AIS fields a top priority.

Proposal to Assist in the Rectification of Runway Strips and Runway End Safety Area (RESA) Deficiencies

4.2.5 The United States, on behalf of the Runway Strips and Runway End Safety Area Task Force of the AGA/AOP/SG, presented a proposal to rectify reported deficiencies with runway strips and runway end safety areas (RESA), which identified two alternative means for international airports that are constrained by land and/or sea environments to achieve full or partial compliance with Annex 14, Volume I, Standards and Recommended Practices (SARP).

4.2.6 The Meeting noted that the advantage of using the GANDD to prioritize deficiencies is that States/Territories/International Organizations should be able to:

(1) Understand the complexity of the remedial actions necessary to rectify existing deficiencies;
(2) Prioritize deficiencies according to the level of effort needed for remedial action;
(3) Implement a ***Comprehensive Strategic Action Plan*** to eliminate deficiencies; and
(4) Submit corrective action plans for each deficiency to the ICAO Regional Offices.

4.2.7 **Appendix E** to this part of the Report explains the benefits derived from applying this approach and the remaining unresolved conditions by the end of 2007.

4.2.8 In 2005, the Secretariat proposed to the Aerodromes Design Working Group (ADWG), under the Aerodromes Panel, an initiative to elevate the current recommended RESA dimensional widths and lengths to the category of standard. Recognizing the extent of non-compliance with RESA SARPs and the increasing difficulties derived from proposed safety enhancements, ICAO accepted that State/Territories may use alternative means to achieve the safety benefits of RESA and a proven method to arrest overruns, known as the Engineered Materials Arresting Systems (EMAS).

4.2.9 The substantial costs associated with the installation of EMAS were recognised and, therefore, alternative means of compliance are being sought. Another alternative means used by various States is the application of declared distances to readjust reported runway field lengths.

4.2.10 The Meeting noted how the Runway Strips and Runway End Safety Area Task Force of the AGA/AOP/SG carries out tasks to develop additional guidance material for airport authorities which include:

1. Developing a list of design questions requiring further clarifications by ICAO;
2. Identifying the aerodrome design, aircraft operational parameters and length of haul that influence the degree of compliance with SARPS;
3. Identifying various alternatives to achieve compliance of SARPS, and
4. Supporting States and Territories of the CAR/SAM Regions in the application of alternatives, offering assistance.

4.2.11 Considering the information provided, the Meeting agreed to the following:

CONCLUSION 14/61 ANALYSIS OF RUNWAY END SAFETY AREA (RESA) AND RUNWAY STRIP DEFICIENCIES

a) That States and Territories of the CAR/SAM Regions, as applicable, submit updated information to the ICAO Regional Offices, not later than January 2008, for further analysis by the GREPECAS AGA/AOP/SG on:

   i) specific runway ends and/or full runways that are in non-compliance with RESA and/or runway strip SARPs, in order to define possible mitigation alternatives;

   ii) alternatives that provide resolution of deficiencies with RESA and/or runway strip SARPs; and that

b) the ICAO Regional Offices send the information referred to in i) and ii) to the AGA/AOP/SG Subgroup so the RESA/Runway Strip Task Force may analyze alternative means to achieve compliance with the respective ICAO standards.

4.2.12 COCESNA presented information on the implementation of an air traffic service safety system in keeping with ICAO Safety Management System (SMS) requirements, in order to resolve deficiencies in air traffic services. COCESNA expects to finish SMS implementation by December 2008. Information was also provided on advances in resolving deficiencies detected with radar and AMS communication coverage in the northeast of the Central American FIR and with AIS in Central America

4.2.13 IATA provided information on reported ATS incidents, implementation of corrective measures to resolve reported problems and assistance for ICAO in the coordination and implementation of solutions.

4.2.14 Venezuela provided information on measures to reduce air navigation deficiencies related to the implementation of CNS/ATM technology and certification actions for aerodromes of the State.

4.2.15 Cuba presented information related to their action plan to reduce air navigation deficiencies.

SPECIFIC DEFICIENCIES

REPORTING FORM ON AIR NAVIGATION DEFICIENCIES IN THE AGA FIELD IN THE CAR REGION

Identification				Deficiencies			Corrective Action			ASB Action			
	Requirements	States/facilities		Description	Date first reported	Remarks	Description	Executing body	Comp. date	P	ASB remedial action	Executing body	Results
AGA Bahamas													
AGA	59 C	Fencing (Annex 14, Vol. I, Chap. 9, 9.10, 9.10.2, 9.10.4 & 9.10.6)	Bahamas, NORTH ELEUTHERA, North Eleuthera	Access of vehicles and animals to the manoeuvring area	1999	IFALPA Meeting November 2000	Repair the fence. Implement security measures	Bahamas	31/10/02	U	2 - State Letter sent		
AGA	318 C	Pavement Surface Conditions (Annex 14, Vol. I, Chap. 10, 10.2.10.2.1 & 10.2.2)	Bahamas, NASSAU, Nassau Int'l	The runway pavement surfaces are in very poor condition with irregularities, FOD and rubber deposits (Runway 14/32 is in worse condition than Runway 09/27)	05/2002	ICAO Visit May 2002	Upgrade the runway pavements	Bahamas	TBD	U	State letter to be sent		
AGA	64 C	Rescue and Fire Fighting Service and Airport Emergency Planning (Annex 14, Vol. I, Chap. 9.1 & 9.2, Rec. 9.2.30)	Bahamas, FREEPORT, Grand Bahama Intl	No RFFS facility with direct access to the runway is provided as required in Annex 14 , Vol. I Section 9.2.19, 22, 25 & 26)	10/2000	ICAO Visit October 2000	Provide a RFFS facility with direct access to the runway	Bahamas	03/2004	U	1 - State Letter sent		
AGA	309 C	Visual Aids (Annex 14, Vol. I, Chap. 5 - 5.2.10.3)	Bahamas, NASSAU, Nassau Int'l	Runway-holding position markings on some taxiways are incorrect in pattern	05/2002	ICAO Visit May 2002	Verify the pattern of runway-holding position markings and correct where necessary	Bahamas	TBD	U	State letter to be sent		
AGA	306 C	Visual Aids (Annex 14, Vol. I, Chap. 5 - 5.2.7.1)	Bahamas, NASSAU, Nassau Int'l	Runway 14/32 has no side stripe markings along part of its length	05/2002	ICAO Visit May 2002	Provide side stripe markings on runways	Bahamas	TBD	U	State letter to be sent		
AGA	320 C	Visual Aids (Annex 14, Vol. I, Chap. 5 - 5.22, 5.28)	Bahamas, NASSAU, Nassau Int'l	Runway and taxiway markings are faded	05/2002	ICAO Visit May 2002	Re-paint the runway and taxiway markings	Bahamas	TBD	U	State letter to be sent		
AGA	312 C	Visual Aids (Annex 14, Vol. I, Chap. 5 - 5.3.10.9 & 5.3.11.4)	Bahamas, NASSAU, Nassau Int'l	Runway threshold and end lights were observed to be white at one runway end	05/2002	ICAO Visit May 2002	Verify the colour of all airfield lighting and replace with lights of correct colour where necessary	Bahamas	TBD	U	State letter to be sent		
AGA	39 C	Visual Aids (Annex 14, Vol. I, Chap. 5 and ANP, Table AOP 1)	Bahamas, NASSAU, Nassau Intl.	RWY and TWY markings missing or faded	1996	ICAO Visit October 2000 and May 2002 IFALPA Meeting November 2000	Require re-painting	Bahamas	2003	U	Action taken and ongoing 1. PAAST Follow-up visit undertaken and confirmed corrective action remains outstanding. 2. State reports will be corrected as part of imminent runway upgrading project.	Bahamas	Subject to verification

SPECIFIC DEFICIENCIES

REPORTING FORM ON AIR NAVIGATION DEFICIENCIES IN THE AGA FIELD IN THE CAR REGION

Identification			Deficiencies			Corrective Action			ASB Action			
Requirements	States/facilities	Description	Date first reported	Remarks	Description	Executing body	Comp. date	P	ASB remedial action	Executing body	Results
AGA Barbados												
AGA 463 C Visual Aids (Annex 14, Vol. I, Chap. 5, 5.3.3.3, 5.3.3.4 and 5.3.3.5)	Belize, Belize City, Philip S.W Goldson International Airport (MZBZ)	Lack of aerodrome beacon	11/2006	ICAO Visit November 2006	An aerodrome beacon is necessary to support aircraft approaches between sunset and sunrise. This facility must be included in the Corrective Action Plan	Belize	TBD	U			
AGA Belize/Belice												
AGA 469 C Rescue and Fire Fighting (Annex 14, Vol.I, Chap. 9, 9.1.12 & 9.1.13)	Belize, Belize City, Philip S.W Goldson International Airport (MZBZ)	Full scale and partial emergency exercises not conducted	11/2006	ICAO Visit November 2006	Plan and conduct full scale and partial emergency exercise	Belize	TBD	U			
AGA 460 C Runway Strip (Annex 14, Vol.I, Chap.3, 3.4.3)	Belize, Belize City, Philip S.W Goldson International Airport (MZBZ)	North side strips have runway 07-25 have uneven terrain	11/2006	ICAO Visit November 2006	Works to level the terrain must be included in the Corrective Action Plan	Belize	TBD	U			
AGA 468 C Electrical Systems (Annex 14, Vol.I, Chap. 8, 8.1.4)	Belize, Belize City, Philip S.W Goldson International Airport (MZBZ)	Non compliance with maximum switch-over time in the electric power supply connections	11/2006	ICAO Visit November 2006	Maximum switch-over time is longer than ICAO Standards. Must comply with the 15 sec. Standard.	Belize	TBD	U			
AGA 471 C Fencing (Annex 14, Vol. I, Chap. 9, 9.10.2)	Belize, Belize City, Philip S.W Goldson International Airport (MZBZ)	The eastern end of Rwy 07/25 is not fenced	11/2006	ICAO Visit November 2006	Expansion works at the eastern end of Rwy 07/25 caused displacement of the fence. A temporary fence must be constructed until the permanent fence is replaced	Belize	TBD	U			
AGA 461 C Obstacles (Annex 14, Vol. I, Chap. 4, 4.2.7)	Belize, Belize City, Philip S.W Goldson International Airport (MZBZ)	Structure infringing the inner transitional surface	11/2006	ICAO Visit November 2006	Structure infriging (elevated water tank). Removal is required.	Belize	TBD	U			
AGA 459 C Pavement Surface Conditions (Annex 14, Vol. I, Chap. 3, 3.2.1 & 3.10.1)	Belize, Belize City, Philip S.W Goldson International Airport (MZBZ)	Runway and taxiway shoulders in very poor condition	11/2006	ICAO Visit November 2006	Airport Operator is programing the necessary works. The works must be implemented.	Belize	TBD	U			
AGA 168 C Runway End Safety Area (Annex 14, Vol. I, Chap. 3.5 - 3.5.1 & 7.1.9)	Belize, BELIZE CITY, Philip Goldson International	Runway end safety areas are not provided at both runway ends: •East runway end – vegetation, wet ground •West runway end – swamp	11/2001	ICAO Visit November 2001 ICAO Visit November 2006	Consider providing RESAs by not declaring stopways, clearing vegetation and strengthening the ground	Belize	TBD	U	State Letter sent		

SPECIFIC DEFICIENCIES

REPORTING FORM ON AIR NAVIGATION DEFICIENCIES IN THE AGA FIELD IN THE CAR REGION

Identification				Deficiencies			Corrective Action			ASB Action			
Requirements			States/facilities	Description	Date first reported	Remarks	Description	Executing body	Comp. date	P	ASB remedial action	Executing body	Results
AGA 166 C	Runway Strip (Annex 14, Vol. I, Chap. 3.4 - 3.4.2)		Belize, BELIZE CITY, Philip Goldson International	Runway strip length at western runway end is insufficient	11/2001	ICAO Visit November 2001 ICAO Visit November 2006	Do not declare stopway for Runway 25	Belize	TBD	U	State Letter sent		
AGA 170 C	Visual Aids (Annex 14, Vol. I, Chap. 5 - 5.2.4.10)		Belize, BELIZE CITY, Philip Goldson International	Displaced runway threshold markings are still visible at both runway ends.	11/2001	ICAO Visit November 2001 ICAO Visit November 2006	Remove runway displaced threshold markings	Belize	TBD	U	State Letter sent		
AGA 171 C	Visual Aids (Annex 14, Vol. I, Chap. 5 - 5.2.8.3)		Belize, BELIZE CITY, Philip Goldson International	Taxiway centreline markings to guide aircraft turning around at east runway end are not provided	11/2001	ICAO Visit November 2001 ICAO Visit November 2006	Provide turn-around guidance centreline markings at east runway end	Belize	TBD	U	State Letter sent		
AGA 177 C	Visual Aids (Annex 14, Vol. I, Chap. 5 - 9.4.21)		Belize, BELIZE CITY, Philip Goldson International	PAPIs not working and runway lighting intensity reported to be deficient	11/2001	ICAO Visit November 2001	Repair PAPIs and runway lighting system	Belize	TBD	U	State Letter sent		
AGA 470 C	Visual Aids (Annex 14, Vol. I, Chap. 9, 9.8.3)		Belize, Belize City, Philip S.W Goldson International Airport (MZBZ)	The markings on the apron areas are in very poor condition	11/2006	ICAO Visit November 2006	The markings must be redisigned to meet ICAO standards	Belize	TBD	U			
AGA 462 C	Visual Aids (Annex 14, Vol.I, Chap. 5, 5.1.1.1)		Belize, Belize City, Philip S.W Goldson International Airport (MZBZ)	Lack of wind direction indicator for runway 07-25.	11/2006	ICAO Visit November 2006	Approach and take off of aircraft have no supporting wind and speed information. Implement 02 WDI that supports approaches to Rwy 07 and 25.	Belize	TBD	U			
AGA 465 C	Visual Aids (Annex 14, Vol.I, Chap. 5, 5.3.10.1)		Belize, Belize City, Philip S.W Goldson International Airport (MZBZ)	Lack of implementation of wing bar light	11/2006	ICAO Visit November 2006	Approach to Rwy 25 has no runway threshold lights. Implement wing bar lights for safe approach to Rwy 25	Belize	TBD	U			
AGA 464 C	Visual Aids (Annex 14, Vol.I, Chap. 5, 5.3.9.7 a))		Belize, Belize City, Philip S.W Goldson International Airport (MZBZ)	Non-standard implementation of a section of the runway edge lights	11/2006	ICAO Visit November 2006	The runway edge lights are all white. Yellow filters must be installed in the last 600 m section	Belize	TBD	U			
AGA 466 C	Visual Aids (Annex 14, Vol.I, Chap. 6, 6.3.1)		Belize, Belize City, Philip S.W Goldson International Airport (MZBZ)	Objects not lighted	11/2006	ICAO Visit November 2006	Buildings located on the airport are not lighted. Lighting must be implemented on those buildings located on or near the apron area	Belize	TBD	U			
AGA 467 C	Visual Aids (Annex 14, Vol.I, Chap. 7, Rec.7.2.1 & 7.4.1)		Belize, Belize City, Philip S.W Goldson International Airport (MZBZ)	Closed marking should be displayed on temporarily closed parts of the runway and strips, likewise those areas of accumulated construction and waste material must be displayed	11/2006	ICAO Visit November 2006	Marking of construction work areas is poor. The markings must be improved	Belize	TBD	U			

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Identification			Deficiencies			Corrective Action			ASB Action			
Requirements		States/facilities	Description	Date first reported	Remarks	Description	Executing body	Comp. date	P	ASB remedial action	Executing body	Results
AGA Costa Rica												
AGA 425 C	Runway Strip (Annex 14, Vol.I, Chap.3 & 3.4.8)	Costa Rica, ALAJUELA, San José, Intl. Juan Santamaría	Runway strip on the East side is affected by superficial sewage	09/2006	ICAO Visit September 2006	It should be tubed and marked	Costa Rica	TBD	U			
AGA 441 C	Bird Hazard (Annex 14, Vol. I, Chap.9, 9.4 & 9.5)	Costa Rica, ALAJUELA, San José, Intl. Juan Santamaría	There is no a Wildlife Prevention and mitigation Programme	09/2006	ICAO Visit September 2006	Prepare and establish the Programme	Costa Rica	TBD	U			
AGA 438 C	Certification of Aerodromes (Annex 14, Vol. I Chap.1, 1.4.1)	Costa Rica, ALAJUELA, San José, Intl. Juan Santamaría	Certification of Aerodromes and aerodrome inspector concepts are not included in the Basic Law	09/2006	ICAO Visit September 2006	Modify Legal Framework to include concepts	Costa Rica	TBD	U			
AGA 435 C	Electrical Systems (Annex 14, Vol. I Chap. 8, 8.1, 8.1.1 through 8.1.11, 8.2, 8.2.1 through 8.2.3 , 8.3, 8.3.1 through 8.3.5)	Costa Rica, ALAJUELA, San José, Intl. Juan Santamaría	The secondary power supply requirements need to be verified	09/2006	ICAO Visit September 2006	Review and modify as required	Costa Rica	TBD	U			
AGA 428 C	Obstacles (Annex 14, Vol. I, Chap. 3.6 - 3.6.6)	Costa Rica, ALAJUELA, San José, Intl. Juan Santamaría	Mark the closed perimeter located before threshold 25	09/2006	ICAO Visit September 2006	To mark the close perimeter fencing considering runway width projection	Costa Rica	TBD	U			
AGA 432 C	Obstacles (Annex 14, Vol. I, Chap. 4 - 4.2.13)	Costa Rica, ALAJUELA, San José, Intl. Juan Santamaría	The approach surface to Runway 25 has obstacles such as trees, antennas and light posts	09/2006	ICAO Visit September 2006	Eliminate and mark the obstacles	Costa Rica	TBD	U			
AGA 434 C	Obstacles (Annex 14, Vol. I, Chap. 6 - 6.1-6.1.1, 6.1.11, 6.3, 6.3.11 through 6.3.36)	Costa Rica, ALAJUELA, San José, Intl. Juan Santamaría	The constructions and electrical intallations inside and outside the airport are not iluminated	09/2006	ICAO Visit September 2006	Iluminate obstacles both in and outside the airport	Costa Rica	TBD	U			
AGA 444 C	Pavement Surface Conditions (Annex 14, Vol. I, Chap. 10.-10.1.1 10.2 & 10.2.1)	Costa Rica, LIBERIA Daniel Oduber Quirós	Lack of Implementation of a Maintenance Program for the pavement surfaces and sewage. The runway surface is not measured periodically to determine the friction characteristics of the runway surface	09/2006	ICAO Visit September 2006	It is necessary to periodically measure the friction characteristics of the runway surface	Costa Rica	TBD	U			
AGA 442 C	Pavement Surface Conditions (Annex 14, Vol. I, Chap. 10.-10.1.1 10.2 & 10.2.1)	Costa Rica, ALAJUELA, San José, Intl. Juan Santamaría	Lack of Implementation of a Maintenance Program for the pavement surfaces and sewage. The runway surface is not measured periodically to determine the friction characteristics of the runway surface	09/2006	ICAO Visit September 2006	It is necessary to periodically measure the friction characteristics of the runway surface	Costa Rica	TBD	U			

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Identification			Deficiencies			Corrective Action			ASB Action			
Requirements		States/facilities	Description	Date first reported	Remarks	Description	Executing body	Comp. date	P	ASB remedial action	Executing body	Results
AGA 447 C	Rescue and Fire Fighting (Annex 14, Vol. I, Chap.9, 9.2, 9.2.21 through 9.2.30)	Costa Rica, LIBERIA Daniel Oduber Quirós	The RFFS personnel does not have the aviation fire fighter certification	09/2006	ICAO Visit September 2006	To train the personnel andcertify them as aviation fire fighters	Costa Rica	TBD	U			
AGA 440 C	Rescue and Fire Fighting (Annex 14, Vol. I, Chap.9, 9.2, 9.2.21 through 9.2.30)	Costa Rica, ALAJUELA, San José, Intl. Juan Santamaría	The RFFS personnel does not have the aviation fire fighter certification	09/2006	ICAO Visit September 2006	To train the personnel andcertify them as aviation fire fighters	Costa Rica	TBD	U			
AGA 448 C	Runway End Safety Area (Annex 14, Vol.I, Chap. 3.5, 3.5.1 to 3.5.11)	Costa Rica, LIBERIA Daniel Oduber Quirós	Runway 05/27 does not have RESA	09/2006	ICAO Visit September 2006	Enable RESAs	Costa Rica	TBD	U			
AGA 427 C	Runway End Safety Area (Annex 14, Vol.I, Chap. 3.5, 3.5.1 to 3.5.11)	Costa Rica, ALAJUELA, San José, Intl. Juan Santamaría	Runway 05/27 does not have RESA	09/2006	ICAO Visit September 2006	Enable RESAs	Costa Rica	TBD	U			
AGA 436 C	Taxiways (Annex 14, Vol. I Chap. 3, 3.9.8, 3.11, 3.11.2 through 3.11.5)	Costa Rica, ALAJUELA, San José, Intl. Juan Santamaría	The minimum separation distances between the centre line of the taxiway and the centre line of the Runway are not complied with. A small portion of the Eastern strip of taxiway D to Runway 07 has an important slope on the terrain	09/2006	ICAO Visit September 2006	Cimply with the minimum separatin distances and level the terrain	Costa Rica	TBD	U			
AGA 443 C	Visual Aids (Annex 14, Vol. I Chap.5, 5.1.1.1, through 5.1.1.5)	Costa Rica, ALAJUELA, San José, Intl. Juan Santamaría	The wind direction indicators are not properly maintained and iluminated and the bases are not frangible	09/2006	ICAO Visit September 2006	Include a Maintenance Programme, iluminate indicators and replace bases with frangible structures	Costa Rica	TBD	U			
AGA 437 C	Visual Aids (Annex 14, Vol. I Chap.5, 5.3.10, 5.3.10.1 through 5.3.10.10)	Costa Rica, ALAJUELA, San José, Intl. Juan Santamaría	The runway threshold and wing bar lights do not comply with the location and separation requirements	09/2006	ICAO Visit September 2006	Review, rearrange and reinstall the runway threshold and wing bar lights as necessary	Costa Rica	TBD	U			
AGA 433 C	Visual Aids (Annex 14, Vol. I, Chap. 5 - 5.2.10.2 through 5.2.10.5)	Costa Rica, ALAJUELA, San José, Intl. Juan Santamaría	The Runway holding position marking location is marked near the taxiway centreline and the taxiway side edge markings at Runway 07, which causes confusion.	09/2006	ICAO Visit September 2006	Study and redesign the markings with the necessary precautions in order to protect sensible areas and critical ILS	Costa Rica	TBD	U			
AGA 230 C	Visual Aids (Annex 14, Vol. I, Chap. 5- 5.3.5.1 & 5.3.5.23)	Costa Rica, ALAJUELA/ SAN JOSE, Intl Juan Santamaria	Runway 25 has no approach lighting system	03/2002	ICAO Visit March 2002 & September 2006	Provide a simple approach lighting system. Change the PAPI system from the east to the west side of Runway 25	Costa Rica	TBD	U			

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Identification			Deficiencies			Corrective Action			ASB Action			
Requirements		States/facilities	Description	Date first reported	Remarks	Description	Executing body	Comp. date	P	ASB remedial action	Executing body	Results
AGA 431 C	Visual Aids (Annex 14, Vol. I, Chap. 5.3.4, 5.3.4.1 c), 5.3.4.10 through 5.3.4.21)	Costa Rica, ALAJUELA, San José, Intl. Juan Santamaría	The approach lighting systems do not meet the requirements and the current system is poorly maintained	09/2006	ICAO Visit September 2006	Place the different types of Runway, taxiways and apron markings as required	Costa Rica	TBD	U			
AGA 430 C	Visual Aids (Annex 14, Vol.I, Chap. 5.2.1.1, 5.2.1.2, 5.2.1.4 through 5.2.1.7)	Costa Rica, ALAJUELA, San José, Intl. Juan Santamaría	There is a lack of maintenance to the different types of markings on the runway, taxiways and apron.	09/2006	ICAO Visit September 2006	Put the different types of markings on the Runway, taxiways and apron	Costa Rica	TBD	U			
AGA Dominican Republic/República Dominicana												
AGA 480 C	Certification of Aerodromes (Annex 14, Vol. I Chap.1, 1.4.1, 1.4.3, 1.4.5).	Dominican Republic - Dr. Joaquín Balaguer International Airport	Regulations on Certification of Aerodromes were published but have not been in force for their compliance.	01/2007	ICAO Visit January 2007	To put in force the regulations on certification of aerodromes for its compliance by the airport operators	Dominican Republic	TBD	U			
AGA 485 C	Obstacles (Annex 14, Vol. I, Chap. 4, 4.2.11)	Dominican Republic - Dr. Joaquín Balaguer International Airport (MDJB)	There are shrubs and trees in the approach and departure areas of runway 01-19, piercing the gradients lightly.	01/2007	ICAO Visit January 2007	Clear shrubs and trees below the corresponding gradients.	Dominican Republic	TBD	U			
AGA 494 C	Pistas (Anexo 14, Vol. I, Cap. 3, 3.4.6 and Chap. 9, 9.4.3)	Dominican Republic - José Francisco Peña Gómez, Las Américas (MDSD)	The grass is quite tall on the apron strips.	01/2007	ICAO Visit January 2007	Tu cut the grass and maintain it in a an appropiate height .	Dominican Republic	TBD	U			
AGA 484 C	Runway End Safety Area (Annex 14, Vol.I, Chap.3 - 3.5.1, 3.5.2 & 3.5.3)	Dominican Republic - Dr. Joaquín Balaguer International Airport	RESAs are not declared	01/2007	ICAO Visit January 2007	To declare RESAs	Dominican Republic	TBD	U			
AGA 45 C	Visual Aids (Annex 14, Vol. I, Chap. 5, 5.2.2 , 5.2.7 and ANP, Table AOP 1)	Dominican Republic, SANTO DOMINGO, Las Americas Intl	Runway markings faded	05/2000	ICAO Visit May 2000	Repaint runway markings	Dominican Republic	2005	U	Referred to PAAST.		Subject to verification
AGA 490 C	Visual Aids (Annex 14, Vol. I, Chap.6, 6.3.1)	Dominican Republic - Dr. Joaquín Balaguer International Airport (MDJB)	The constructions inside the airport are not iluminated.	01/2007	ICAO Visit January 2007	Iluminate constructions inside the airport.	Dominican Republic	TBD	U			
AGA 486 C	Visual Aids (Annex 14, Vol.I, Chap.5, Rec. 5.2.13.1, 5.2.14.2, 5.2.15.1, 5.2.15.2 and 5.2.15.3)	Dominican Republic - Dr. Joaquín Balaguer International Airport (MDJB)	Lack of markings on the apron	01/2007	ICAO Visit January 2007	The markings should be painted to meet ICAO standards	Dominican Republic	TBD	U			
AGA 492 C	Visual Aids (Annex 14, Vol.I, Chap.5, Rec. 5.3.9.7, letter b)	Dominican Republic - José Francisco Peña Gómez, Las Américas (MDSD)	The last 600 mts at the edge of the runway are not yellow.	01/2007	ICAO Visit January 2007	To complete the lights on the edge of the runway with yellow filters.	Dominican Republic	TBD	U			

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Identification			Deficiencies			Corrective Action			ASB Action			
Requirements		States/facilities	Description	Date first reported	Remarks	Description	Executing body	Comp. date	P	ASB remedial action	Executing body	Results
AGA 488 C	Visual Aids (Annex 14, Vol.I, Chap.5, Rec. 5.4.3.7, 5.4.3.8, 5.4.3.9, and 5.4.3.10)	Dominican Republic - Dr. Joaquín Balaguer International Airport (MDJB)	Lack of information signs.	01/2007	ICAO Visit January 2007	To install information signs.	Dominican Republic	TBD	U			
AGA 493 C	Visual Aids (Annex 14, Vol.I, Chap.6, 6.3.1)	Dominican Republic - José Francisco Peña Gómez, Las Américas (MDSD)	The constructions inside the airport are not iluminated.	01/2007	ICAO Visit January 2007	Iluminate constructions inside the airport.	Dominican Republic	TBD	U			
AGA El Salvador												
AGA 474 C	Runway Strip (Annex 14, Vol.I, Chap.3, 3.4.8)	San Salvador, El Salvador International Airport	Open drainage located longitudinally on the runway strips and taxiways are not indicated	11/2006	ICAO Visit November 2006	To install signals on open drainage, located in runway strips and taxiways	El Salvador	TBD	U			
AGA 455 C	Aerodrome Data (Annex 14, Vol. I Chap. 2, 2.6.1, 2.6.2 & ANP FASID AOP 1 Table)	El Salvador, SAN SALVADOR, El Salvador Intl	The strenght of pavements has not been notified using the aircraft classification number - pavement classification number (ACN-PCN) Method	09/2006	ICAO Visit September 2006	Notify the strenght of pavements using the ACN-PCN Method	El Salvador	TBD	U			
AGA 80 C	Pavement Surface Conditions (Annex 14, Vol. I, Chap. 9.4)	El Salvador, SAN SALVADOR, El Salvador Intl	Excessive rubber deposit on runway surface resulting in poor friction characteristics - Ref. Annex 14, Vol. I, Section 9.4.10	2000	ICAO Visit November 2000 & September 2006 IATA Report January 2001	Remove rubber from runway surface	El Salvador	TBD	U	2 - State Letter sent		
AGA 479 C	Pavement Surface Conditions (Annex 14, Vol. I, Chap. 10, 10.2.1, 10.2.2, 10.2.3, 10.2.4, 10.2.8 & 10.2.13)	San Salvador, El Salvador International Airport	Low index of cracking on runway 07-25 and high accumulation of rubber on the pavement surface of the runway	11/2006	ICAO Visit November 2006	To implement a programme to prevent rubber cracking. Periodical friction measurement	El Salvador	TBD	U			
AGA 473 C	Pavement Surface Conditions (Annex 14, Vol. I, Chap. 10, 10.2.1, Chap. 3 Rec. 3.4.8, 3.4.10)	San Salvador, El Salvador International Airport	The canal that cross through the 07 and 25 thresholds, might cause unsafe operation of aircrafts that could have a large or a short landing	11/2006	ICAO Visit November 2006	To cover tha canal 150mts, taking into account 75 mts on each side of the centre line on runway 07-25	El Salvador	TBD	U			
AGA 478 C	Runways (Annex 14, Vol. I, Chap. 3, 3.4.6 and Chap. 9, 9.4.3)	San Salvador, El Salvador International Airport	The grass is quite tall on the apron strips.	11/2006	ICAO Visit November 2006	Tu cut the grass and maintain it in a an appropiate height.	El Salvador	TBD	U			
AGA 453 C	Visual Aids (Annex 14, Vol. I, Chap. 5.2.14.1 through 5.2.14.4)	El Salvador, SAN SALVADOR, El Salvador Intl	The signs do not comply with the standard	09/2006	ICAO Visit September 2006	Replace the signs in compliance to the standard	El Salvador	TBD	U			
AGA 457 C	Visual Aids (Annex 14, Vol.I, Chap. 5.2, 5.2.1 through 5.2.17)	El Salvador, SAN SALVADOR, El Salvador Intl	The painted markings of the main areas are faint due to the rubber accumulation on the pavement surface of the runway	09/2006	ICAO Visit September 2006	Repaint the affected markings and clean the rubber on the runway surface	El Salvador	TBD	U			

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Identification			Deficiencies			Corrective Action			ASB Action			
Requirements		States/facilities	Description	Date first reported	Remarks	Description	Executing body	Comp. date	P	ASB remedial action	Executing body	Results
AGA 476 C	Visual Aids (Annex 14, Vol.I, Chap.3, 3.10.2)	San Salvador, El Salvador International Airport	The curved segments of the taxiway shoulders that are not indicated	11/2006	ICAO Visit November 2006.	To indicate the curved segments of the taxiway shoulders.	El Salvador	TBD	U			
AGA 475 C	Visual Aids (Annex 14, Vol.I, Chap.6, 6.1, 6.3.14)	San Salvador, El Salvador International Airport	The adjacent buildings to aprons are not indicated	11/2006	ICAO Visit November 2006	To sign buildings and hangars	El Salvador	TBD	U			
AGA 477 C	Visual Aids (Annex 14, Vol.I, Chap.6, 6.1, 6.3.14)	San Salvador, El Salvador International Airport	The personnel that develop the activities related to aircrafts do not wear reflective gear and the vehicles that operate in this area do not turn on their beacon	11/2006	ICAO Visit November 2006	Personnel and vehicles that work on the apron should wear reflective gear and should turn on their correspondent beacon	El Salvador	TBD	U			
AGA Guatemala												
AGA 131 C	Bird Hazards (Annex 14, Vol. I, Chap. 9.5)	Guatemala, GUATEMALA, La Aurora	Birds were observed hovering above reported waste dump sites off the southern runway end	05/2001	ICAO Visit May 2001	Confirm bird hazard and implement necessary mitigation measures	Guatemala	TBD	U	State Letter sent		
AGA 397 C	Fencing (Annex 14, Vol. I, Chap. 9.10.1)	Flores, GUATEMALA, Mundo Maya	Fencing - A wildlife preserve primarily for deer located adjacent to Runway 10/28 lacks any fencing to prohibit wildlife from entering Runway 10/28	06/2006	ICAO Visit June 2006	Install fencing outside runway strip	Guatemala	TBD	U			
AGA 376 C	Maintenance (Annex 14, Vol. I, Chap. 2.6.6)	Guatemala, GUATEMALA, La Aurora	Pavement Maintenance - Apron pavement strength published in the AIP is incorrect – indicates flexible pavement instead of actual concrete pavement (has been copied from what is declared for the runway). Taxiway pavement strength is not published in the AIP	06/2006	ICAO Visit June 2006	DGAC to provide Boeing through ICAO, the pavement layers' type, depth and age, subgrade characteristics and traffic data. Boeing to calculate PCNs and provide DGAC through ICAOProvide new data as a result of scheduled construction	Guatemala	TBD	U			
AGA 392 C	Obstacles (Anexo 14, Vol. I, Cap. 4.1 & Figure 4-1)	Flores, GUATEMALA, Mundo Maya	Obstacles - Unused radio tower located along Runway 10/28 violates inner transitional obstacle limitation surface.	06/2006	ICAO Visit June 2006	Remove unused radio tower	Guatemala	TBD	U			
AGA 395 C	Obstacles (Anexo 14, Vol. I, Cap. 9.2.30	Flores, GUATEMALA, Mundo Maya	Rescue and Fire Fighting - RFF station lacks direct access to Runway 10/28.RO/AGA informed that MGTK will be constructing new RFF station across Runway 10/28 from the existing site having direct and clear access	06/2006	ICAO Visit June 2006	Start and finish RFF station construction and report to OACI that RFF is in operation	Guatemala	TBD	U			

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Identification				Deficiencies			Corrective Action			ASB Action			
Requirements			States/facilities	Description	Date first reported	Remarks	Description	Executing body	Comp. date	P	ASB remedial action	Executing body	Results
AGA	28 C	Obstacles (Annex 14, Vol. I, Chap. 4)	Guatemala, GUATEMALA, La Aurora	Obstacles exist in the approach, take-off, transitional and inner horizontal obstacle limitation surfaces	12/1999	ICAO Visit December 1999 and May 2001 IATA Letter January 2001	ASB recommended:1. DGAC complete surveys to establish obstacles 2. DGAC remove, light and mark obstacles as appropriate 3. DGAC update AIP obstacle charts 4. DGAC update aerodrome obstacle safeguarding plan	Guatemala	TBD	U	Action taken and ongoing: 1. DGAC through IGN are implementing a survey of all obstacles affecting the aerodrome in conjunction with the WGS-84 survey 2. DGAC through the ICAO Technical Co-operation Project in Guatemala is implementing a study to evaluate the aerodrome obstacle conditions	Guatemala	Subject to verification
AGA	377 C	Obstacles (Annex 14, Vol. I, Chap. 4)	Guatemala, GUATEMALA, La Aurora	Helicopter service is very frequent within GUA airspace with helicopters crisscrossing the active runway at various locations. Additionally, there exists a large number of landing helipad pads along both sides of Runway 01/19. ICAO visit in 2001 also observed simultaneous operations between aircraft on the runway and helicopter approaches at a reduced separation.	06/2006	ICAO Visit June 2006	Provide an ATCT Plan that covers helicopter serve while Runway 01/19 is active. DGAC agreed to forward the ATCT plan for review by the ICAO NACC RO/ATM	Guatemala	TBD	U			
AGA	23 C	Runway End Safety Area (Annex 14, Vol. I, Chap. 3.4)	Guatemala, GUATEMALA, La Aurora	No runway end safety areas are provided on both runway ends as specified in Annex 14 Vol I Section 3.4.1	12/1999	ICAO Visit December 1999 and May 2001	Provide RESAs	Guatemala	TBD	U	Action taken and ongoing: 1. ICAO provided DGAC with an illustration for the provision of RESAs through the reduction of declared distances 2. AGA/AOP/SG Task Force on RESAs evaluated Guatemala as a case study. 3. DGAC are still considering the future provision of RESAs through the reduction of runway declared distances by 90 m and the relocation of runway end lights at both runway ends.	Guatemala	Subject to verification

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Identification			Deficiencies			Corrective Action			ASB Action			
Requirements		States/facilities	Description	Date first reported	Remarks	Description	Executing body	Comp. date	P	ASB remedial action	Executing body	Results
AGA 379 C	Runway End Safety Areas (Annex 14, Vol. I, Chap. 3.5)	Flores, GUATEMALA, Mundo Maya	Runway End Safety Areas - No runway end safety areas exist beyond both runway ends. Sufficient once properly prepared exists to declare RESAs off both runway ends. When MGTK declares RESA, several approach light units will need to become frangible.	06/2006	ICAO Visit June 2006	Clear and grade terrain and convert non-frangible approach light system units, etc., to frangible units off both runway ends	Guatemala	TBD	U			
AGA 374 C	Runway Geometry (Annex 14, Vol. I, Chap. 3.9.7)	Guatemala, GUATEMALA, La Aurora	The separation between the runway and parallel taxiway continues to be insufficient to permit simultaneous operations by some aircraft types. Substandard condition also introduces violations of the inner transitional obstacle limitation surface when certain aircraft taxi.	06/2006	ICAO Visit June 2006	Discontinue simultaneous operations. Complete taxiway relocation as early as possible. Consider providing holding bays at both runway ends with adequate separation from the runway to improve the operational efficiency.	Guatemala	TBD	U			
AGA 388 C	Runway Strip (Anexo 14, Vol. I, Cap. 3.4.6 y 3.4.7)	Flores, GUATEMALA, Mundo Maya	One small shed exists within the graded portion of the runway strip	06/2006	ICAO Visit June 2006	Remove shed.	Guatemala	TBD	U			
AGA 389 C	Runway Strip (Anexo 14, Vol. I, Cap. 3.4.6)	Flores, GUATEMALA, Mundo Maya	Open, very wide and very deep canal running parallel to the runway for over 100 metres that exists within the graded portion of the runway strip. Open type canals are classified as obstacles	06/2006	ICAO Visit June 2006	Remove or cover canal with cover that is capable to support the heaviest aircraft weight.	Guatemala	TBD	U			
AGA 129 C	Runway Strip (Annex 14, Vol. I, Chap. 3.3 - 3.3.2 & 6)	Guatemala, GUATEMALA, La Aurora	Runway end light pits and the disused localiser bases/bolts are objects in the runway strip at both runway ends	05/2001	ICAO Visit May 2001	Cover the lighting pits with aircraft load bearing covers Remove the disused localiser bases/bolts	Guatemala	TBD	U	State Letter sent		
AGA 14 C	Runway Strip (Annex 14, Vol. I, Chap. 3.4 - 3.4.3 and 3.4.6)	Guatemala, GUATEMALA, La Aurora	Insufficient runway strip width in some parts as specified in Annex 14 Vol I Section 3.4 - 3.4.3 and 3.4.6	12/1999	ICAO Visit December 1999, May 2001 and June 2006	Remove obstacles infringing on the runway strip	Guatemala	TBD	U			
AGA 387 C	Visual Aids (Annex 14, Vol. I, Chap. 3.4.3)	Flores, GUATEMALA, Mundo Maya	Width is insufficient and it should be cleared of tall shrubs and small trees that exist beyond the graded portion of the runway strip.	06/2006	ICAO Visit June 2006	Clear tall shrubs and small trees.	Guatemala	TBD	U			

SPECIFIC DEFICIENCIES

REPORTING FORM ON AIR NAVIGATION DEFICIENCIES IN THE AGA FIELD IN THE CAR REGION

Identification			Deficiencies			Corrective Action			ASB Action			
Requirements		States/facilities	Description	Date first reported	Remarks	Description	Executing body	Comp. date	P	ASB remedial action	Executing body	Results
AGA 370 C	Visual Aids (Annex 14, Vol. I, Chap. 3.5.6)	Guatemala, GUATEMALA, La Aurora	Visual Aids - Approach Lighting Systems are not frangible beyond 60 meters from the runway edge. The area beyond 60 meters off Rwy 19 has a non-frangible fence surrounding the approach lighting systems	06/2006	ICAO Visit June 2006	Make Approach Lighting Systems frangible and object free. Remove fencing located in Runway End 19 that surrounds the approach lighting systems.	Guatemala	TBD	U			
AGA 380 C	Visual Aids (Annex 14, Vol. I, Chap. 5)	Flores, GUATEMALA, Mundo Maya	Visual Aids - Remaining markings from former stopways remain; one having improperly chevron markings.	06/2006	ICAO Visit June 2006	Remove all chevron markings off both runway ends.	Guatemala	TBD	U			
AGA 385 C	Visual Aids (Annex 14, Vol. I, Chap. 5)	Flores, GUATEMALA, Mundo Maya	Jeppessen chart notes that PAPI location relative to runway threshold is unknown. RO/AGA informed that MGTK would ask COCESNA for certification documentation that PAPI is certified for operation	06/2006	ICAO Visit June 2006	MGTK to submit to OACI documentation certifying that PAPI was correctly installed and operational.	Guatemala	TBD	U			
AGA 365 C	Visual Aids (Annex 14, Vol. I, Chap. 5.2.10)	Guatemala, GUATEMALA, La Aurora	Runway Markings - Runway holding position markings are improperly painted. Unevenly located as measured from the runway centrelines, faintly marked, or missing.	06/2006	ICAO Visit June 2006	Paint all runway holding marking	Guatemala	TBD	U			
AGA 367 C	Visual Aids (Annex 14, Vol. I, Chap. 5.2.4.5)	Guatemala, GUATEMALA, La Aurora	Threshold Markings - The pattern of longitudinal stripes have an insufficient number of stripes for a 60 meter wide runway	06/2006	ICAO Visit June 2006	Paint additional stripes for 60 m width runways	Guatemala	TBD	U			
AGA 368 C	Visual Aids (Annex 14, Vol. I, Chap. 5.2.4.7)	Guatemala, GUATEMALA, La Aurora	Threshold Markings - The transverse stripe has insufficient width for a 60 meter wide runway.	06/2006	ICAO Visit June 2006	Paint additional width	Guatemala	TBD	U			
AGA 373 C	Visual Aids (Annex 14, Vol. I, Chap. 5.2.4.9)	Guatemala, GUATEMALA, La Aurora	Visual Aids -Painted arrows indicating a displaced threshold are incorrectly painted Yellow	06/2006	ICAO Visit June 2006	Repaint arrows white in colour	Guatemala	TBD	U			
AGA 382 C	Visual Aids (Annex 14, Vol. I, Chap. 5.2.5 & 5.2.6)	Flores, GUATEMALA, Mundo Maya	Visual Aids - Runway touchdown zone markings are improperly marked and Aiming Point marking is missing	06/2006	ICAO Visit June 2006	Remove old markings and repaint runway.	Guatemala	TBD	U			
AGA 364 C	Visual Aids (Annex 14, Vol. I, Chap. 5.2.5)	Guatemala, GUATEMALA, La Aurora	Runway Markings - Runway lacks aiming point marking aint aiming point marking	06/2006	ICAO Visit June 2006	Paint aiming point marking	Guatemala	TBD	U			
AGA 383 C	Visual Aids (Annex 14, Vol. I, Chap. 5.2.7)	Flores, GUATEMALA, Mundo Maya	Visual Aids - Runway side stripe markings are very faint, especially on concrete surface.	06/2006	ICAO Visit June 2006	Repaint side stripe markings on both sides of Runway 10/28.	Guatemala	TBD	U			

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Identification			Deficiencies			Corrective Action			ASB Action			
Requirements	States/facilities	Description	Date first reported	Remarks	Description	Executing body	Comp. date	P	ASB remedial action	Executing body	Results
AGA 363 C Visual Aids (Annex 14, Vol. I, Chap. 5.2.7)	Guatemala, GUATEMALA, La Aurora	Runway Markings - Runway side stripes are unevenly painted near thresholds and should continue across taxiway entrances.	06/2006	ICAO Visit June 2006	Paint markings as required	Guatemala	TBD	U			
AGA 372 C Visual Aids (Annex 14, Vol. I, Chap. 5.3.4)	Guatemala, GUATEMALA, La Aurora	Visual Aids - Approach lighting systems has non-working lights off Runway 19 end	06/2006	ICAO Visit June 2006	Replace non-working lights	Guatemala	TBD	U			
AGA 384 C Visual Aids (Annex 14, Vol. I, Chap. 5.4 & Figure 5-28)	Flores, GUATEMALA, Mundo Maya	Visual Aid Mandatory Instruction Sign for Runway Designator is missing on turn pad at entrance to Runway End 28	06/2006	ICAO Visit June 2006	Install Sign	Guatemala	TBD	U			
AGA 371 C Visual Aids (Annex 14, Vol. I, Chap. 5.4)	Guatemala, GUATEMALA, La Aurora	Visual Aids - Most Taxiway connectors lack mandatory instruction signs. All taxiway connectors at runway end entrances exceed 60-meter widths.	06/2006	ICAO Visit June 2006	Install mandatory instruction signs and paint complementary runway designator markings	Guatemala	TBD	U			
AGA Haiti											
AGA 87 C Bird Strike Hazards (Annex 14, Vol. I, Chap. 9.4, 9.4.1-9.4.4)	Haiti, PORT AU PRINCE, Port au Prince Intl	Bird strikes reported	03/2001	IATA Report March 2001	Undertake bird hazard assessment to identify mitigation measures	Haiti	TBD	U	3 - State Letter sent		
AGA 62 C Fencing (Annex 14, Vol. I, Chap. 9, 9.10.2 - 9.10.6)	Haiti, CAP HAITIEN, Cap Haitien Intl	No perimeter security barrier	06/2000	ICAO Visit June 2000	Install perimeter security barrier	Haiti	En process	U	2 - State Letter sent		
AGA 29 C Obstacles (Annex 14, Vol. I, Chap. 4, 4.2.13 - 4.2.18)	Haiti, CAP HAITIEN, Cap Haitien Intl	Obstacles exist in the approach, take-off and transitional obstacle limitation surfaces	06/2000	ICAO Visit June 2000	Eliminate obstacles	Haiti	TBD	U	3 - State Letter sent		
AGA 81 C Pavement Surface Conditions (Annex 14, Vol. I, Chap. 10, 10.2.1 & 10.2.2)	Haiti, PORT AU PRINCE, Port au Prince Intl	Runway surface pavement rubber deposit accumulation.	06/2000	ICAO Visit June 2000	Remove rubber	Haiti	TBD	U	2 - State Letter sent		
AGA 68 C Rescue and Fire Fighting Service and Airport Emergency Planning (Annex 14, Vol. I, Chap. 9.1 & 9.2)	Haiti, CAP HAITIEN, Cap Haitien Intl	RFFS deficient	06/2000	ICAO Visit June 2000	Upgrade RFFS	Haiti	TBD	U	1 - State Letter sent		
AGA 69 C Rescue and Fire Fighting Service and Airport Emergency Planning (Annex 14, Vol. I, Chap. 9.1 & 9.2)	Haiti, CAP HAITIEN, Cap Haitien Intl	No AEP	06/2000	ICAO Visit June 2000	Prepare AEP and undertake emergency exercise	Haiti	TBD	U	1 - State Letter sent		

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Identification			Deficiencies			Corrective Action			ASB Action			
Requirements	States/facilities	Description	Date first reported	Remarks	Description	Executing body	Comp. date	P	ASB remedial action	Executing body	Results
AGA Honduras												
AGA 191 C Bird Hazard (Annex 14, Vol. I, Chap 9.5)	Honduras, TEGUCIGALPA, Intl Toncontín	Several birds were observed flying over the waste disposal sites reported to be located near the northeast end of the runway and overflying the runway during aircraft operations	11/2001	ICAO Visit November 2001	Confirm bird hazard and implement mitigation measures as necessary.	Honduras	TBD	U	State Letter sent		
AGA 202 C Bird Hazard (Annex 14, Vol. I, Chap 9.5)	Honduras, SAN PEDRO SULA, Intl. La Mesa	Big birds were observed on the runway strip	11/2001	ICAO Visit November 2001	Confirm bird hazard and implement mitigation measures as necessary	Honduras	TBD	U	State Letter sent		
AGA 188 C Fencing (Annex 14, Vol. I, Chap. 8.4 - 8.4.1)	Honduras, TEGUCIGALPA, Intl Toncontín	A dog was observed on the runway	11/2001	ICAO Visit November 2001	Check for deficiencies in the perimeter fencing and gates to correct them and ensure that animals cannor enter the movement area. If animals live in the airport, to remove them	Honduras	TBD	U	State Letter sent		
AGA 417 C Obstacles (Annex 14, Vol. I, Chap. 3.4.6 & 3.4.7)	Honduras TEGUCIGALPA, Intl Toncontín	Canals for drainage exists in the graded portion of the runway strip are classified as objects. The long canal covered with concrete slabs adjacent the runway that starts near Runway End 20 does not have an adequate cover to support aircraft loads. An uncovered canal is adjacent to the runway closer to Runway End 02. Several rock and concrete debris piles are found adjacent to the covered canal	07/2006	ICAO Visit July 2006	Remove all rock and concrete debris piles and either install drain pipes that are cover by earth or replace existing cover with appropriate covers	Honduras	TBD	U			
AGA 184 C Obstacles (Annex 14, Vol. I, Chap. 4 - 4.2.27)	Honduras, TEGUCIGALPA, Intl Toncontín	Obstacles infringing on the take off climb surfaces include topography and vegetation, on Runway 19 also includes fencing and road	11/2001	ICAO Visit November 2001 & July 2006	Remove fencing and road at the southern end or reduce declared distances for Runway 19	Honduras	TBD	U	State Letter sent		
AGA 190 C Pavement Surface Conditions (Annex 14, Vol. I, Chap. 9.4 - 9.4.3, 4 & 10)	Honduras, TEGUCIGALPA, Intl Toncontín	The surface of the runway has irregularities in several areas, with loose stones and rubber deposits	11/2001	ICAO Visit November 2001	Remove loose stones through continuous monitoring, remove rubber and repair the runway pavement surface	Honduras	TBD	U	State Letter sent		
AGA 422 C Rescue and Fire Fighting (Annex 14, Vol. I, Chap.9)	Honduras, SAN PEDRO SULA, Intl. Ramón Villeda Morales	Silver suits for fire fighters need replacement due to excessive wear, numerous, large unprotected surface areas	07/2006	ICAO Visit July 2006	Replace with new silver suits	Honduras	TBD	U			

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Identification				Deficiencies			Corrective Action			ASB Action			
Requirements			States/facilities	Description	Date first reported	Remarks	Description	Executing body	Comp. date	P	ASB remedial action	Executing body	Results
AGA	199 C	Rescue and Fire Fighting Service and Airport Emergency Planning (Annex 14, Vol. I, Chap. 9.1 & 9.2 - 9.2.19, 20, 25, 31, 32 and 38)	Honduras, SAN PEDRO SULA, Intl. La Mesa	It was reported that the extinguishing agents reserves are insufficient, the rescue equipment in vehicles is insufficient, vehicles are in poor condition, communications and alert systems are defficient and the protection equipment for the personnel is innadequate	11/2001	ICAO Visit November 2001	Maintain required extinguishing agent reserves Provide the required rescue equipment in vehicles Maintain vehicles in adequate condition Maintain adequate communications and alert systems Provide personnel with required protection equipment	Honduras	TBD	U	Referred to PAAST		No further report of action taken
AGA	182 C	Runway End Safety Area (Annex 14, Vol. I, Chap. 3.5 - 3.5.1, 3.5.2, 3.5.4, 3.5.6)	Honduras, TEGUCIGALPA, Intl Toncontín	There are no runway end safety areas at both ends of the runway	11/2001	ICAO Visit November 2001& July 2006	Provide runway end safety areas by removing objects or reducing declared distances for the runway	Honduras	TBD	U	State Letter sent		
AGA	194 C	Runway End Safety Area (Annex 14, Vol. I, Chap. 3.5)	Honduras, SAN PEDRO SULA, Intl. La Mesa	There are no runway end safety areas at both ends of the runway	11/2001	ICAO Visit November 2001 & July 2006	Provide RESAs by reducing stopways and declared distances	Honduras	TBD	U	State Letter sent		
AGA	179 C	Runway Strip (Annex 14, Vol. I, Chap. 3.4, 3.4.1,3.4.2, 3.4.6, 3.4.8, 3.4.10, 3.4.12 through 3.4.17)	Honduras, TEGUCIGALPA, Intl Toncontín (MHTG)	Runway strip length is insufficient in the southern part of the runway	11/2001	ICAO Visit November 2001 & July 2006	Increase runway strip length by removing objects or reducing declared distances for Runway 19	Honduras	TBD	U	State Letter sent		
AGA	192 C	Runway Strip (Annex 14, Vol. I, Chap. 3.4.2)	Honduras, SAN PEDRO SULA, Intl. La Mesa	Runway Strip length is insufficient	11/2001	ICAO Visit November 2001 & July 2006	Provide runway strip by reducing declared stopways	Honduras	TBD	U	State Letter sent		
AGA	198 C	Visual Aids (Annex 14, Vol. I, Chap 7.3.1-7.3.3 & 5.3.15)	Honduras, SAN PEDRO SULA, Intl. La Mesa	Runway 04 has incorrect chevron markings in the area located before the threshold	11/2001	ICAO Visit November 2001 & July 2006	Remove the chevron markings in the area located before the threshold on Runway 04	Honduras	TBD	U	State Letter sent		
AGA	201 C	Visual Aids (Annex 14, Vol. I, Chap 10.2.8 & Table 5-1, note B)	Honduras, SAN PEDRO SULA, Intl. La Mesa	Runway markings are defficient	11/2001	ICAO Visit November 2001 & July 2006	Repaint runway markings	Honduras	TBD	U	State Letter sent		
AGA	195 C	Visual Aids (Annex 14, Vol. I, Chap 5 - 5.2.2.4 & 5)	Honduras, SAN PEDRO SULA, Intl. La Mesa	Runway designation markings at both ends are incorrect because they indicate the presence of two parallel runways	11/2001	ICAO Visit November 2001	Correct the runway designation markings	Honduras	TBD	U	State Letter sent		
AGA	196 C	Visual Aids (Annex 14, Vol. I, Chap 5 - 5.2.8, 7.2.1 - 7.2.3)	Honduras, SAN PEDRO SULA, Intl. La Mesa	Markings on the parallel taxiway are incorrect because are for a runway	11/2001	ICAO Visit November 2001 & July 2006	Correct the centreline marking in the parallel taxiway and remove the runway markings	Honduras	TBD	U	State Letter sent		

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Identification				Deficiencies			Corrective Action			ASB Action			
Requirements		States/facilities		Description	Date first reported	Remarks	Description	Executing body	Comp. date	P	ASB remedial action	Executing body	Results
AGA 411 C	Visual Aids (Annex 14, Vol.I, Chap. 5.2.10 & Figure 5-6)	Honduras TEGUCIGALPA, Intl Toncontín		Several Runway-Holding Position markings do not extend completely across the taxiway width nor connect with the taxiway side stripe markings, such as Taxiway B, Taxiway E	07/2006	ICAO Visit July 2006	Extend the markings at all taxiways	Honduras	TBD	U			
AGA 419 C	Visual Aids (Annex 14, Vol.I, Chap. 5.2.14.1 through 5.2.14.4)	Honduras, SAN PEDRO SULA, Intl. Ramón Villeda Morales		Existing apron safety lines used at gate areas are not wide enough for wingspans of narrow bodied aircraft, such as A319, A320	07/2006	ICAO Visit July 2006	Repaint those redlines that are insufficient in wingspan clearances	Honduras	TBD	U			
AGA 409 C	Visual Aids (Annex 14, Vol.I, Chap. 5.2.8.1 - 5.2.8.7)	Honduras TEGUCIGALPA, Intl Toncontín		Several curved taxiway centreline markings exiting/entering Runway 02/20 are very faint and need repainting, such as connector Taxiway D	07/2006	ICAO Visit July 2006	Repaint curved taxiway centrelines	Honduras	TBD	U			
AGA 413 C	Visual Aids (Annex 14, Vol.I, Chap. 5.4.2.8)	Honduras TEGUCIGALPA, Intl Toncontín		The sign for the Runway Designator and Taxiway Location, A-02, needs to be relocated and co-located with the Runway-Holding Point marking for Taxiway A	07/2006	ICAO Visit July 2006	Relocate sign	Honduras	TBD	U			
AGA 412 C	Visual Aids (Annex 14, Vol.I, Chap. 7.2.1 - 7.2.3)	Honduras TEGUCIGALPA, Intl Toncontín		Taxiway E lacks taxi side stripes or taxiway edge lights	07/2006	ICAO Visit July 2006	Paint taxi side stripe markings	Honduras	TBD	U			
AGA 408 C	Visual Aids (Annex 14, Vol.I, Chap.7.3, 7.3.1 - 7.3.3 & Figure 7-2)	Honduras TEGUCIGALPA, Intl Toncontín		Both stopways off the runway ends need proper chevron and edge markings	07/2006	ICAO Visit July 2006	Paint non-white missing markings	Honduras	TBD	U			
AGA Jamaica													
AGA 25 C	Runway End Safety Area (Annex 14, Vol. I, Chap. 5, 5.3.5.1)	Jamaica, MONTEGO BAY, Sangster Intl		No runway end safety area is provided on the western runway end as specified in Annex 14 Vol I Section 3.4.1	10/2000	ICAO Visit October 2000	Provide runway end safety area by extending the platform or reducing the declared distances	Jamaica	TBD	U	3 - State Letter sent		
AGA 24 C	Runway End Safety Area (Annex 14, Vol. I, Chap. 5.3.5.1)	Jamaica, KINGSTON, Norman Manley Intl		No runway end safety areas are provided on both runway ends as specified in Annex 14 Vol I Section 3.4.1	10/2000	ICAO Visit October 2000	Provide runway end safety areas by extending the platform or reducing the declared distances	Jamaica	TBD	U	3 - State Letter sent		
AGA 15 C	Runway Strip (Annex 14, Vol. I, Chap. 3, 3.4, 3.4.2.3)	Jamaica, KINGSTON, Norman Manley Intl		Runway strip extension length and width at both runway ends is less than specified in Annex 14 Vol. I Sections 3.3.2 and 4	10/2000	ICAO Visit October 2000	Extend and widen runway strip or reduce runway declared distances	Jamaica	TBD	U	3 - State Letter sent		
AGA 17 C	Runway Strip (Annex 14, Vol. I, Chap. 3.3)	Jamaica, MONTEGO BAY, Sangster Intl		Runway strip extension length on west runway end and width at both runway ends is less than specified in Annex 14 Vol. I Sections 3.3.2, 3 and 4	10/2000	ICAO Visit October 2000	Extend and widen runway strip or reduce runway declared distances	Jamaica	TBD	U	3 - State Letter sent		

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Identification				Deficiencies			Corrective Action			ASB Action			
Requirements			States/facilities	Description	Date first reported	Remarks	Description	Executing body	Comp. date	P	ASB remedial action	Executing body	Results
AGA 19 C		Runway Strip (Annex 14, Vol. I, Chap. 3.3, Section 3.3.16)	Jamaica, MONTEGO BAY, Sangster Intl	Runway graded strip contains ponds and does not comply with the specifications in Annex 14 Vol. I, Section 3.3.16	10/2000	ICAO Visit October 2000	Remove ponds in runway strip	Jamaica	TBD	U	3 - State Letter sent		
AGA Mexico													
AGA 150 C		Rescue and Fire Fighting Service and Airport Emergency Planning (Annex 14, Vol. I, Chap. 9.1 & 9.2 - 9.2.3)	Mexico, MONTERREY, Gral. Mariano Escobedo International	The rescue and fire fighting category is defficient for ocasional operations of B747, An-124 and A330 and regular operations of B767.	09/2001	ICAO Visit September 2001	To elevate the RFFS category from 7 to 8	Mexico	TBD	U	State Letter sent		
AGA 146 C		Runway end safety area (Annex 14, Vol. I, Chap. 3.5 - 3.5.1 and 7)	Mexico, CANCUN, Cancun International	The runway end safety area on the west end of the runway is not graded.	09/2001	ICAO Visit September 2001	To grade the runway end safety area.	Mexico	TBD	U	State Letter sent		
AGA 148 C		Runway end safety area (Annex 14, Vol.I, Chap. 3.5 - 3.3.1, 6 and 7)	Mexico, MONTERREY, Gral. Mariano Escobedo International	The runway end safety area on the south end of runway 16/34 has vegetation and it is not graded.	09/2001	ICAO Visit September 2001	To remove vegetation and to grade the runway end safety area.	Mexico	TBD	U	State Letter sent		
AGA 152 C		Visual Aids (Annex 14, Vol. I, Chap. 5, 5.2.3 and ANP, Table AOP1)	Mexico, MONTERREY, Gral. Mariano Escobedo International	The centreline marking on Runway 11/29 is defficient	09/2001	ICAO Visit September 2001	To repaint the runway centreline markings	Mexico	TBD	U	State Letter sent		
AGA Netherlands Antilles/Antillas Neerlandesas													
AGA 257 C		Rescue and Fire Fighting (Annex 14, Vol. I, Chap. 9.1 & 2 - 9.1.1)	Netherlands Antilles, BONAIRE/ KRALENDIJK, Flamingo	The aerodrome emergency plan is not complete	02/2002	ICAO Visit February 2002	Complete the aerodrome emergency plan	Netherlands Antilles	TBD	U	State letter to be sent		
AGA 258 C		Visual Aids (Annex 14, Vol. I, Chap. 5 - 5.2.3)	Netherlands Antilles, BONAIRE/ KRALENDIJK, Flamingo	Runway centreline markings are fading	02/2002	ICAO Visit February 2002	Re-paint runway markings	Netherlands Antilles	TBD	U	State letter to be sent		
AGA Nicaragua													
AGA 243 C		Pavement Surface Conditions (Annex 14, Vol. I, Chap. 9.4 - 9.4.3, 4 & 10.2.8)	Nicaragua, MANAGUA, Intl Managua	The runway surface is defficient and has irregularities, loose stones and rubber deposits	03/2002	ICAO Visit March 2002 & July 2006	To remove FOD through continous monitoring, remove rubber and rehabilitate the runway pavement surface	Nicaragua	TBD	U	State letter to be sent		
AGA 241 C		Rescue and Fire Fighting (Annex 14, Vol. I, Chap. 9.2 - 9.2.29 & 30)	Nicaragua, MANAGUA, Intl Managua	The existing fire fighting services station is defficient and does not have direct access to the runway	03/2002	ICAO Visit March 2002 & July 2006	Provide adequate facilities for fire fighting services	Nicaragua	TBD	U			

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Identification			Deficiencies			Corrective Action			ASB Action			
Requirements		States/facilities	Description	Date first reported	Remarks	Description	Executing body	Comp. date	P	ASB remedial action	Executing body	Results
AGA 233 C	Runway Strip (Annex 14, Vol. I, Chap. 3.4.6)	Nicaragua, MANAGUA, Intl Managua	The military helicopters parked on the runway strip are obstacles	03/2002	ICAO Visit March 2002 & July 2006	To avoid that the parked helicopters become an obstacle	Nicaragua	TBD	U	State letter to be sent		
AGA 239 C	Visual Aids (Annex 14, Vol. I, Chap. 5-5.3.14.1)	Nicaragua, MANAGUA, Intl Managua	Stopway lights are not provided	03/2002	ICAO Visit March 2002	Provide stopway lights or eliminate stopways and correct the ASDA declared distances published in the AIP	Nicaragua	TBD	U	State letter to be sent		
AGA 238 C	Visual Aids (Annex 14, Vol. I, Chap. 5-5.4.5.2.1 and ANP FASID Table AOP1)	Nicaragua, MANAGUA, Intl Managua	The runway has no visual approach slope indicator systems	03/2002	ICAO Visit March 2002 & July 2006	Provide visual approach slope indicator systems	Nicaragua	TBD	U			
AGA 244 C	Visual Aids (Annex 14, Vol. I, Chap. 5)	Nicaragua, MANAGUA, Intl Managua	The markings on the runway and taxiway centrelines are defficient	03/2002	ICAO Visit March 2002 & July 2006	Re-paint the runway and taxiway centrelines	Nicaragua	TBD	U	State letter to be sent		
AGA 236 C	Visual Aids (Annex 14, Vol. I, Chap. 5.2.14.1 to 5.2.14.4)	Nicaragua, MANAGUA, Intl Managua	The platform has no safety lines	03/2002	ICAO Visit March 2002 & July 2006	Provide safety lines on the platform	Nicaragua	TBD	U			
AGA 235 C	Visual Aids (Annex 14, Vol. I, Chap. 5.2.4.7 & 5.2.4.8)	Nicaragua, MANAGUA, Intl Managua	The threshold markings has no transversal strips in order to distinguish it from the pavement areas before the threshold	03/2002	ICAO Visit March 2002 & July 2006	Provide transversal strip markings on the threshold	Nicaragua	TBD	U	State letter to be sent		
AGA 401 C	Visual Aids (Annex 14, Vol.I, Chap. 5.4)	Nicaragua, MANAGUA, Intl Managua	Service road across from the Taxiway A entrance to Runway End 09 lacks signage information that indicates where a driver should stop for approach/departure aircraft operations	07/2006	ICAO Visit July 2006	Install information sign where a runway-holding position marking would be located	Nicaragua	TBD	U			
AGA 404 C	Visual Aids (Annex 14, Vol.I, Chap.3.7 & 5.3.15)	Nicaragua, MANAGUA, Intl Managua	Both stopways lack proper markings and edge lighting. DGAC is evaluating and considering not declaring both stopways	07/2006	ICAO Visit July 2006	Install proper markings and edge lighting or declare that stopways no longer exists. Submit to ICAO NACC declared to update declared ASDA distances and other ANP related information	Nicaragua	TBD	U			
AGA 400 C	Visual Aids (Annex 14, Vol.I,Figure 5-21)	Nicaragua, MANAGUA, Intl Managua	Threshold in-pavement lights are not located proper at the start of the threshold but instead located within the threshold stripes	07/2006	ICAO Visit July 2006	Relocate existing lights to proper location	Nicaragua	TBD	U			

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Identification			Deficiencies			Corrective Action			ASB Action			
	Requirements	States/facilities	Description	Date first reported	Remarks	Description	Executing body	Comp. date	P	ASB remedial action	Executing body	Results
AGA Saint Kitts and Nevis/San Kitts y Nevis												
AGA 284 C	Fencing (Annex 14, Vol. I, Chap. 9.10, 9.10.2, 9.10.4 & 9.10.6)	St. Kitts and Nevis, BASSETERRE, Robert L. Bradshaw Int'l	The perimeter fencing is inadequate	01/2003	ICAO Visit - January 2003	Upgrade perimeter barrier to prevent unauthorised access by people and entrance of animals	St. Kitts and Nevis	TBD	U	State letter to be sent		
AGA 289 C	Fencing (Annex 14, Vol. I, Chap.9, 9.10, 9.10.2, 9.10.4 & 9.10.6)	St. Kitts and Nevis, CHARLESTOWN, Vance W. Amory Int'l	The perimeter fencing is inadequate	01/2003	ICAO Visit January 2003	Upgrade perimeter barrier to prevent unauthorised access by people and entrance of animals	St. Kitts and Nevis	TBD	U	State letter to be sent		
AGA 282 C	Runway End Safety Area (Annex 14, Vol. I, Chap. 3, 3.5, 3.5.1 & 3.5.2)	St. Kitts and Nevis, BASSETERRE, Robert L. Bradshaw Int'l	Runway end safety areas are not provided	01/2003	ICAO Visit - January 2003	Provide runway end safety areas by extension of airfield or do not declare stopways and reduce runway declared distances	St. Kitts and Nevis	TBD	U	State letter to be sent		
AGA 280 C	Runway Strip (Annex 14, Vol. I, Chap. 3.4 - Std. 3.4.2)	St. Kitts and Nevis, BASSETERRE, Robert L. Bradshaw Int'l	Runway strip length at runway ends is insufficient	01/2003	ICAO Visit - January 2003	Extend runway strip or do not declare stopways and reduce runway declared distances	St. Kitts and Nevis	TBD	U	State letter to be sent		
AGA Saint Lucia/Santa Lucía												
AGA 112 C	Pavement Surface Conditions (Annex 14, Vol. I, Chap. 10.2, 10.2.1, 10.2.2. & 10.2.3)	Saint Lucia, CASTRIES, George F. L. Charles Intl	Runway pavement surface severely deficient in many areas and FOD is present	07/2001	ICAO Visit July 2001	Maintain runway surface clean of FOD and upgrade the runway pavement	Saint Lucia	TBD	U	State Letter sent		
AGA Saint Vincent and the G./San Vicente y las Granadinas												
AGA 220 C	Obstacles (Annex 14, Vol. I , Chap. 4 - Stolport Manual 4.2)	St. Vincent and the Grenadines, MUSTIQUE, Mustique	Take-off obstacle limitation surface contains severe infringements by terrain and vegetation based on runway take-off declared distance published in AIP	12/2001	ICAO Visit December 2001	Reduce Runway 09 take-off declared distance to reflect displaced runway end for curved departure path and publish in the AIP	St. Vincent and the Grenadines	TBD	U	State Letter sent		
AGA 222 C	Rescue and Fire Fighting (Annex 14, Vol. I, Chap. 9.1 - Stolport Manual 9.1.1 & 2)	St. Vincent and the Grenadines, MUSTIQUE, Mustique	No stolport emergency plan exists	12/2001	ICAO Visit December 2001	Prepare a stolport emergency plan	St. Vincent and the Grenadines	TBD	U	State Letter sent		

SPECIFIC DEFICIENCIES

REPORTING FORM ON AIR NAVIGATION DEFICIENCIES IN THE AGA FIELD IN THE CAR REGION

Identification			Deficiencies			Corrective Action			ASB Action			
Requirements		States/facilities	Description	Date first reported	Remarks	Description	Executing body	Comp. date	P	ASB remedial action	Executing body	Results
AGA 223 C	Rescue and Fire Fighting (Annex 14, Vol. I, Chap. 9.2 - Stolport Manual 9.2.2 and Annex 14 Vol. I para. 9.2.29 & 30)	St. Vincent and the Grenadines, MUSTIQUE, Mustique	The present position of the rescue and fire-fighting vehicle on the western edge of the apron is remote from personnel and does not have direct access to the runway and Security personnel double up as RFFS personnel	12/2001	ICAO Visit December 2001	Relocate position of RFFS vehicle to be close to personnel and have direct access to the runway and specify security procedures in the case of an emergency	St. Vincent and the Grenadines	TBD	U	State Letter sent		
AGA 219 C	Runway Strip (Annex 14, Vol. I, Chap. 3.3 - Stolport Manual 3.3.2.2)	St. Vincent and the Grenadines, MUSTIQUE, Mustique	Runway strip length at east runway end is insufficient	12/2001	ICAO Visit December 2001	Displace Runway 09 end and reduce the corresponding landing and take-off declared distances	St. Vincent and the Grenadines	TBD	U	State Letter sent		
AGA 221 C	Visual Aids (Annex 14, Vol. I, Chap. 5 - Stolport Manual 5.3.1)	St. Vincent and the Grenadines, MUSTIQUE, Mustique	No stolport designation marking is provided at the Runway 09 threshold	12/2001	ICAO Visit December 2001	Provide stolport designation marking	St. Vincent and the Grenadines	TBD	U	State Letter sent		

SPECIFIC DEFICIENCIES

REPORTING FORM ON AIR NAVIGATION DEFICIENCIES IN THE AGA FIELD IN THE SAM REGION

Identification			Deficiencies			Corrective Action			ASB Action			
Requirements	States/facilities	Description	Date first reported	Remarks	Description	Executing body	Comp. date	P	ASB remedial action	Executing body	Results
AGA Brasil												
AGA 494 S	Annex 14, Vol. I, Ch. 9	BRAZIL/ANAC/INFRAERO/Rio de Janeiro Int´l	The reserve supply of complementary agent was below 200 %	AUG 06	ICAO regular mission (01-03 AUG/06, Recommended Action AGA/25 of its respective Report)	Mantain the 200 % minimum supply of complementary agent	BRAZIL/ANAC/INFRAERO	TBD	U			
AGA 493 S	Annex 14, Vol. I, Ch. 9; Doc 9137-AN/898, Parts 3 & 8	BRAZIL/ANAC/INFRAERO/Rio de Janeiro Int´l	High vegetation on the RWY and TWY strips	AUG 06	ICAO regular mission (01-03 AUG/06, Recommended Action AGA/24 of its respective Report)	Cut and Keep vegetation at adequate height	BRAZIL/ANAC/INFRAERO	TBD	U			
AGA 476 S	Doc 8733, FASID CAR/SAM – AOP	BRAZIL/ANAC/INFRAERO/Pontapora Int´l	ANP requires RFF CAT 6. It is CAT 2	AUG 06	ICAO regular mission (01-03 AUG/06, Recommended Action AGA/07 of its respective Report)	Upgrade RFF to CAT 6	BRAZIL/ANAC/INFRAERO	TBD	U			
AGA 492 S	Doc 8733, FASID CAR/SAM – AOP	BRAZIL/ANAC/INFRAERO/Rubem Berta Int´l	ANP requires RFF CAT 3. It is CAT 1	AUG 06	ICAO regular mission (01-03 AUG/06, Recommended Action AGA/23 of its respective Report)	Update RFF to CAT 3	BRAZIL/ANAC/INFRAERO	TBD	U			
AGA Colombia												
AGA 454 S	Annex 14, Vol. I, Ch. 3	COLOMBIA/AEROCIVIL/BOGOTA/El Dorado Int´l Airport	Depression between threshold and threshold lights (ends of RWY 13L/31R	OCT 05	ICAO regular mission (28-30/SEP/2005, Recommended Action AGA/07 of its respective Report)	Eliminate depression between threshold and threshold lights. "PENDING ACTION PLAN"	AEROCIVIL/BOGOTA/El Dorado Int´l Airport	TBD	U			
AGA 455 S	Annex 14, Vol. I, Ch. 5	COLOMBIA/AEROCIVIL/BOGOTA/El Dorado Int´l Airport	Threshold lights are displaced about 6 to 8 m from the threshold in both ends (RWY 13L/31R	OCT 05	ICAO regular mission (28-30/SEP/2005, Recommended Action AGA/08 of its respective Report)	Install the threshold ligts at the right position. "PENDING ACTION PLAN"	AEROCIVIL/BOGOTA/El Dorado Int´l Airport	TBD	U			
AGA 448 S	Annex 14, Vol. I, Ch. 9	COLOMBIA/AEROCIVIL/BOGOTA/El Dorado Int´l Airport	Emergency operations center not well structured	OCT 05	ICAO regular mission (28-30/SEP/2005, Recommended Action AGA/01 of its respective Report)	Emergency operations center and emergency plan are not well structured. "PENDING ACTION PLAN"	AEROCIVIL/BOGOTA/El Dorado Int´l Airport	TBD	U			
AGA Ecuador												
AGA 459 S	Annex 14, Vol. I, Ch. 5	ECUADOR/DAC/QUIPORT	Apron/runway/ taxiway vertical sings are not complete	OCT 05	ICAO regular mission (26-27/SEP/2005, Recommended Action AGA/01 of its respective Report)	Provide adecuate apron/runway/ taxiway vertical signs	ECUADOR/DAC/QUIPORT	TBD	U			
AGA 328 S	Emergency Plans (Annex 14, Vol. I, Ch. 9)	ECUADOR/GUAYAQUIL/Simón Bolívar	There is no updated Airport Emergency Plan	MAY 2003	ICAO Regular Mission (12-14 MAY 2003, Recommended Action AGA/28 of its respective Report	Urgently provide and approve an updated Airport Emergency Plan "PENDING ACTION PLAN"	ECUADOR/DAC	TBD	U	State Letter sent	ICAO	

SPECIFIC DEFICIENCIES

REPORTING FORM ON AIR NAVIGATION DEFICIENCIES IN THE AGA FIELD IN THE SAM REGION

Identification			Deficiencies			Corrective Action			ASB Action			
Requirements	States/facilities		Description	Date first reported	Remarks	Description	Executing body	Comp. date	P	ASB remedial action	Executing body	Results
AGA Panama												
AGA 462 S	Annex 14, Vol. I	PANAMA/DGAC/TOCUMEN S.A.	Weak coordination between DGAC area AGA en Tocumen S.A.	APR 06	ICAO regular mission (26-28/APR/06, New Recommended Action AGA/01 of its respective Report)	Improve the coordination between DGAC AGA area and Tocumen S.A.	PANAMA/DGAC/TOCUMEN S.A.	TBD	U			
AGA Peru												
AGA 371 S	Annex 14, Ch. 9, Vol. I and Doc 9137-AN/898, Part 7	PERU/DGAC/CORPAC	The emergency plans are not updated/exercised. Frequent fire fighters replacements	MAY 2004	ICAO regular mission (17-18 MAY 2004, Recommended Action AGA/01 of its respective Report)	Update emergency plans/exercises. Avoid fire fighters replacements "PENDING ACTION PLAN" ACTION PLAN: Arequipa, Lima, Pisco and Tacna were updated in 2005. Chiclayo, Cusco, Iquitos and Trujillo will be updated up to June 2007. In 2005 was published NTC-AVSEC-005-2005 "Requirements for RFF personnel", which assures no or almost no rotation (App. to Letter # 029-2007-MTC/12.06)	DGAC/CORPAC	TBD	U	State Letter sent	ICAO	
AGA Suriname												
AGA 429 S	Annex 14, Vol. I, Ch. 9 and Doc 9137-AN/898, Part 7	SURINAME/CAA	No emergency plans at airports	JUN 2005	ICAO regular mission (30/31/MAY-01 JUN/2005, Recommended Action AGA/01 of its respective Report)	Implement emergency plans at airports	CAA		U			
AGA 231 S	RFF (Doc 8733, Vol. II, FASID and Annex 14, Vol. I, Ch. 9.2)	Suriname/NEW NICKERIE/Maj. Fernandes Aerodrome	The aerodrome does not have RFF. The Regional ANP recommends Category 3	NOV 2002	Detected during mission conducted by ICAO Secretariat	Provide RFF Category 3 for the aerodrome and/or inform the ICAO SAM Office when it will be done "PENDING ACTION PLAN"	Suriname	TBD	U	State Letter sent	ICAO	
AGA Venezuela												
AGA 460 S	Annex 14, Vol. I, Ch. 9	VENEZUELA/INAC/IAAIM	Last full-scale aerodrome emergency exercise in 02 MAR 03	APR 06	ICAO regular mission (24-26/APR/06, New Recommended Action AGA/01 of its respective Report)	Plan and develop, urgently, a complete exercise for the emergency plan "PENDING ACTION PLAN"	VENEZUELA/INAC/IAAIM	TBD	U			

SPECIFIC DEFICIENCIES

REPORTING FORM ON AIR NAVIGATION DEFICIENCIES IN THE AGA FIELD IN THE SAM REGION

Identification				Deficiencies			Corrective Action			ASB Action			
Requirements			States/facilities	Description	Date first reported	Remarks	Description	Executing body	Comp. date	P	ASB remedial action	Executing body	Results
AGA	461 S	Annex 14, Vol. I, Ch. 9	VENEZUELA/INAC/IAAIM	Reserve supply of foam concentrate and complementary agent is 134 %	APR 06	ICAO regular mission (24-26/APR/06, New Recommended Action AGA/02 of its respective Report)	Maintain 200 % minimum reserve of foam concentrate and complementary agent "PENDING ACTION PLAN"	VENEZUELA/INAC/IAAIM	TBD	U			
AGA	93 S	Rescue and Fire Fighting Service and airport emergency plan (Annex 14, Vol. I, Chap.9)	Venezuela, BARCELONA, Barcelona Intl. Airport	There is currently no emergency plan available	2001	IATA Report of the Venezuela Airport Operational Assessment, March 05-08, 2001	Develop emergency plan and disseminate it among the aviation community "PENDING ACTION PLAN"	Venezuela	TBD	U	State Letter sent		
AGA	26 S	RWY surface conditioins (Annex 14, Vol. I, Chap. 3)	Venezuela, MARGARITA/Del Caribe Aerodrome	Slippery runway surface at RWY 09, in the first 1000 m	1996	IFALPA CAR/SAM Meeting, 98REG049, Buenos Aires, 9/10 Dec. 1997	Improve the RWY surface with grooving "PENDING ACTION PLAN"	Venezuela		U	State Letter sent	ICAO Regional Office	
AGA	73 S	RWY surface conditions (Annex 14, Vol. I, Chap. 3)	Venezuela, CARACAS/Maiquetia Aerodrome	Heavy rubber deposits on the runway 09/27	2001	IATA Report of the Venezuela Airport Operational Assessment, March 05-08, 2001	Remove the rubber deposits "PENDING ACTION PLAN"	Venezuela	TBD	U	State Letter sent	ICAO Regional Office	NO RESULTS
AGA	74 S	RWY surface conditions (Annex 14, Vol. I, Chap. 3)	Venezuela, CARACAS/Maiquetia Aerodrome	Overall condition of runway 08/26 is very poor. All types of cracks, potholes, rutting, vegetation growth, ravelling do exist, runway to rough	2001	IATA Report of the Venezuela Airport Operational Assessment, March 05-08, 2001	Reconstruct runway 08/26 immediately "PENDING ACTION PLAN"	Venezuela	TBD	U	State Letter sent	ICAO Regional Office	
AGA	75 S	TWY surface conditions (Annex 14, Vol. I, Chap. 3)	Venezuela, CARACAS/Maiquetia Aerodrome	Cracks and vegetation growth on the taxiways, no pavement maintenance. Presence of FOD (loose aggregates)	2001	IATA Report of the Venezuela Airport Operational Assessment, March 05-08, 2001	Reconstruct the taxiways "PENDING ACTION PLAN"	Venezuela	TBD	U	State Letter sent		
AGA	80 S	Visual aids (Annex 14, Vol. I, Chap. 5 and ANP, Table AOP)	Venezuela, CARACAS/Maiquetia Aerodrome	There are no windsocks located near runway 27L or 26	2001	IATA Report of the Venezuela Airport Operational Assessment, March 05-08, 2001	Install a windsock for runways 27L and 26 "PENDING ACTION PLAN"	Venezuela	TBD	U	State Letter sent		
AGA	83 S	Visual aids (Annex 14, Vol. I, Chap. 5 and ANP, Table AOP)	Venezuela, VALENCIA/Valencia Intl. Airport	There is no windsock located near runway 28	2001	IATA Report of the Venezuela Airport Operational Assessment, March 05-08, 2001	Install a windsock for runway 28 "PENDING ACTION PLAN"	Venezuela	TBD	U	State Letter sent		
AGA	85 S	Visual aids (Annex 14, Vol. I, Chap. 5 and ANP, Table AOP)	Venezuela, MARGARITA, Margarita Intl. Airport	Threshold and runway designation markings are faded	2001	IATA Report of the Venezuela Airport Operational Assessment, March 05-08, 2001	Threshold and runway designation markings should be repainted "PENDING ACTION PLAN"	Venezuela	TBD	U	State Letter sent		
AGA	86 S	Visual aids (Annex 14, Vol. I, Chap. 5 and ANP, Table AOP)	Venezuela, MARGARITA, Margarita Intl. Airport	No windsock is located at runway 27	2001	IATA Report of the Venezuela Airport Operational Assessment, March 05-08, 2001	Install a windsock for the runway 27 "PENDING ACTION PLAN"	Venezuela	TBD	U	State Letter sent		

SPECIFIC DEFICIENCIES

REPORTING FORM ON AIR NAVIGATION DEFICIENCIES IN THE AGA FIELD IN THE SAM REGION

Identification				Deficiencies			Corrective Action			ASB Action			
Requirements			States/facilities	Description	Date first reported	Remarks	Description	Executing body	Comp. date	P	ASB remedial action	Executing body	Results
AGA	28 S	Visual Aids (Annex 14, Vol. I. Ch. 5)	Venezuela, MARACAIBO/La Chinita Aerodrome	No PAPI at RWY 20	1996	IFALPA CAR/SAM Meeting, 98REG049, Buenos Aires, 9/10 Dec. 1997	Implement the facility "PENDING ACTION PLAN"	Venezuela		U	State Letter sent	SAM	
AGA	27 S	Visual Aids (Annex 14, Vol. I.Ch. 5)	Venezuela, CARACAS/Maiquetia Aerodrome	PAPI on RWY 09 unreliable	1996	IFALPA CAR/SAM Meeting, 98REG049, Buenos Aires, 9/10 Dec. 1997	Verify "PENDING ACTION PLAN"	Venezuela		U	State Letter sent	SAM	

SPECIFIC DEFICIENCIES

REPORTING FORM ON AIR NAVIGATION DEFICIENCIES IN THE AIS FIELD IN THE CAR REGION

Identification				Deficiencies			Corrective Action			ASB Action			
Requirements			States/facilities	Description	Date first reported	Remarks	Description	Executing body	Comp. date	P	ASB remedial action	Executing body	Results
AIS Aruba													
AIS	29 C	Annex 15, Para. 3.6.4; Annex 4, Para. 2.18; Doc. 8733, Basic ANP, Part VIII, Paras 50 to 58, FASID Table AIS 5	Aruba	Implementation of the WGS-84 is on going	01/01/98	GREPECAS AIS/MAP Subgroup Survey to States	Need to implement the WGS-84 Geodetic System	State	30/11/05	U	Survey and coordinates determination in process. Publication in November 2005	GEN NACC	C/CAR AIS/MAP Task Force is developing an implementation plan for FIR boundaries coordination.
AIS	96 C	Doc. 8733 Basic ANP, Part VIII, Paras. 9 to 12	Aruba	Lack of highest priority for printing of AIS publications.	18/09/96	Records/files NACC RO; GREPECAS reports	Need to provide a higher priority for the printing of AIS publications	State	TBD	U	Transferred to the AIS/MAP/SG for future action.	NACC/AIS/MAP/SG	Lack of action plan.
AIS Bahamas													
AIS	7 C	Annex 15, Chap. 4, Para. 4.2.9; Doc. 8733, Basic ANP, Part VIII, Paras 33 to 37	Bahamas	Lack of regular and effective updating of the AIP Document	24/10/00	GREPECAS AIS/MAP Subgroup	Need to keep updated the information/data contained in the AIP	State	TBD	U	Transferred to the AIS/MAP/SG for future actions.	NACC/IATA	Lack of action plan.
AIS	17 C	Annex 15, Chapter 3, Paras. 3.1.5 and 3.1.6; Chapter 5, Paras. 5.1.1.1 and Sec. 5.3	Bahamas	Timely distribution of the information through NOTAM	25/10/00	GREPECAS AIS/MAP Subgroup	Need to disseminate on time all operational information through NOTAM	State	TBD	U	Consultation with AIS/MAP/SG indicated that AIS services should be automated and AIS Quality Assurance programme be implemented.	NACC/AIS/MAP/SG	Lack of action plan.
AIS	30 C	Annex 15, Para. 3.6.4; Annex 4, Para. 2.18; Doc. 8733, Basic ANP, Part VIII, Paras 50 to 58, FASID Table AIS 5	Bahamas	Implementation of the WGS-84 is on going	01/01/98	GREPECAS AIS/MAP Subgroup Survey to States	Need to implement the WGS-84 Geodetic System	State	30/11/05	U	Survey and Coordinates determination in process. Publication in November 2005	GEN NACC	C/CAR AIS/MAP Task Force is developing an implementation plan for FIR boundaries coordination.
AIS Belize/Belice													
AIS	31 C	Annex 15, Para. 3.6.4; Annex 4, Para. 2.18; Doc. 8733, Basic ANP, Part VIII, Paras 50 to 58, FASID Table AIS 5	Belize	Lack of implementation of the WGS-84	01/01/98	GREPECAS AIS/MAP Subgroup Survey to States	Need to implement the WGS-84 Geodetic System	State	30/11/06	U	COCESNA and Central American States are developing a total WGS 84 implementation project.	GEN NACC	Lack of action plan.
AIS	273 C	Doc. 8733 Basic ANP, Part VIII, Paras. 9 to 12	Belize	Lack of highest priority for printing of AIS publications.	27/04/01	Records/files in NACC R0; ICAO visit April 2001	Need to provide a higher priority for the printing of AIS publications	State	TBD	U	Transferred to the AIS/MAP/SG for future action.	NACC/AIS/MAP/SG	Lack of action plan.

SPECIFIC DEFICIENCIES

REPORTING FORM ON AIR NAVIGATION DEFICIENCIES IN THE AIS FIELD IN THE CAR REGION

Identification				Deficiencies			Corrective Action			ASB Action			
Requirements			States/facilities	Description	Date first reported	Remarks	Description	Executing body	Comp. date	P	ASB remedial action	Executing body	Results
AIS Costa Rica													
AIS	33 C	Annex 15, Para. 3.6.4; Annex 4, Para. 2.18; Doc. 8733, Basic ANP, Part VIII, Paras 50 to 58, FASID Table AIS 5	Costa Rica	Partial implementation of the WGS-84	01/01/98	GREPECAS AIS/MAP Subgroup Survey to States	Need to implement the WGS-84 Geodetic System	State	July 2007	U	COCESNA and Central American States are developing a total WGS 84 implementation project.	GEN NACC	Lack of action plan.
AIS El Salvador													
AIS	35 C	Annex 15, Para. 3.6.4; Annex 4, Para. 2.18; Doc. 8733, Basic ANP, Part VIII, Paras 50 to 58, FASID Table AIS 5	El Salvador	Partial implementation of the WGS-84	01/01/98	GREPECAS AIS/MAP Subgroup Survey to States	Need to implement the WGS-84 Geodetic System	State	30/11/06	U	COCESNA and Central American States are developing a total WGS 84 implementation project.	GEN NACC	Lack of action plan.
AIS Guatemala													
AIS	36 C	Annex 15, Para. 3.6.4; Annex 4, Para. 2.18; Doc. 8733, Basic ANP, Part VIII, Paras 50 to 58, FASID Table AIS 5	Guatemala	Partial implementation of the WGS-84	01/01/98	GREPECAS AIS/MAP Subgroup Survey to States	Need to implement the WGS-84 Geodetic System	State	30/11/06	U	COCESNA and Central American are developing a total WGS 84 implementation project.	GEN NACC	Lack of action plan.
AIS Honduras													
AIS	267 C	Doc 8733 Basic ANP, Part VIII, Paras. 59 k), 61, 62. 64 7) and FASID Table AIS 7.	Honduras	Lack of production of the World Aeronautical Chart ICAO 1:1000 000	06/01/94	Records/files NACC RO; GREPECAS reports	Need to produce the chart.	State	TBD	U	Transferred to the AIS/MAP/SG for future action. A project ICAO/IPGH is planned.	NACC/AIS/MAP/SG	Lack of action plan.
AIS	101 C	Doc. 8733 Basic ANP, Part VIII, Paras. 9 to 12	Honduras	Lack of highest priority for printing of AIS publications.	18/09/96	Records/files NACC RO; GREPECAS reports	Need to provide a higher priority for the printing of AIS publications	State	TBD	U	Transferred to the AIS/MAP/SG for future action.	NACC/AIS/MAP/SG	Lack of action plan.
AIS Jamaica													
AIS	14 C	Annex 15, Chap. 4, Para. 4.2.9; Doc. 8733, Basic ANP, Part VIII, Paras 36 to 37	Jamaica	Lack of regular and effective updating of the AIP Document	24/10/00	GREPECAS AIS/MAP Subgroup	Need to keep updated the information/data contained in the AIP	State	TBD	U	Transferred to the AIS/MAP/SG for future action.	NACC/IATA	Lack of action plan.
AIS	25 C	Annex 15, Chapter 3, Paras. 3.1.5 and 3.1.6; Chapter 5, Paras. 5.1.1.1 and Sec. 5.3	Jamaica	Timely distribution of the information through NOTAM	25/10/00	GREPECAS AIS/MAP Subgroup	Need to disseminate on time all operational information through NOTAM	State	TBD	U	Transferred to the AIS/MAP/SG for future action.	NACC/AIS/MAP/SG	Lack of action plan.

SPECIFIC DEFICIENCIES

REPORTING FORM ON AIR NAVIGATION DEFICIENCIES IN THE AIS FIELD IN THE CAR REGION

Identification				Deficiencies			Corrective Action			ASB Action			
Requirements			States/facilities	Description	Date first reported	Remarks	Description	Executing body	Comp. date	P	ASB remedial action	Executing body	Results
AIS	39 C	Annex 15, Para. 3.6.4; Annex 4, Para. 2.18; Doc. 8733, Basic ANP, Part VIII, Paras 50 to 58, FASID Table AIS 5	Jamaica	Lack of implementation of the WGS-84	01/01/98	GREPECAS AIS/MAP Subgroup Survey to States	Need to implement the WGS-84 Geodetic System	State	30/11/06	U	C/CAR AIS/MAP Task Force is developing an implementation plan for FIR boundaries	GEN NACC	Lack of action plan.
AIS		**Mexico**											
AIS	26 C	Annex 15, Chapter 3, Paras. 3.1.5 and 3.1.6; Chapter 5, Paras. 5.1.1.1 and Sec. 5.3	Mexico	Timely distribution of the information through NOTAM	25/10/00	GREPECAS AIS/MAP Subgroup	Need to disseminate on time all operational information through NOTAM	State	TBD	U	Transferred to the AIS/MAP/SG for future action.	NACC/AIS/MAP/SG	Lack of action plan.
AIS	311 C	Annex 15, Chapter 4, Paras. 4.2.8 and 4.3.4., Chapter 6; Doc 8733 Basic ANP Part VIII, Paras. 45 to 49	Mexico	Lack of effective compliance with the AIRAC system requirement	06/06/04	Records/files NACC RO	Need for an efficient application of AIRAC requirements.	State	TBD	U	Transferred to the AIS/MAP/SG for future actions.	NACC/AIS/MAP/SG/IATA	Lack of action plan.
AIS	40 C	Annex 15, Para. 3.6.4; Annex 4, Para. 2.18; Doc. 8733, Basic ANP, Part VIII, Paras 50 to 58, FASID Table AIS 5	Mexico	Lack of implementation of the WGS-84	01/01/98	GREPECAS AIS/MAP Subgroup Survey to States	Need to implement the WGS-84 Geodetic System	State	TBD	U	Activities were carried out under RLA/98/003 Project and other States.	GEN NACC	Falta de plan de acción.
AIS		**Netherlands Antilles/Antillas Neerlandesas**											
AIS	41 C	Annex 15, Para. 3.6.4; Annex 4, Para. 2.18; Doc. 8733, Basic ANP, Part VIII, Paras 50 to 58, FASID Table AIS 5	Netherlands Antilles	Lack of implementation of the WGS-84	01/01/98	GREPECAS AIS/MAP Subgroup Survey to States	Need to implement the WGS-84 Geodetic System	State	30/11/04	U	C/CAR AIS/MAP Task Force is developing an implementation plan for FIR boundaries.	GEN NACC	Lack of action plan.
AIS		**Turks and Caicos/Islas Turcas y Caicos**											
AIS	28 C	Annex 15, Chapter 3, Paras. 3.1.5 and 3.1.6; Chapter 5, Paras. 5.1.1.1 and Sec. 5.3	Turks and Caicos Islands	Timely distribution of the information through NOTAM	25/10/00	GREPECAS AIS/MAP Subgroup	Need to disseminate on time all operational information through NOTAM	State	TBD	U	Transferred to the AIS/MAP/SG for future actions.	NACC/AIS/MAP/SG	Lack of action plan.

SPECIFIC DEFICIENCIES

REPORTING FORM ON AIR NAVIGATION DEFICIENCIES IN THE ATM FIELD IN THE CAR REGION

Identification			Deficiencies			Corrective Action			ASB Action			
Requirements	States/facilities		Description	Date first reported	Remarks	Description	Executing body	Comp. date	P	ASB remedial action	Executing body	Results
ATM Anguilla												
ATM 34 C	Use of the aeronautical phraseology	Anguilla	In general, the use of aeronautical phraseology in English does not meet the required levels and it is a relevant factor with regard to ATS incidents.	Sept./2000	ATS/SG/9	Continuous training and supervision in the use of aeronautical phraseology is required.	CAA OECS	2003	U	SIPs for Central America in 2003 and for Caribbean ongoing	NACC	
ATM Bahamas												
ATM 18 C	Use of the aeronautical phraseology	Bahamas	In general, the use of aeronautical phraseology in English does not meet the required levels and it is a relevant factor with regard to ATS incidents.	Sept./2000	ATS/SG/9, RO ATM/SAR mission in April 2005.	Continuous training and supervision in the use of aeronautical phraseology is required, in accordance with what is stated in Doc 4444 PANS-ATM. Bahamas is implementing the ICAO SARPs.	CAA Bahamas	2006	U	SIPs for Central America in 2003 and for Caribbean ongoing	NACC	
ATM Belize/Belice												
ATM 4 C	Provision of air traffic control service CAR/SAM/3 Rec. 5/33	Belize	Some segments of ATS routes of the FIR do not count yet with ATS at the required levels.	Sept./94	GREPECAS/4, Report IATA Conc. 4/10, Appendix 5	Provide ATS and improve VHF COM in the area in question.	CAA Belize	2003	U	IATA will carry out a survey on this deficiency	NACC	
ATM 20 C	Use of the aeronautical phraseology	Belize	In general, the use of aeronautical phraseology in English does not meet the required levels and it is a relevant factor with regard to ATS incidents.	Sept./2000	ATS/SG/9	Continuous training and supervision in the use of aeronautical phraseology is required.	CAA Belize	2003	U	SIPs for Central America in 2003 and for Caribbean ongoing	NACC	
ATM British Virgin Islands/Islas Vírgenes Británicas												
ATM 42 C	Use of the aeronautical phraseology	British Virgin Islands	In general, the use of aeronautical phraseology in English does not meet the required levels and it is a relevant factor with regard to ATS incidents.	Sept./2000	ATS/SG/9	Continuous training and supervision in the use of aeronautical phraseology is required.	CAA UK	2003	U	SIPs for Central America in 2003 and for Caribbean ongoing	NACC	
ATM Dominica												
ATM 40 C	Use of the aeronautical phraseology	Dominica	In general, the use of aeronautical phraseology in English does not meet the required levels and it is a relevant factor with regard to ATS incidents.	Sept./2000	ATS/SG/9	Continuous training and supervision in the use of aeronautical phraseology is required.	ECCAA	2003	U	SIPs for Central America in 2003 and for Caribbean ongoing	NACC	

SPECIFIC DEFICIENCIES

REPORTING FORM ON AIR NAVIGATION DEFICIENCIES IN THE ATM FIELD IN THE CAR REGION

Identification			Deficiencies			Corrective Action			ASB Action			
Requirements		States/facilities	Description	Date first reported	Remarks	Description	Executing body	Comp. date	P	ASB remedial action	Executing body	Results
ATM El Salvador												
ATM	8 C	English proficiency in Air Traffic Services CAR/SAM/3 Rec. 5/35	El Salvador	The proficiency in the English language of some ATC units is below the desired level and could be a contributing factor for the ocurrence of incidents and/or aeronautical accidents.	Oct. 95	GREPECAS/5. Collaborative actions have been taken with other states for the recurrent training in the English language of air traffic controllers.	a) After the effective date of Amendment to Annex 1, which establishes that the English level required for ATC personnel, the States/Territories/International Organizations, should evaluate the personnel of their ATC units and further provide information regarding the deviation level required in the box "Remarks" b) In order to reach and maintain the English language level required, the States/Territories/International Organizations shall establish a permanent and continuous training plan of ATC units, which contemplates the follow-up of the improvements of personnel of ATC units and shall implement in the same, the ATS quality assurance programme. c) The States/Territories/International Organizations shall demand the personnel who works in ATC units, the English language knowledge to be required by ICAO Annex 1.	CAA El Salvador	2008	U	SARPs effective 2008	NACC	
ATM	24 C	Use of the aeronautical phraseology	El Salvador	In general, the use of aeronautical phraseology in Spanish and/or English does not meet the required levels and it is a relevant factor with regard to ATS incidents.	Sept./2000	ATS/SG/9. Recurrent courses for the use of aeronautical phraseology for air traffic controllers have been implemented.	Continuous training and supervision in the use of aeronautical phraseology is required.	CAA El Salvador	2008	U	SIPs for Central America in 2003 and for Caribbean ongoing	NACC	

SPECIFIC DEFICIENCIES

REPORTING FORM ON AIR NAVIGATION DEFICIENCIES IN THE ATM FIELD IN THE CAR REGION

Identification			Deficiencies			Corrective Action			ASB Action			
Requirements		States/facilities	Description	Date first reported	Remarks	Description	Executing body	Comp. date	P	ASB remedial action	Executing body	Results
ATM Grenada/Granada												
ATM	25 C Use of the aeronautical phraseology	Grenada	In general, the use of aeronautical phraseology in English does not meet the required levels and it is a relevant factor with regard to ATS incidents.	Sept./2000	ATS/SG/9	Continuous training and supervision in the use of aeronautical phraseology is required.	CAA OECS	2003	U	SIPs for Central America in 2003 and for Caribbean ongoing	NACC	
ATM Guatemala												
ATM	9 C English proficiency in Air Traffic Services CAR/SAM/3 Rec. 5/35	Guatemala	The proficiency in the English language of some ATC units is below the desired level and could be a contributing factor for the ocurrence of incidents and/or aeronautical accidents.	Oct. 95	GREPECAS/5	a) In order to reach and maintain the English language level required, the States/Territories/International Organizations shall establish a permanent and continuous training plan of ATC units, which contemplates the follow-up of the improvements of personnel of ATC units and shall implement in the same, the ATS quality assurance programme. b) The States/Territories/International Organizations shall demand the personnel who works in ATC units, the English language knowledge required by ICAO Annex 1.	CAA Guatemala	2003	U	Referred to PAAST. Problem of such magnitude that PAAST could not assist	NACC	
ATM	26 C Use of the aeronautical phraseology	Guatemala	In general, the use of aeronautical phraseology in Spanish and/or English does not meet the required levels and it is a relevant factor with regard to ATS incidents.	Sept./2000	ATS/SG/9	Continuous training and supervision in the use of aeronautical phraseology is required.	CAA Guatemala	2003	U	SIPs for Central America in 2003 and for Caribbean ongoing	NACC	
ATM Honduras												
ATM	28 C Use of the aeronautical phraseology	Honduras	In general, the use of aeronautical phraseology in Spanish and/or English does not meet the required levels and it is a relevant factor with regard to ATS incidents.	Sept./2000	ATS/SG/9	Continuous training and supervision in the use of aeronautical phraseology is required.	CAA Honduras	2003	U	SIPs for Central America in 2003 and for Caribbean ongoing	NACC	

SPECIFIC DEFICIENCIES

REPORTING FORM ON AIR NAVIGATION DEFICIENCIES IN THE ATM FIELD IN THE CAR REGION

Identification			Deficiencies			Corrective Action			ASB Action			
Requirements		States/facilities	Description	Date first reported	Remarks	Description	Executing body	Comp. date	P	ASB remedial action	Executing body	Results
ATM Montserrat												
ATM	37 C Use of the aeronautical phraseology	Montserrat	In general, the use of aeronautical phraseology in English does not meet the required levels and it is a relevant factor with regard to ATS incidents.	Sept./2000	ATS/SG/9	Continuous training and supervision in the use of aeronautical phraseology is required.	CAA UK	2003	U	SIPs for Central America in 2003 and for Caribbean ongoing	NACC	
ATM Nicaragua												
ATM	12 C English proficiency in Air Traffic Services CAR/SAM/3 Rec. 5/35	Nicaragua	The proficiency in the English language of some ATC units is below the desired level and could be a contributing factor for the ocurrence of incidents and/or aeronautical accidents.	Oct. 95	GREPECAS/5	The INAC informed of a strategy solution that could be completed in 2008.	INAC Nicaragua	2008	U			
ATM	1 C Provision of air traffic control service CAR/SAM/3 Rec. 5/33	Nicaragua	Some segments of ATS routes of the FIR do not count yet with ATS at the required levels.	Sept./94	GREPECAS/4, Report IATA Conc. 4/10, Appendix 5	The INAC informed of a strategy solution that could be completed in 2008.	INAC Nicaragua	2008	U			
ATM	31 C Use of the aeronautical phraseology	Nicaragua	In general, the use of aeronautical phraseology in Spanish and/or English does not meet the required levels and it is a relevant factor with regard to ATS incidents.	Sept./2000	ATS/SG/9	The INAC informed of a strategy solution that could be completed in 2008.	INAC Nicaragua	2008	U			
ATM Saint Kitts and Nevis/San Kitts y Nevis												
ATM	41 C Use of the aeronautical phraseology	Saint Kitts and Nevis	In general, the use of aeronautical phraseology in English does not meet the required levels and it is a relevant factor with regard to ATS incidents.	Sept./2000	ATS/SG/9	Continuous training and supervision in the use of aeronautical phraseology is required.	CAA Saint Kitts	2003	U	SIPs for Central America in 2003 and for Caribbean ongoing	NACC	
ATM Saint Lucia/Santa Lucía												
ATM	32 C Use of the aeronautical phraseology	Saint Lucia	In general, the use of aeronautical phraseology in English does not meet the required levels and it is a relevant factor with regard to ATS incidents.	Sept./2000	ATS/SG/9	Continuous training and supervision in the use of aeronautical phraseology is required.	CAA OECS	2003	U	SIPs for Central America in 2003 and for Caribbean ongoing	NACC	
ATM Trinidad and Tobago/Trinidad y Tabago												
ATM	33 C Use of the aeronautical phraseology	Trinidad and Tobago	In general, the use of aeronautical phraseology in English does not meet the required levels and it is a relevant factor with regard to ATS incidents.	Sept./2000	ATS/SG/9. Since 2004 a continuing training process for air traffic controllers has been implemented.	Continuous training and supervision in the use of aeronautical phraseology is required.	CAA Trinidad and Tobago	2003	U	SIPs for Central America in 2003 and for Caribbean ongoing	NACC	

SPECIFIC DEFICIENCIES

REPORTING FORM ON AIR NAVIGATION DEFICIENCIES IN THE ATM FIELD IN THE CAR REGION

Identification			Deficiencies			Corrective Action			ASB Action			
Requirements	States/facilities	Description	Date first reported	Remarks	Description	Executing body	Comp. date	P	ASB remedial action	Executing body	Results
ATM Turks and Caicos/Islas Turcas y Caicos											
ATM 39 C Use of the aeronautical phraseology	Turks and Caicos	In general, the use of aeronautical phraseology in English does not meet the required levels and it is a relevant factor with regard to ATS incidents.	Sept./2000	ATS/SG/9	Continuous training and supervision in the use of aeronautical phraseology is required.	CAA Turks and Caicos	2003	U	SIPs for Central America in 2003 and for Caribbean ongoing	NACC	

SPECIFIC DEFICIENCIES

REPORTING FORM ON AIR NAVIGATION DEFICIENCIES IN THE ATM FIELD IN THE SAM REGION

Identification			Deficiencies			Corrective Action			ASB Action			
Requirements	States/facilities	Description	Date first reported	Remarks	Description	Executing body	Comp. date	P	ASB remedial action	Executing body	Results
ATM Argentina												
ATM 1 S English proficiency in Air Traffic Services, CAR/SAM/3 Rec. 5/35	Argentina	The proficiency in the English language of some ATC units could be a contributory factor for the occurrence of incidents and/or aeronautical accidents (Annex 1).	Oct/1995	GREPECAS/5	(FAX N° 286/02 – Departamento OACI – 30 octubre 2002) A continuous English language training plan has been implemented for ATCOs. The following issues have been adopted: 1) Incorporate personnel with a good level of colloquial English. 2) Incorporation of a CTA course, one-month colloquial intensive English in a language center. 3) Implementation of a training, improvement of the English language for ATCOs (PCP IIC). The administration has carried out an evaluation of English language proficiency to ATC personnel. The level does not meet the minimum ICAO requirements as established in Annex 1. As of year 2004, personnel will be provided with ATC simulation courses and English courses in recognised national institutes or abroad.	CRA Argentina	2007	U	SARPs effective 2008	SAM	
ATM Ecuador												
ATM 5 S English proficiency in Air Traffic Services, CAR/SAM/3 Rec. 5/35	Ecuador	The proficiency in the English language of some ATC units is below the desired level and could be a contributory factor for the occurrence of incidents and/or aeronautical accidents. (Annex 1).	Oct/1995	GREPECAS/5	1) Incorporate personnel with a good level of colloquial English. 2) Establish a training plan and recurrence of the English language. (Mission 2003: State is encouraged to continue with training plan).	CAD Ecuador	2007	U	SARPs effective 2008.	SAM	

SPECIFIC DEFICIENCIES

REPORTING FORM ON AIR NAVIGATION DEFICIENCIES IN THE MET FIELD IN THE CAR REGION

Identification			Deficiencies			Corrective Action			ASB Action			
Requirements	States/facilities		Description	Date first reported	Remarks	Description	Executing body	Comp. date	P	ASB remedial action	Executing body	Results
MET Haiti												
MET 2 C SIGMET information (Annex 3, Part I, Chapter 7, standard 7.1.1)	Haiti		Not all SIGMET messages are prepared based on the procedures established by ICAO.	22/05/96	a) Implement the COM/MET SIP recommendations for the CAR Region; and b) make use of the Guide for the preparation, dissemination and use of SIGMET messages in the CAR/SAM Regions.	Ensure the correct elaboration of SIGMETs and their dissemination in accordance with the requirements of Table MET 2A.	State	04/03	U	ICAO SIP Project. Ongoing	NACC	SIP Meeting in 4th quarter. Then need to verify
MET Honduras												
MET 84 C Communications (Annex 3, Chap. 11, Standards 11.1.1, 11.1.2, 11.1.4)	Honduras		These requirements are not being complied.	29/09/05			DGCA		U			
MET 80 C Establishment of aerodromes meteorological offices (Annex 3, Chapter 3, Standard 3.3.1) and Table MET 1A of CAR/SAM FASID.	Honduras		Toncontín aerodrome (HHTG) does not have a meteorological office.	29/09/05			DGCA		U			
MET 85 C Exchange of special airreports (Annex 3, Chap. 5, Standard 5.9)	Honduras / ATS Units		ATS units do not document special AIREP to MET units.	29/09/05	Develop an ATS/MET letter of agreement and make a follow-up in order to comply with that established on it.		DGCA		U			
MET 83 C Flight documentation (Annex 3, Chap 9, Standard 9.3.4)	Honduras		No flight documentation is being prepared.	29/09/05			DGCA		U			
MET Jamaica												
MET 4 C SIGMET information (Annex 3, Part I, Chapter 7, standard 7.1.1)	Jamaica		Not all SIGMET messages are prepared based on the procedures established by ICAO	22/05/96	a) Implement the COM/MET SIP recommendations for the CAR Region; and b) make use of the Guide for the preparation, dissemination and use of SIGMET messages in the CAR/SAM Regions	Ensure the correct elaboration of SIGMETs and their dissemination in accordance with the requirements of Table MET 2A.	State	04/03	U	ICAO SIP Project. Ongoing	NACC	SIP Meeting in 4th quarter. Then need to verify

SPECIFIC DEFICIENCIES

REPORTING FORM ON AIR NAVIGATION DEFICIENCIES IN THE MET FIELD IN THE CAR REGION

Identification			Deficiencies			Corrective Action			ASB Action			
Requirements		States/facilities	Description	Date first reported	Remarks	Description	Executing body	Comp. date	P	ASB remedial action	Executing body	Results
MET Netherlands Antilles/Antillas Neerlandesas												
MET	5 C SIGMET information (Annex 3, Part I, Chapter 7, standard 7.1.1)	Netherlands Antilles	Not all SIGMET messages are prepared based on the procedures established by ICAO.	22/05/96	a) Implement the COM/MET SIP recommendations for the CAR Region; and b) make use of the Guide for the preparation, dissemination and use of SIGMET messages in the CAR/SAM Regions.	Ensure the correct elaboration of SIGMETs and their dissemination in accordance with the requirements of Table MET 2A.	State	04/03	U	ICAO SIP Project. Ongoing	NACC	SIP Meeting in 4th quarter. Then need to verify

SPECIFIC DEFICIENCIES

REPORTING FORM ON AIR NAVIGATION DEFICIENCIES IN THE ATM FIELD IN THE SAM REGION

Identification			Deficiencies			Corrective Action			ASB Action			
Requirements	States/facilities	Description	Date first reported	Remarks	Description	Executing body	Comp. date	P	ASB remedial action	Executing body	Results
ATM Argentina												
ATM 1 S English proficiency in Air Traffic Services, CAR/SAM/3 Rec. 5/35	Argentina	The proficiency in the English language of some ATC units could be a contributory factor for the occurrence of incidents and/or aeronautical accidents (Annex 1).	Oct/1995	GREPECAS/5	(FAX N° 286/02 – Departamento OACI – 30 octubre 2002) A continuous English language training plan has been implemented for ATCOs. The following issues have been adopted: 1) Incorporate personnel with a good level of colloquial English. 2) Incorporation of a CTA course, one-month colloquial intensive English in a language center. 3) Implementation of a training, improvement of the English language for ATCOs (PCP IIC). The administration has carried out an evaluation of English language proficiency to ATC personnel. The level does not meet the minimum ICAO requirements as established in Annex 1. As of year 2004, personnel will be provided with ATC simulation courses and English courses in recognised national institutes or abroad.	CRA Argentina	2007	U	SARPs effective 2008	SAM	
ATM Ecuador												
ATM 5 S English proficiency in Air Traffic Services, CAR/SAM/3 Rec. 5/35	Ecuador	The proficiency in the English language of some ATC units is below the desired level and could be a contributory factor for the occurrence of incidents and/or aeronautical accidents. (Annex 1).	Oct/1995	GREPECAS/5	1) Incorporate personnel with a good level of colloquial English. 2) Establish a training plan and recurrence of the English language. (Mission 2003: State is encouraged to continue with training plan).	CAD Ecuador	2007	U	SARPs effective 2008.	SAM	

DEFICIENCIES UPON WHICH ASB FOUND REQUIREMENT FOR REGION-WIDE ACTION

REPORTING FORM ON AIR NAVIGATION DEFICIENCIES IN THE AGA FIELD IN THE CAR/SAM REGION

Identification			Deficiencies			Corrective Action			ASB Action			
Requirements		States/facilities	Description	Date first reported	Remarks	Description	Executing body	Comp. date	P	ASB remedial action	Executing body	Results
AGA CAR/SAM												
AGA	139 S Airfield maintenance (Annex 14, Vol. I, Ch. 9.4)	This problem exists in both CAR and SAM Regions.	Deficiencies in pavements, lights, markings, signs, secondary power supply and fencing.	2001	ASB/2 Meeting	Establishment and implementation of airfield maintenance programmes "ACTION PLAN" 1. AGA/AOP/SG established a Task Force on Pavements. 2. ICAO held a seminar on Pavement Maintenance and a Short Course on the ACFT/PAV. Interaction in July 2002. 3. Latin America and Caribbean Association of Airfield Pavement was created in July 2002 during the seminar/short course held in Santa Cruz de la Sierra, Bolivia. 4. ICAO held a seminar on Pavement Management Systems & a Short Course on the PCI Method in November 2003. 5. Seminar on Pavement Design & a Short Course on Managing the Annex 14 is planned for 2004. 6. SIP (Seminar/Workshop/Short Course - NOV 07) - GREPECAS CONCLUSION 13/90	States	2007	U	1. AGA/AOP/SG established a Task Force on Pavements. 2. ICAO held a seminar on Pavement Maintenance and a Short Course on the ACFT/PAV. Interaction in July 2002 3. Latin America and Caribbean Association of Airfield Pavement was created in July 2002 during the seminar/short course held in Santa Cruz de la Sierra, Bolivia. 4. ICAO held a seminar on Pavement Management Systems & a Short Course on the PCI Method in November 2003. 5. Seminar on Pavement Design & a Short Course on Managing the Annex 14 is planned for 2004.	ICAO	No results

DEFICIENCIES UPON WHICH ASB FOUND REQUIREMENT FOR REGION-WIDE ACTION

REPORTING FORM ON AIR NAVIGATION DEFICIENCIES IN THE AIS FIELD IN THE CAR/SAM REGION

Identification				Deficiencies			Corrective Action			ASB Action			
Requirements			States/facilities	Description	Date first reported	Remarks	Description	Executing body	Comp. date	P	ASB remedial action	Executing body	Results
AIS CAR/SAM													
AIS	309 C	Complete WGS-84 implementation	This problem exists in the CAR/SAM Regions	Lack of completion o the WGS-84 system implementation	1998	GREPECAS AIS/MAP/SG	Need to implement the WGS-84 Geodetic System	States	TBD	U	The AIS/MAP/SG Meeting should analyze the situation in order to implement the WGS-84 Geodetic System. ICAO to undertake a survey of States to update implementation status.	ICAO	Circular Letter requesting urgent correction

CORRECTED DEFICIENCIES

REPORTING FORM ON AIR NAVIGATION DEFICIENCIES IN THE AGA FIELD IN THE CAR REGION

Identification			Deficiencies			Corrective Action			ASB Action			
Requirements		States/facilities	Description	Date first reported	Remarks	Description	Executing body	Comp. date	P	ASB remedial action	Executing body	Results
AGA Antigua and Barbuda/Antigua y Barbuda												
AGA 100 C	Visual Aids (Annex 14, Vol. I, Chap. 5, 5.2.3, 5.2.3.1, 5.2.7 & 5.2.7.1)	Antigua and Barbuda, ST. JOHNS, V. C. Bird Intl	Runway centreline and side strip markings are faded	07/2001	ICAO Visit July 2001	Corrected	Antigua and Barbuda	2002	U			
AGA 95 C	Visual Aids (Annex 14, Vol. I, Chap. 5, 5.2.8 & 5.2.8.1)	Antigua and Barbuda, ST. JOHNS, V. C. Bird Intl	Taxiway centreline markings to guide aircraft turning around at runway ends are not provided	07/2001	ICAO Visit July 2001	Corrected	Antigua and Barbuda	2002	U			
AGA Aruba												
AGA 304 C	Pavement Surface Conditions (Annex 14, Vol. I, Chap. 9.4 - Rec. 9.4.3, 4, 5, 7 & 10)	Aruba, ORANJESTAD, Reina Beatrix Int'l	The runway pavement surface has irregularities (some cracking), FOD and rubber accumulation. Concrete section of western runway end in particularly poor condition due to pavement failure.	01/2003	ICAO Visit January 2003	Corrected	Aruba Airport Authority	2003	U			
AGA Bahamas												
AGA 72 C	Pavement Surface Conditions (Annex 14, Vol. I, Chap. 10, 10.2, & 10.2.1)	Bahamas, FREEPORT, Grand Bahama Intl	Runway and apron pavement is deficient in strength and surface irregularities - Ref Annex 14, Vol. I Sections 9.4.3 & 4	10/2000	ICAO Visit October 2000	Corrected	Bahamas	2002	U			
AGA 32 C	Radio Aids (ANP, Table AOP 1)	Bahamas, NASSAU, Nassau Intl	VOR regularly out of service	2002	ICAO Visit October 2000 IATA Report September 2000 IFALPA Meeting November 2000	Corrected	Bahamas	2002	U			
AGA 65 C	Rescue and Fire Fighting Service and Airport Emergency Planning (Annex 14, Vol. I, Chap. 9.1 & 9.2)	Bahamas, FREEPORT, Grand Bahama Intl	Insufficient RFFS personnel is provided - Ref Annex 14 Vol. I Sections 9.2.32 & 33	10/2000	ICAO Visit October 2000	Corrected	Bahamas	2002	U			
AGA 21 C	Runway End Safety Area (Annex 14, Vol. I, Chap. 3, 3.5 & 3.5.1)	Bahamas, FREEPORT, Grand Bahama Intl	Northeast RESA width does not comply with Annex 14 Vol I Section 3.4.4	10/2000	ICAO Visit October 2000	Corrected	Bahamas	May 2003	U			
AGA 9 C	Runway Strip (Annex 14, Vol. I, Chap. 3.4, 3.4.1 & 3.4.3)	Bahamas, FREEPORT, Grand Bahama Intl	Runway strip width at northeast runway end does not comply with Annex 14, Vol. I Section 3.3.3	10/2000	ICAO Visit October 2000	Corrected	Bahamas	May 2003	U			
AGA 35 C	Visual Aids (Annex 14, Vol. I, Chap. 5, 5.2.2, 5.2.3.4, 5.2.3.5, 5.2.3.6, 5.2.3.7 and ANP, Table AOP 1)	Bahamas, FREEPORT, Grand Bahama Intl	Deficient RWY markings	10/2000	ICAO Visit October 2000	Corrected	Bahamas	2002	U			

CORRECTED DEFICIENCIES

REPORTING FORM ON AIR NAVIGATION DEFICIENCIES IN THE AGA FIELD IN THE CAR REGION

Identification				Deficiencies			Corrective Action			ASB Action			
Requirements			States/facilities	Description	Date first reported	Remarks	Description	Executing body	Comp. date	P	ASB remedial action	Executing body	Results
AGA	37 C	Visual Aids (Annex 14, Vol. I, Chap. 5, 5.3.4.10 and ANP, Table AOP 1)	Bahamas, NASSAU, Nassau Intl.	All approach lighting systems not serviceable	1996	ICAO Visit October 2000 IFALPA Meeting November 2000	Corrected	Bahamas	2002	U			
AGA	38 C	Visual Aids (Annex 14, Vol. I, Chap. 5, 5.3.5.23 and ANP, Table AOP 1)	Bahamas, NASSAU, Nassau Intl.	All PAPIs except RWY 14 unserviceable	1996	ICAO Visit October 2000 IFALPA Meeting November 2000	Corrected	Bahamas	2002	U			
AGA Barbados													
AGA	165 C	Visual Aids (Annex 14, Vol. I, Chap. 5, 5.2.3, 5.2.6 - 10.4.2)	Barbados, BRIDGETOWN, Grantley Adams Intl	Runway centreline markings are faded in the Runway 09 touchdown zone	12/2001	ICAO Visit December 2001	Corrected	Barbados	2003	U			
AGA CAR/SAM													
AGA	89 C	Airfield maintenance (Annex 14, Vol. I, Chap.10, 10.11)	This problem exists in both CAR and SAM Regions.	Deficiencies in pavements, lights, markings, signs, secondary power supply and fencing.	2001	ASB/2 Meeting	Establishment and implementation of airfield maintenance programmes Corrected	States	2005	U	1. AGA/AOP/SG established a Task Force on Pavements. 2. ICAO held a seminar and course on pavements in 2002 and another is planned in 2003. 3. Latin America and Caribbean Association of Airfield Pavement being established.		
AGA	88 C	Bird Strike Hazard (Annex 14, Vol. I Chap. 9.4, 9.4.1)	This problem exists in both CAR and SAM Regions.	Increased bird activity at the aerodrome and surrounding areas.	2000	ASB/1 Meeting	Establishment of National and Airport Bird Hazard Committees. Corrected. Use SAM version.	States	2005	U	1. AGA/AOP/SG established a Task Force on Bird Hazards. 2. ICAO held a seminar in 2001. 3. CAR/SAM Regional Bird Hazard Prevention Committee being esablished.		
AGA Cayman Islands/Islas Caimanes													
AGA	85 C	Bird Strike Hazards (Annex 14, Vol. I, Chap. 9.4, 9.4.1)	Cayman Islands, CAYMAN BRAC, Gerrard Smith Intl	Bird hazard exists	10/2000	ICAO Visit October 2000	Corrected	Cayman Islands	2002	U			
AGA	60 C	Fencing (Annex 14, Vol. I, Chap. 9.10, 9.10.2)	Cayman Islands, CAYMAN BRAC, Gerrard Smith Intl	Perimeter fencing incomplete - Ref. Annex 14 Vol. I Sections 8.4.1 & 2	10/2000	ICAO Visit October 2000	Corrected	Cayman Islands	2002	U			

CORRECTED DEFICIENCIES

REPORTING FORM ON AIR NAVIGATION DEFICIENCIES IN THE AGA FIELD IN THE CAR REGION

Identification				Deficiencies			Corrective Action			ASB Action			
Requirements			States/facilities	Description	Date first reported	Remarks	Description	Executing body	Comp. date	P	ASB remedial action	Executing body	Results
AGA	74 C	Pavement Surface Conditions (Annex 14, Vol. I, Chap. 10, 10.2 & 10.2.1)	Cayman Islands, CAYMAN BRAC, Gerrard Smith Intl	Runway, pavement surface deficient - Ref. Annex 14 Vol. I Section 9.4	10/2000	ICAO Visit October 2000	Corrected	Cayman Islands	2002	U			
AGA	41 C	Visual Aids (Annex 14, Vol. I, Chap. 5, 5.2.1 and ANP, Table AOP 1)	Cayman Islands, CAYMAN BRAC, Gerrard Smith Intl	Runway markings faded - Ref. Annex 14 Vol. I Section 5.2.2 - 4	10/2000	ICAO Visit October 2000	Corrected	Cayman Islands	2002	U			
AGA Costa Rica													
AGA	86 C	Bird Strike Hazards (Annex 14, Vol. I, Chap. 9.4, 9.4.1 & 9.4.4)	Costa Rica, ALAJUELA, Juan Santamaria Intl	Bird strikes reported, sanitary landfills located in the vicinity of airport	2000	ASB/4 Review	Undertake bird hazard assessment to identify mitigation measures	Costa Rica	2002	U			
AGA	227 C	Obstacles (Annex 14, Vol. I , Chap. 4, 4.2 - 4.2.27)	Costa Rica, ALAJUELA/ SAN JOSE, Intl Juan Santamaria	There are obstacles infringing the take off surface on Runway 07, this includes fencing and vehicles on the taxiway	03/2002	ICAO Visit March 2002	Corrected	Costa Rica	2003	U			
AGA	76 C	Pavement Surface Conditions (Annex 14, Vol. I, Chap. 10, 10.2, 10.2.1)	Costa Rica, ALAJUELA, Juan Santamaria Intl	Excessive rubber deposit on runway surface resulting in poor friction characteristics - Ref. Annex 14, Vol. I, Section 9.4.10	2000	IATA Report December 2000	Remove rubber from runway surface	Costa Rica	2002	U			
AGA	225 C	Runway End Safety Area (Annex 14, Vol. I, Chap. 3.5 - 3.5.1)	Costa Rica, ALAJUELA/ SAN JOSE, Intl Juan Santamaria	The runway has no runway end safety areas on both sides	03/2002	ICAO Visit March 2002	Corrected	Costa Rica	2003	U			
AGA Dominican Republic/República Dominicana													
AGA	66 C	Rescue and Fire Fighting Service and Airport Emergency Planning (Annex 14, Vol. I, Chap. 9.1 & 9.2)	Dominican Republic, SANTO DOMINGO, Las Americas Intl	RFFS deficient and AEP out of date	05/2000	ICAO Visit May 2000	Corrected	Dominican Republic	2003	U			
AGA Haiti													
AGA	51 C	Visual Aids (Annex 14, Vol. I, Chap. 5, 5.2.1 and ANP, Table AOP 1)	Haiti, CAP HAITIEN, Cap Haitien Intl	Runway markings non-standard and faded	2000	ICAO Visit June 2000	Corrected	Haiti	2002	U			
AGA Jamaica													
AGA	275 C	Fencing (Annex 14, Vol. I, Chap. 9.10)	Jamaica, Montego Bay, Sangster Int'l.	Inadequate perimeter barrier at west runway end	06/2003	ICAO visit October 2000, IATA visit November 2002	Upgrade perimeter barrier. Corrected.	Jamaica	2005	U	State letter to be sent		

CORRECTED DEFICIENCIES

REPORTING FORM ON AIR NAVIGATION DEFICIENCIES IN THE AGA FIELD IN THE CAR REGION

Identification				Deficiencies			Corrective Action			ASB Action			
Requirements			States/facilities	Description	Date first reported	Remarks	Description	Executing body	Comp. date	P	ASB remedial action	Executing body	Results
AGA	83 C	Pavement Surface Conditions (Annex 14, Vol. I, Chap. 10, 10.2, 10.2.1)	Jamaica, MONTEGO BAY, Sangster Intl	Runway and older taxiway pavements have failed resulting in severe deficiencies in the pavement surface condition - Ref Annex 14, Vol. I Section 9.4.3	10/2000	IATA Visit Nov 2002	Corrected	Jamaica	2002	U			
AGA Mexico													
AGA	359 C	Pavement Surface Conditions (Annex 14, Vol. I, Chap. 10 - Rec. 10.2 & 10.2.1)	México, MÉXICO, Lic.Benito Juárez International Airport	A significant rubber accumulation was observed on the runways. Reduced braking has been reported during wet runway conditions	April 2003	ICAO Visit - April 2003	Corrected	AICM (Mexico)	2003	U			
AGA	153 C	Runway end safety area (Annex 14, Vol.I, Chap. 3.5 - 3.5.1, 6 and 7)	Mexico, GUADALAJARA, Don Miguel Hidalgo y Costilla International	The runway end safety areas on both ends of runway 02/20 have vegetation and are not graded.	09/2001	ICAO Visit September 2001	To remove vegetation and to grade runway end safety areas	Mexico	Corrected	U			
AGA Netherlands Antilles/Antillas Neerlandesas													
AGA	273 C	Rescue and Fire Fighting (Annex 14, Vol. I, Chap. 9.2 - 9.2.36)	Netherlands Antilles, SINT MAARTEN/ PHILIPSBURG, Princess Juliana Int'l	Insufficient RFFS personnel are available to respond to an emergency	02/2002	ICAO Visit February 2002	Corrected	PJIAE (Netherlands Antilles)	2002	U			
AGA	274 C	Visual Aids (Annex 14, Vol. I, Chap. 5 - 5.2, 5.2.1)	Netherlands Antilles, SINT MAARTEN/ PHILIPSBURG, Princess Juliana Int'l	Runway centreline and edge markings are fading	02/2002	ICAO Visit February 2002	Corrected	PJIAE (Netherlands Antilles)	2002	U			
AGA	265 C	Visual Aids (Annex 14, Vol. I, Chap. 5 - 5.2.4.7)	Netherlands Antilles, SINT MAARTEN/ PHILIPSBURG, Princess Juliana Int'l	A displaced threshold transverse stripe marking is not provided on Runway 09	02/2002	ICAO Visit February 2002	Corrected	PJIAE (Netherlands Antilles)	2002	U			
AGA	266 C	Visual Aids (Annex 14, Vol. I, Chap. 5 - 5.2.8.1 & 3)	Netherlands Antilles, SINT MAARTEN/ PHILIPSBURG, Princess Juliana Int'l	Taxiway centreline marking at Runway 09 – Taxiway A intersection is not provided	02/2002	ICAO Visit February 2002	Corrected	PJIAE (Netherlands Antilles)	2002	U			
AGA	252 C	Visual Aids (Annex 14, Vol. I, Chap. 5)	Netherlands Antilles, CURACAO/ WILLEMSTAD, Hato Int'l	Runway markings are fading	02/2002	ICAO Visit February 2002	Corrected	Netherlands Antilles	2002	U			
AGA	262 C	Visual Aids (Annex 14, Vol. I, Chap. 5, 5.2.10, 5.2.10.2, 5.2.10.3, & 5.2.10.4)	Netherlands Antilles, SINT MAARTEN/ PHILIPSBURG, Princess Juliana Int'l	The runway holding positions are too close to the runway, particularly on Taxiway B	02/2002	ICAO Visit February 2002	Corrected	PJIAE (Netherlands Antilles)	2002	U			

CORRECTED DEFICIENCIES

REPORTING FORM ON AIR NAVIGATION DEFICIENCIES IN THE AGA FIELD IN THE CAR REGION

Identification			Deficiencies			Corrective Action			ASB Action			
Requirements		States/facilities	Description	Date first reported	Remarks	Description	Executing body	Comp. date	P	ASB remedial action	Executing body	Results
AGA 272 C	Visual Aids (Annex 14, Vol. I, Chap. 5, 5.2.4 - 5.2.4.7)	Netherlands Antilles, SINT MAARTEN/ PHILIPSBURG, Princess Juliana Int'l	Displaced threshold arrows are provided in the Runway 27 pre-threshold area	02/2002	ICAO Visit February 2002	Corrected	PJIAE (Netherlands Antilles)	2002	U			
AGA Saint Lucia/Santa Lucía												
AGA 106 C	Obstacles (Annex 14, Vol. I , Chap. 4, 4.2, 4.2.27)	Saint Lucia, CASTRIES, George F. L. Charles Intl	Obstacles infringing on the Runway 09 take off climb obstacle limitation surface include fencing, roads, street lighting, terrain, buildings and vegetation	07/2001	ICAO Visit July 2001	Corrected	SLASPA	2002	U			
AGA 117 C	Obstacles (Annex 14, Vol. I , Chap. 4,4.2, 4.2.12 & 27)	Saint Lucia, VIEUX FORT, Hewanorra Intl	Road and fence at east runway end are obstacles in the Runway 28 approach and transitional and Runway 10 take-off climb obstacle limitation surfaces	07/2001	ICAO Visit July 2001	Corrected	SLASPA	2002	U			
AGA 104 C	Runway End Safety Area (Annex 14, Vol. I, Chap. 3.5, 3.5.1)	Saint Lucia, CASTRIES, George F. L. Charles Intl	No runway end safety areas are provided at both runway ends	07/2001	ICAO Visit July 2001	Corrected	SLASPA	2002	U			
AGA 116 C	Runway End Safety Area (Annex 14, Vol. I, Chap. 3.5, 3.5.1)	Saint Lucia, VIEUX FORT, Hewanorra Intl	No runway end safety area is provided at east end	07/2001	ICAO Visit July 2001	Corrected	SLASPA	2002	U			
AGA 102 C	Runway Strip (Annex 14, Vol. I, Chap. 3.4 & 3.4.1)	Saint Lucia, CASTRIES, George F. L. Charles Intl	Runway strip length at east end is insufficient	07/2001	ICAO Visit July 2001	Corrected	SLASPA	2002	U			
AGA 114 C	Runway Strip (Annex 14, Vol. I, Chap. 3.4, 3.4.2)	Saint Lucia, VIEUX FORT, Hewanorra Intl	Runway strip length at east end insufficient	07/2001	ICAO Visit July 2001	Corrected	SLASPA	2002	U			
AGA 107 C	Visual Aids (Annex 14, Vol. I, Chap. 5, 5.2.10.1)	Saint Lucia, CASTRIES, George F. L. Charles Intl	Runway holding position marking is not provided on east taxiway and is not full width on west taxiway	07/2001	ICAO Visit July 2001	Corrected	SLASPA	2002	U			
AGA 119 C	Visual Aids (Annex 14, Vol. I, Chap. 5, 5.2.8.3)	Saint Lucia, VIEUX FORT, Hewanorra Intl	Taxiway centreline markings for aircraft turn-around at runway ends are not provided	07/2001	ICAO Visit July 2001	Corrected	SLASPA	06/2003	U			
AGA 121 C	Visual Aids (Annex 14, Vol. I, Chap. 7, 7.1.1)	Saint Lucia, VIEUX FORT, Hewanorra Intl	No closed runway and taxiway markings are provided	07/2001	ICAO Visit July 2001	Corrected	SLASPA	2002	U			
AGA Trinidad and Tobago/Trinidad y Tabago												
AGA 292 C	Visual Aids (Annex 14, Vol. I, Chap. 5 - Rec. 5.1.1.5)	Trinidad and Tobago. SCARBOROUGH, Crown Point Int'l	The wind direction indicator is not illuminated	05/2002	ICAO Visit May 2002	Corrected	Trinidad and Tobago	2003	U			

CORRECTED DEFICIENCIES

REPORTING FORM ON AIR NAVIGATION DEFICIENCIES IN THE AGA FIELD IN THE CAR REGION

Identification				Deficiencies			Corrective Action			ASB Action			
Requirements			States/facilities	Description	Date first reported	Remarks	Description	Executing body	Comp. date	P	ASB remedial action	Executing body	Results
AGA	56 C	Visual Aids (Annex 14, Vol. I, Chap. 5, 5.2.1 and ANP, Table AOP 1)	Trinidad and Tobago, PORT OF SPAIN, Piarco Intl	Runway markings faded and non-standard	03/2001	ICAO Visits March & December 2001	Corrected	Trinidad & Tobago	2003	U			
AGA	57 C	Visual Aids (Annex 14, Vol. I, Chap. 5, 5.3.10 and ANP, Table AOP 1)	Trinidad and Tobago, PORT OF SPAIN, Piarco Intl	No displaced runway 10 end and displaced runway 28 threshold lighting is provided	03/2001	ICAO Visits March & December 2001	Corrected	Trinidad & Tobago	2003	U			
AGA United States/Estados Unidos													
AGA	336 C	Pavement Surface Conditions (Annex 14, Vol. I, Chap. 10, 10.2, 10.2.3, 10.2.4, 10.2.5 Rec. 9.4.7)	United States, Puerto Rico, Luis Muñoz Marin International Airport	The runway 10/28 pavement surface has irregularities, FOD and rubber accumulation. Runway in particularly poor condition due to pavement failure	10/2003	ICAO Visit - October 2003	Corrected	United States	2005	U	State letter to be sent		
AGA	277 C	Pavement Surface Conditions (Annex 14, Vol. I, Chapter 10.2, 10.2.1, 10.2.2, 10.2.3 & 10.2.4)	United States, San Juan, Luis Muñoz Marin International	Runway 10/28, some taxiway and apron pavements are deficient	08/2003	ICAO observation - July 2003 & ICAO visit October 2003	Corrected	United States	2005	U	State letter to be sent		
AGA	338 C	Visual Aids (Annex 14, Chap. 5.2, 5.2.1.1)	United States, Puerto Rico, Luis Muñoz Marin International Airport	Runway centre line markings are deficient	10/2003	ICAO Visit - October 2003	Corrected	United States	2005	U	State letter to be sent		

CORRECTED DEFICIENCIES

REPORTING FORM ON AIR NAVIGATION DEFICIENCIES IN THE AGA FIELD IN THE SAM REGION

Identification				Deficiencies			Corrective Action			ASB Action			
Requirements			States/facilities	Description	Date first reported	Remarks	Description	Executing body	Comp. date	P	ASB remedial action	Executing body	Results
AGA Argentina													
AGA	219 S	FOD (Annex 14, Vol. I, Ch. 9.4.3, Attach. A, Sect. 8, Doc 9137-AN/898, Parts 8 and 9)	Argentina/BUENOS AYRES/Ezeiza/Min. Pistarini Int´l Airport	FOD at the apron surface, such as paper, plastic, metal, coarse aggregates, rope, etc. Joint slab deterioration	4-6 DEC 2002	Detected during mission conducted by ICAO Secretariat	Intensify daily inspections according to the ICAO SARPS. Use hot asphalt mixture to block the coarse aggregates(in process of deterioration) and/or inform the ICAO SAM Office when it will be done "PENDING ACTION PLAN" CORRECTED (AGA/AOP/SG/4, Mexico, 15-18 NOV 2004)	Argentina	2004	U	State Letter sent	ICAO	
AGA	18 S	Visual aids (Annex 14, Vol. I. Ch. 5)	Argentina, BUENOS AIRES/Ezeiza Aerodrome	No PAPI at RWY 17	1996	IFALPA CAR/SAM Meeting, 98REG049, Buenos Aires, 9/10 Dec. 1997	ACTION TAKEN: Deficiency eliminated. PAPI was installed during repavement works and extension of runway 17/35, verified and published CORRECTED	Argentina	2002	U	State letter sent	ICAO Regional Office	Corrected
AGA Bolivia													
AGA	33 S	Visual aids (Annex 14, Vol. I, Ch. 5 and Ch.6)	Bolivia, SANTA CRUZ/Viru Viru	RWY centerline marks are faded	Sep-2001	Detected during mission conducted by ICAO Secretariat Corrected in June 2002, fax NAV/AER/702/02 from Bolivia	Repaint RWY centerline marks. ACTION TAKEN: RWY centerline marks repainted. The painting is carried out at least once a year according to the SABSA´s maintenance program CORRECTED	Bolivia/SABSA	June 2002	U	State Letter sent		

CORRECTED DEFICIENCIES

REPORTING FORM ON AIR NAVIGATION DEFICIENCIES IN THE AGA FIELD IN THE CAR REGION

Identification			Deficiencies			Corrective Action			ASB Action			
Requirements		States/facilities	Description	Date first reported	Remarks	Description	Executing body	Comp. date	P	ASB remedial action	Executing body	Results
AGA CAR/SAM												
AGA 138 S	Bird Strike Hazard (Annex 14, Vol. I Ch. 9.5)	This problem exists in both CAR and SAM Regions.	Increased bird activity at the aerodrome and surrounding areas.	2000	ASB/1 Meeting	Establishment of National and Airport Bird Hazard Committees "PENDING ACTION PLAN" CORRECTED (Paragraph 4.1.13 - GREPECAS 13)	States	Permanent	U	1. AGA/AOP/SG established a Task Force on Bird Hazards. 2. ICAO held a seminar in 2001. 3. CAR/SAM Regional Bird Hazard Prevention Committee was established in October 2003. 4. ICAO held a workshop in Santiago, Chile, October 2003. 5. ICAO gives conitinuous advise to the Regional Committee.	ICAO	
AGA Colombia												
AGA 456 S	Annex 14, Vol. I, Ch. 3	COLOMBIA/AEROCIVIL/BOGOTA/El Dorado Int´l Airport	Depression 1 to 1.5 m deep over a former canal, at 60 m of the threshold of end 31R (RWY 13L/31R)	OCT 05	ICAO regular mission (28-30/SEP/2005, Recommended Action AGA/09 of its respective Report)	Eliminate depression CORRECTED (Doc 1010-P-1113.05, 19 Dec 05)	AEROCIVIL/BOGOTA/El Dorado Int´l Airport	DEC 05	U			
AGA 110 S	Apron surface conditions (Annex 14, Vol. I, Chap. 3)	Colombia, RIO NEGRO/José María Cordova	Badly contaminated apron surface	May-02	IFALPA Annex 19 Part 3 19-3-SAM-1	Clean apron surface.Correct the source of contamination "PENDING ACTION PLAN" ACTION TAKEN: Apron area was cleaned (Doc 2000-1057, 23 October 2003, UAEAC, Colombia) CORRECTED	Colombia	2002	U	State Letter sent		

CORRECTED DEFICIENCIES

REPORTING FORM ON AIR NAVIGATION DEFICIENCIES IN THE AGA FIELD IN THE SAM REGION

Identification				Deficiencies			Corrective Action			ASB Action			
Requirements			States/facilities	Description	Date first reported	Remarks	Description	Executing body	Comp. date	P	ASB remedial action	Executing body	Results
AGA	52 S	Obstacles (Annex 14, Vol. I, Chap. 4)	Colombia, SANTAFE DE BOGOTA/Eldorado Airport	There are trees at the approach zone of 13R end (South RWY)	July 2001	Detected during mission conducted by ICAO Secretariat	The trees should be cut "PENDING ACTION PLAN" ACTION TAKEN: The trees were cut - End 13R (Doc 2000-1057, 23 OCT 2003, UAEAC, Colombia) CORRECTED	Colombia	2002	U	State Letter sent		
AGA	55 S	Obstacles (Annex 14, Vol. I, Chap. 4)	Colombia, SANTAFE DE BOGOTA/Eldorado Airport	There are trees at the approach zone of 13R end (North RWY)	July 2001	Detected during mission conducted by ICAO Secretariat	The trees should be cut "PENDING ACTION PLAN" ACTION TAKEN: The trees were cut - Approach zone of END 13R (Doc 2000 - 1057, 23 OCT 2003, UAEAC, Colombia) CORRECTED	Colombia	2002	U	State Letter sent		
AGA	111 S	RWY surface conditions (Annex 14, Vol. I, Chap. 3)	Colombia, SAN ANDRES/Sesquicentenario	Uneven RWY surface with numerous large puddles after rainfall	May-02	IFALPA Annex 19 Part 3 19-3-SAM-1 Corrected in OCT 1998, fax 1003-054-03 from Colombia	Conduct functional & structural evaluation of the pavements and correct pavement surface. ACTION TAKEN: Problem solved. CORRECTED	Colombia	OCT 1998	U	State Letter sent		
AGA	22 S	RWY surface conditions (Annex 14, Vol. I. Chap. 3)	Colombia, SANTAFE DE BOGOTA/Eldorado Airport	Heavy rubber contamination at RWY 12 and 30	1996	IFALPA CAR/SAM Meeting, 98REG049, Buenos Aires, 9/10 Dec. 1997 Corrected in SEP 2002, fax 1003-052-03 from Colombia	ACTION TAKEN: Removed the rubber deposit CORRECTED	Colombia	SEP 2002	U	State Letter sent	ICAO Regional Office	
AGA	38 S	RWY surface conditions (Annex 14, Vol. I. Chap. 3)	Colombia, RIO NEGRO/Jose Maria Cordoba Airport	Rubber contamination at RWY 36	July 2001	Detected during mission conducted by ICAO Secretariat Corrected, fax letter 1003-054-03 from Colombia	Remove the rubber deposit at RWY 36. ACTION TAKEN: Work done in 2000 CORRECTED	Colombia	NOV 2000	U	State Letter sent		
AGA	98 S	Visual aids (Annex 14, Vol. I, Chap. 5)	Colombia, BARRANQUILLA/Ernesto Cortissoz Airport	PAPI lights RWY 22 unserviceable	May-02	IFALPA Annex 19 Part 3 19-3-SAM-1 Corrected on Jun 10/2002, fax 1003-052-03 from Colombia	Replace PAPI lights RWY 22. ACTION TAKEN: PAPI lights replaced. CORRECTED	Colombia	10 JUN 2002	U	State Letter sent		

CORRECTED DEFICIENCIES

REPORTING FORM ON AIR NAVIGATION DEFICIENCIES IN THE AGA FIELD IN THE SAM REGION

Identification				Deficiencies			Corrective Action			ASB Action			
Requirements			States/facilities	Description	Date first reported	Remarks	Description	Executing body	Comp. date	P	ASB remedial action	Executing body	Results
AGA	99 S	Visual aids (Annex 14, Vol. I, Chap. 5)	Colombia, BARRANQUILLA/Ernesto Cortissoz Airport	No lights for windsock	May-02	IFALPA Annex 19 Part 3 19-3-SAM-1 Planned for 2003, fax 1003-052-03 from Colombia	Provide lights for windsock "PENDING ACTION PLAN" ACTION TAKEN: Lights were installaled according to Annex 14, Vol. I (Doc 2000 - 1057, 23 OCT 2003, UAEAC, Colombia) CORRECTED	Colombia	2002	U	State Letter sent		
AGA	100 S	Visual aids (Annex 14, Vol. I, Chap. 5)	Colombia, CALI/Alfonso Bonilla Aragon	RWY 19 PAPI out of service	May-02	IFALPA Annex 19 Part 3 19-3-SAM-1 Corrected on 17 NOV 2002, fax 1003-052-03 from Colombia	Repair RWY 19 PAPI. ACTION TAKEN: PAPI repaired. CORRECTED	Colombia	17 NOV 200	U	State Letter sent		
AGA	101 S	Visual aids (Annex 14, Vol. I, Chap. 5)	Colombia, CALI/Alfonso Bonilla Aragon	RWY 01 PAPI out of service	May-02	IFALPA Annex 19 Part 3 19-3-SAM-1 Corrected on 17 NOV 2002, fax 1003-052-03 from Colombia	Repair RWY 19 PAPI. ACTION TAKEN: PAPI repaired. CORRECTED	Colombia	17 NOV 200	U	State Letter sent		
AGA	102 S	Visual aids (Annex 14, Vol. I, Chap. 5)	Colombia, CALI/Alfonso Bonilla Aragon	RWY and TWY markings need repainting	May-02	IFALPA Annex 19 Part 3 19-3-SAM-1	Repaint RWY and TWY markings "PENDING ACTION PLAN" ACTION TAKEN: The RWY and TWY markings were repainted (Doc 2000 - 1057, 23 OCT 2003, UAEAC, Colombia) CORRECTED	Colombia	2002	U	State Letter sent		
AGA	103 S	Visual aids (Annex 14, Vol. I, Chap. 5)	Colombia, SANTA FE DE BOGOTA/Eldorado	The radial at the VOR signal checking circle marking is missing	May-02	IFALPA Annex 19 Part 3 19-3-SAM-1	Provide the radial at the VOR signal checking circle marking "PENDING ACTION PLAN" ACTION TAKEN: The radial at the VOR signal checking circle marking was painted (Doc 2000 - 1057, 23 OCT 2003, UAEAC, Colombia) CORRECTED	Colombia	2003	U	State Letter sent		

CORRECTED DEFICIENCIES

REPORTING FORM ON AIR NAVIGATION DEFICIENCIES IN THE AGA FIELD IN THE SAM REGION

Identification				Deficiencies			Corrective Action			ASB Action			
Requirements			States/facilities	Description	Date first reported	Remarks	Description	Executing body	Comp. date	P	ASB remedial action	Executing body	Results
AGA	104 S	Visual aids (Annex 14, Vol. I, Chap. 5)	Colombia, SANTA FE DE BOGOTA/Eldorado	Apron markings need repainting	May-02	IFALPA Annex 19 Part 3 19-3-SAM-1	Repaint apron markings "PENDING ACTION PLAN" ACTION TAKEN: The apron markings were repainted (Doc 2000 - 1057, 23 OCT 2003, UAEAC, Colombia) CORRECTED	Colombia	2003	U	State Letter sent		
AGA	105 S	Visual aids (Annex 14, Vol. I, Chap. 5)	Colombia, SAN ANDRES/Sesquicentenario	PAPI lights not calibrated	May-02	IFALPA Annex 19 Part 3 19-3-SAM-1 Corrected on 11 DEC 2002, fax 1003-052-03 from Colombia	Calibrate PAPI lights. ACTION TAKEN: PAPI lights calibrated. CORRECTED	Colombia	11 DEC 2002	U	State Letter sent		
AGA	106 S	Visual aids (Annex 14, Vol. I, Chap. 5)	Colombia, SAN ANDRES/Sesquicentenario	No lights for windsocks	May-02	IFALPA Annex 19 Part 3 19-3-SAM-1	Provide lights for windsocks "PENDING ACTION PLAN" ACTION TAKEN: Lights were installed according to Annex 14, Vol. I (Doc 2000 - 1057, 23 OCT 2003, UAEAC, Colombia) CORRECTED	Colombia	2002	U	State Letter sent		
AGA	107 S	Visual aids (Annex 14, Vol. I, Chap. 5)	Colombia, SAN ANDRES/Sesquicentenario	40% of RWY edge lights are missing Corrected on 17 NOV 2002, fax 1003-052-03 from Colombia	May-02	IFALPA Annex 19 Part 3 19-3-SAM-1 Corrected on 17 NOV 2002, fax 1003-052-03 from Colombia	Provide lights for RWY edge. ACTION TAKEN: Lights for RWY edge provided. CORRECTED	Colombia	17 NOV 2002	U	State Letter sent		
AGA	108 S	Visual aids (Annex 14, Vol. I, Chap. 5)	Colombia, SAN ANDRES/Sesquicentenario	RWY markings need repainting	May-02	IFALPA Annex 19 Part 3 19-3-SAM-1	Repint RWY markings "PENDING ACTION PLAN" CORRECTED (AEROCIVIL 2002-1272, 23 NOV 2004)	Colombia	JUN 2004	U	State Letter sent		

CORRECTED DEFICIENCIES

REPORTING FORM ON AIR NAVIGATION DEFICIENCIES IN THE AGA FIELD IN THE SAM REGION

Identification			Deficiencies			Corrective Action			ASB Action			
Requirements	States/facilities	Description	Date first reported	Remarks	Description	Executing body	Comp. date	P	ASB remedial action	Executing body	Results
AGA Ecuador											
AGA 313 S Emergency (Annex 14, Vol. I, Ch. 9)	ECUADOR/CORPAQ /QUIPORT/Mariscal Sucre	There are 2 airport chiefs. One is from DAC and the other one from QUIPORT. There is no good coordination between them. There are 2 emergency plans and 2 procedures for managing the apron area	MAY 2003	ICAO Regular Mission (12-14 MAY 2003, Recommended Action AGA/13 of its respective Report)	The airport operator (QUIPORT) should comply with the approved documents by DAC and submit the updated documentation for analysis and DAC´s approval and keep close coordination with DAC "PENDING ACTION PLAN" ACTION TAKEN: Excellent coordination was reached. COE will be managed by the DAC Airport Chief (Doc DGAC-j-025-04, 25 JUN 2004). CORRECTED	ECUADOR/DAC/CORPAQ/QUIPORT	2004	U	State Letter sent	ICAO	
AGA 314 S Emergency Plan - COE (Annex 14, Vol. I, Ch. 9 & Doc 9137-AN/898, Part 7)	ECUADOR/DAC/CORPAQ/QUIPORT	The DAC Chief of Airport triggers the Emergency Operations Centre COE. The COE is not well located. There is no complete view of the movement area and the remote parking positions. In addition, there is a type of dispute/competition between the 2 airport chiefs	MAY 2003	ICAO Regular Mission (12-14 MAY 2003, Recommended Action AGA/14 of its respective Report)	DAC must coordinate with CORPAQ and QUIPORT and clearly define who is in charge of the Emergency Operations Centre and makes clear that everybody has to strictly follow what is approved. Good location should be provided for the COE "PENDING ACTION PLAN" ACTION TAKEN: DGAC Airport Chief is the COE president. In addition, the COE will count on a CCTV system, which allow clear vision of the movement area (Doc DGAC-j-025-04, 25 JUN 2004). CORRECTED	ECUADOR/DAC/CORPAQ/QUIPORT	2004	U	State Letter sent	ICAO	

CORRECTED DEFICIENCIES

REPORTING FORM ON AIR NAVIGATION DEFICIENCIES IN THE AGA FIELD IN THE SAM REGION

Identification				Deficiencies			Corrective Action			ASB Action			
Requirements			States/facilities	Description	Date first reported	Remarks	Description	Executing body	Comp. date	P	ASB remedial action	Executing body	Results
AGA	325 S	Emergency Plans (Annex 14, Vol. I, Ch. 9)	ECUADOR/DAC/CORPAQ/QUIPORT/Quito/Mariscal Sucre	October 2000 was the last time that a full-scale exercise on the airport emergency plan was carried out	MAY 2003	ICAO Regular Mission (12-14 MAY 2003, Recommended Action AGA/25 of its respective Report)	DAC should urgently provide the update and to carry out a full-scale exercise with the Airport Emergency Plan "PENDING ACTION PLAN" ACTION PLAN: Emergency Plan is updated. A full exercise is planned for 21 JUL 2004 (Doc DGAC-j-025-04, 25 JUN 2004). CORRECTED (Doc DGAC-k3-O-05-1237, 05 DEC 2005).	ECUADOR/DAC/CORPAQ/QUIPORT	JUL 2004	U	State Letter sent	ICAO	
AGA Guyana													
AGA	443 S	Annex 14, Vol. I, Ch. 9	GUYANA/CAA/SYCJ – TIMEHRI/Cheddi Jagan Int´l	Airport Administration has no direct control of RFF. Fire fighters skills need to be improved	JUN 2005	ICAO regular mission (02/03/JUN/2005, Recommended Action AGA/04 of its respective Report)	Make arrangements to have RFF services under direct control of airport administration. Improve fire fighters skills ACTION PLAN: Coordination is underway with Minister of Home Affairs (Doc GCAA/ICAO/5/3/2, 18 AUG 05); MOU signed on 09 NOV 06 for the provision and control of RFF at the airport CORRECTED (Doc referred to ICAO/5/31, dated 08 JAN 07)	CAA/Airport Operator	NOV 06	U			

CORRECTED DEFICIENCIES

REPORTING FORM ON AIR NAVIGATION DEFICIENCIES IN THE AGA FIELD IN THE SAM REGION

Identification			Deficiencies			Corrective Action			ASB Action			
Requirements		States/facilities	Description	Date first reported	Remarks	Description	Executing body	Comp. date	P	ASB remedial action	Executing body	Results
AGA 444 S	Annex 14, Vol. I, Ch. 9	GUYANA/CAA/SYCJ – TIMEHRI/Cheddi Jagan Int´l	RFF badly organized, no good working policy, no good and clear written procedures, weak Chief leadership, personnel outdated	JUN 2005	ICAO regular mission (02/03/JUN/2005, Recommended Action AGA/05 of its respective Report)	Reorganize RFF facilities, set good working policy, establish modern administration with clear written procedures, strength Chief leadership, update personnel ACTION PLAN: Being addressed in consultation with the Ministry of Home Affairs (Doc GCAA/ICAO/5/3/2, 28 SEP 05); MOU signed on 09 NOV 06 for the provision and control of RFF at the airport CORRECTED (Doc referred to ICAO/5/31, dated 08 JAN 07)	CAA/Airport Operator	NOV 06	U			
AGA 445 S	Annex 14, Vol. I, Ch. 9	GUYANA/CAA/SYCJ – TIMEHRI/Cheddi Jagan Int´l	Bad condition and insufficient number of protective clothing equipments for the fire fighters	JUN 2005	ICAO regular mission (02/03/JUN/2005, Recommended Action AGA/06 of its respective Report)	Provide new, adequate, complete and sufficient protective clothing equipments for the fire fighters ACTION PLAN: Being addressed in consultation with the Ministry of Home Affairs (Doc GCAA/ICAO/5/3/2, 28 SEP 05); MOU signed on 09 NOV 06 for the provision and control of RFF at the airport CORRECTED (Doc referred to ICAO/5/31, dated 08 JAN 07)	CAA/Airport Operator	NOV 06	U			

CORRECTED DEFICIENCIES

REPORTING FORM ON AIR NAVIGATION DEFICIENCIES IN THE AGA FIELD IN THE SAM REGION

Identification			Deficiencies			Corrective Action			ASB Action			
Requirements		States/facilities	Description	Date first reported	Remarks	Description	Executing body	Comp. date	P	ASB remedial action	Executing body	Results
AGA 251 S	Emergency plans (Annex 14, Vol. I, Ch. 9.1and Doc 9137-AN/898, Part 7)	Guyana/TIMEHRI/Cheddi Jagan Int´l Airport	The emergency plan is not updated and no exercise has been done in the last 2 years	NOV 2002	Detected during mission conducted by ICAO Secretariat	Run exercise with old emergency plan until the new one become available "PENDING ACTION PLAN" ACTION PLAN: Full Scale Emergency Drill to be conducted at CJIA during the 1st. Quarter 2004 (Doc GCAA-ICAO/5/312, 20 FEB 2004). Emergency plan would be updated and approved on 25 June 2004 (Doc ICAO/5/3/1, 22 JUN 2004) CORRECTED	Guyana	SEP 2004	U	State Letter sent	ICAO	
AGA 245 S	Emergency Plans (Annex 14, Vol. I, Par. 9.1 and Doc 9137-AN/898, Part 7)	Guyana/All international aerodromes	No updated and no practices on emergency plans	NOV 2002	Detected during mission conducted by ICAO Secretariat	Update emergency plans. Practice with old plans while the new plans become available "PENDING ACTION PLAN" ACTION PLAN: The updating of the emergency plans has been completed, testing has not yet been effected (Doc GCAA-ICAO/5/312, 20 FEB 2004) Exercise scheduled for AUG 2004 (Doc ICAO/5/3/1, 22 JUN 2004) CORRECTED (Doc referred to ICAO/5/3/1, dated 08 Jan 07)	Guyana	NOV 06	U	State Letter sent	ICAO	

CORRECTED DEFICIENCIES

REPORTING FORM ON AIR NAVIGATION DEFICIENCIES IN THE AGA FIELD IN THE SAM REGION

Identification			Deficiencies			Corrective Action			ASB Action			
Requirements		States/facilities	Description	Date first reported	Remarks	Description	Executing body	Comp. date	P	ASB remedial action	Executing body	Results
AGA 250 S	Physical characteristics (Annex 14, Vol. I, Ch. 3)	Guyana/TIMEHRI/Cheddi Jagan Int´l Airport	The distance between RWY and the TWY centerlines is 125 m. Minimum separation required for instrument RWYs and aerodrome code reference 4D is 176 m	NOV 2002	Detected during mission conducted by ICAO Secretariat	Before starting the operation of RWY 06 as CAT I, run aeronautical studies in order to comply with the paragraph 3.8.7 of Annex 14, Vol. I "PENDING ACTION PLAN" ACTION PLAN: Aircraft must therefore, not be located to operate or park on taxiway Charlie while other aircraft are landing or takingoff from RWY 06/24 (Doc GCAA-ICAO/5/312, 20 FEB 2004) ACTION TAKEN: ATC procedure instituted to avoid aircraft parking or taxing on TWY C while RWY 06 is operating at CAT I (Doc ICAO/5/3/1, 22 JUN 2004) CORRECTED	Guyana	2004	U	State Letter sent	ICAO	

CORRECTED DEFICIENCIES

REPORTING FORM ON AIR NAVIGATION DEFICIENCIES IN THE AGA FIELD IN THE SAM REGION

Identification			Deficiencies			Corrective Action			ASB Action			
Requirements	States/facilities	Description	Date first reported	Remarks	Description	Executing body	Comp. date	P	ASB remedial action	Executing body	Results
AGA Panama												
AGA 367 S Emergency/RFF (Annex 14, Vol. I, Ch. 9)	PANAMA/DGAC/Tocumén	There is one ambulance but only the rear door could be open. The lateral door was completed locked without any chance to be open. There are 2 technicians per shift for first aids. However, they are part of their respective fire fighters shifts. There are 47 fire figthers (1 chief, 3 officers and 3 shifts with 10 fire fighters each one). From these 47 fire fighters, 16 help another national airport (1 officer and 3 shifts with 5 fire fighters each one)	MAY 2003	ICAO Regular Mission (19-20 MAY 2003, Recommended Action AGA/34 of its respective Report)	Urgently, re-structure the emergency services. Recuperate the ambulance and, if necessary, provide a new one and allocate the necessary number of fire fighters in order to comply with the ICAO SARPs and to provide the necessary safety. "PENDING ACTION PLAN" ACTION TAKEN: The ambulance was recuperated and it is on service- Starting in MAR 2004, a contract was signed with a private ambulance services to give support to the airport needs (Doc 134/PAN/03/902). CORRECTED	PANAMA/DGAC	MAR 2004	U	State Letter sent	ICAO	
AGA 368 S Emergency/RFF (Annex 14, Vol. I, Ch. 9)	PANAMA/DGAC/Tocumén	The deposits of extinguishing agents have old pieces of rug, old furniture and other types of material. If someone needs to grab the agents, he/she must pass over this material	MAY 2003	ICAO Regular Mission (19-20 MAY 2003, Recommended Action AGA/35 of its respective Report)	Urgently, provide the cleanness of the deposits leaving inside only the extinguishing agents with free access "PENDING ACTION PLAN" ACTION TAKEN: Deposits cleanness totally done. Total recuperation of the fire figters installations (Doc 134/PAN/03/902). CORRECTED	PANAMA/DGAC	JUN 2004	U	State Letter sent	ICAO	

CORRECTED DEFICIENCIES

REPORTING FORM ON AIR NAVIGATION DEFICIENCIES IN THE AGA FIELD IN THE SAM REGION

Identification			Deficiencies			Corrective Action			ASB Action			
Requirements		States/facilities	Description	Date first reported	Remarks	Description	Executing body	Comp. date	P	ASB remedial action	Executing body	Results
AGA 365 S	RFF (Anexo 14, Vol. I, Ch. 9)	PANAMA/DGAC/Tocumén	The RFF chief did not know that Tocumén Airport should be RFF Category 9, as it recommends the Regional ANP (B-747 is the critical aircraft). As a team leader, the RFF chief didn´t exercise his leadership. He was not updated with RFF SARPs and he was not able to answer questions related to his job. The personnel was not motivated.	MAY 2003	ICAO Regular Mission (19-20 MAY 2003, Recommended Action AGA/32 of its respective Report)	Urgently, strength the RFF chief leadership. Make arrangements in order to have the RFF personnel motivated and updated with the basic information on the ICAO SARPs on RFF services "PENDING ACTION PLAN" ACTION TAKEN: New RFF authorities were assigned. ICAO Technical Cooperation provided training for supervisors and instructors. Airport CAT 10 (Doc 134/PAN/03/902). CORRECTED	PANAMA/DGAC	MAR 2004	U	State Letter sent	ICAO	
AGA 366 S	RFF (Annex 14, Vol. I, Ch. 9 & Doc 9137-AN/898, Part 7)	PANAMA/DGAC/Tocumén	The fire fighters shift is 24 h (rest of 48 h). At the moment of the inspection, only one person was on duty. The other fire fighters, including the chief, were practicing sports. It took some minutes to have them at the pariing area for a talk. Suddenly, the alarm was activated and it took 55 s just to move the trucks out of the parking area. If one accident occurs at the 23rd hour of their shift, they will not be able to react to the needs accordingly	MAY 2003	ICAO Regular Mission (19-20 MAY 2003, Recommended Action AGA/33 of its respective Report)	In sake of safety, urgently study the reorganization of the RFF personnel according to the airport needs. The personnel should be trained and, besides knowing their duty, they should be aware of the requirements of the ICAO SARPs on RFF services "PENDING ACTION PLAN" ACTION TAKEN: Begining in 01 JAN 2004, fire fighters shift changed to 8 h with 10/11 fire fighters/shift and 20 professionals were incorporated. Seven seminars/courses were carried out in 2003 in different areas related to Safety (Doc 134/PAN/03/902). CORRECTED	PANAMA/DGAC	JAN 2004	U	State Letter sent	ICAO	

CORRECTED DEFICIENCIES

REPORTING FORM ON AIR NAVIGATION DEFICIENCIES IN THE AGA FIELD IN THE SAM REGION

Identification				Deficiencies			Corrective Action			ASB Action			
Requirements			States/facilities	Description	Date first reported	Remarks	Description	Executing body	Comp. date	P	ASB remedial action	Executing body	Results
AGA	23 S	Visual aids (Annex 14, Vol. I, Ch. 5)	Panama/Tocumen	Vasis system out of service	12/2000	IATA/e-mail sent to SAM Office in December 7, 2000. IATA Report Corrected in 16 OCT 2001, fax DAC-1039-NA from Panama	To install a PAPI system. ACTION TAKEN: PAPI installed. CORRECTED	Panama	OCT 2001	U	Corrected		
AGA Paraguay													
AGA	64 S	Obstacles (Annex 14, Vol. I, Chap. 4)	Paraguay, Aerodrome of Asuncion/Silvio Pettirossi	Open trench (0.60 m wide & 0.75 m deep) and cable boxes of concrete open near the 20 end	Sep-2001	Detected during mission conducted by ICAO Secretariat Planned for 2003, fax letter 22 NOV 2002 from Paraguay	Cover or eliminate objects from the RWY strip. ACTION TAKEN: To be done by the aerodrome administration, depending upon availability of resources CORRECTED	Paraguay	2003	U	State Letter sent		
AGA Peru													
AGA	384 S	Annex 14, Vol. I, Sec. 8.7	PERU/DGAC/CORPAC/LAP/Jorge Chávez	Pieces of rock on the RWY 33 RESA	MAY 2004	ICAO regular mission (17-18 MAY 2004, Recommended Action AGA/17 of its respective Report)	Remove the pieces of rock from RWY 33 RESA "PENDING ACTION PLAN" CORRECTED (OF. 1659-2004-MTC/12.05, 02 NOV 2004)	DGAC/CORPAC /LAP	2004	U	State Letter sent	ICAO	
AGA	385 S	Annex 14, Vol. I, Sec. 9.4	PERU/DGAC/LAP/Jorge Chávez	FOD on apron surface	MAY 2004	ICAO regular mission (17-18 MAY 2004, Recommended Action AGA/18 of its respective Report)	Maintain apron free of FOD "PENDING ACTION PLAN" CORRECTED (OF. 1659-2004-MTC/12.05, 02 NOV 2004)	LAP	2004	U	State Letter sent	ICAO	
AGA	68 S	Obstacles (Annex 14, Vol. I, Chap. 4)	Peru, LIMA-CALLAO/Jorge Chávez Intl.	Pieces of rock, open trenches for cable installation and boxes of concrete at stopway zone of the 33 end	Nov-2001	Detected during mission conducted by ICAO Secretariat Corrected, letter No. 1284-2002-MTC/12.06 from Peru	ACTION TAKEN: Removed pieces of rock, closed the open trenches and the boxes of concrete were levelled with the soil surface CORRECTED	Peru	25 OCT 2002	U	State Letter sent		

CORRECTED DEFICIENCIES

REPORTING FORM ON AIR NAVIGATION DEFICIENCIES IN THE AGA FIELD IN THE SAM REGION

Identification				Deficiencies			Corrective Action			ASB Action			
Requirements			States/facilities	Description	Date first reported	Remarks	Description	Executing body	Comp. date	P	ASB remedial action	Executing body	Results
AGA	72 S	Rescue and Fire Fighting Service (Annex 14, Vol. I, Chap. 9)	Peru, LIMA-CALLAO/Jorge Chávez Intl.	There is a door at the parking area of the fire-fighting trucks	Nov-2001	Detected during mission conducted by ICAO Secretariat Corrected, letter 1284-2002-MTC/12.06 from Peru	Maintain the fire-fighting trucks ready to leave without any type of door or obstacle. ACTION TAKEN: New and lighter doors installed - Response time adequate CORRECTED	Peru	25 OCT 2002	U	State Letter sent		
AGA Uruguay													
AGA	258 S	Emergency Plans (Annex 14, Vol. I, Ch. 9 & Doc 9137-AN/898)	Uruguay/DINACIA/Int´l airports	No-compliance with the periods for full-scale/partial exercises	March 2004	ICAO Regular Mission (05/06 AUG 2003 - Recommended Action AGA/02 of its respective Report)	Comply with the periods recommended for full-scale/partial exercises "PENDING ACTION PLAN" ACTION PLAN: Planning approved for full exercise in DEC 2004 (Fax 075/04, 21 SEP 2004, from DINACIA) CORRECTED (DINACIA Fax 003/05, 04 JAN 2005)	Uruguay/DINACIA	DEC 2004	U	State Letter sent	ICAO	
AGA	25 S	Visual aids (Annex 14, Vol. I, Ch. 5)	Uruguay, MONTEVIDEO/Carrasco Aerodrome	No PAPI at RWY 24	1996	IFALPA CAR/SAM Meeting, 98REG049, Buenos Aires, 9/10 Dec. 1997 and ICAO Regular Mision Misión (05/06/AGO/2003) - AGA/17 Recomendation of the respective Report	Implement the facility "PENDING ACTION PLAN" ACTION PLAN: Installation scheduled for 20 AUG 05 ((Doc 055/05, 17 AUG 05) CORRECTED (Fax 033/06, dated 26 June 2006, from DINACIA)	Uruguay	AUG 05	U	State Letter sent	ICAO Regional Office	
AGA Venezuela													
AGA	419 S	Annex 14, Vol. I, Ch. 10	VENEZUELA/INAC/IAAIM	FOD such as papers, plastic, plastic bottles, metals pens, coarse aggregates on the TWYs and aprons surface	DEC 2004	ICAO regular mission (06-09 DEC 2004, Recommended Action AGA/31 of its respective Report)	Eliminate FOD from the TWYs and aprons surfaces "PENDING ACTION PLAN" CORRECTED (DOC PRE 704.05 - 06 APR 05) - (DOC PRE 4593.05 de 20 DEC 05)	INAC/IAAIM	FEB 05	U			

CORRECTED DEFICIENCIES

REPORTING FORM ON AIR NAVIGATION DEFICIENCIES IN THE AGA FIELD IN THE SAM REGION

Identification			Deficiencies			Corrective Action			ASB Action			
Requirements		States/facilities	Description	Date first reported	Remarks	Description	Executing body	Comp. date	P	ASB remedial action	Executing body	Results
AGA 422 S	Annex 14, Vol. I, Ch. 10	VENEZUELA/INAC/IAAIM	Unfinished construction work on the apron without adequate signalling	DEC 2004	ICAO regular mission (06-09 DEC 2004, Recommended Action AGA/34 of its respective Report)	Provide adequate signalling for unfinished construction work in the apron "PENDING ACTION PLAN" CORRECTED (DOC PRE 704.05 - 06 APR 05) - (DOC PRE 4593.05 de 20 DEC 05)	INAC/IAAIM	FEB 05	U			
AGA 415 S	Annex 14, Vol. I, Ch. 4 & 6	VENEZUELA/INAC/IAAIM	Great number of obstacles: hills, buildings, antennas, etc	DEC 2004	ICAO regular mission (06-09 DEC 2004, Recommended Action AGA/27 of its respective Report)	Identify all the obstacles and publish them in the obstacle plans in the Venezuelan AIP "PENDING ACTION PLAN" ACTION PLAN: Sheduled topographic survey, identification, location and publication in AIP-Venezuela (DOC PRE 704.05 - 06 APR 05) - (DOC PRE 4593.05 de 20 DEC 05) CORRECTED	INAC/IAAIM	30 OCT 05	U			
AGA 413 S	Annex 14, Vol. I, Ch. 9	VENEZUELA/INAC/IAAIM	No good installations for COE. System for triggering the COE is not adequate	DEC 2004	ICAO regular mission (06-09 DEC 2004, Recommended Action AGA/25 of its respective Report)	Provide installations for the COE, keeping one person responsible for triggering the COE "PENDING ACTION PLAN" ACTION PLAN: Scheduled new installations and designation of a responsible H24 (DOC PRE 704.05 - 06 APR 05) - (DOC PRE 4593.05 de 20 DEC 05) CORRECTED (DOC PRE-ORAC-4143-06, 26 SEP 06)	INAC/IAAIM	30 NOV 06	U			

CORRECTED DEFICIENCIES

REPORTING FORM ON AIR NAVIGATION DEFICIENCIES IN THE AGA FIELD IN THE SAM REGION

Identification			Deficiencies			Corrective Action			ASB Action			
Requirements		States/facilities	Description	Date first reported	Remarks	Description	Executing body	Comp. date	P	ASB remedial action	Executing body	Results
AGA 414 S	Annex 14, Vol. I, Ch. 9	VENEZUELA/INAC/IAAIM	Only 8 old protective closing equipments	DEC 2004	ICAO regular mission (06-09 DEC 2004, Recommended Action AGA/26 of its respective Report)	Provide new and adequate number of protective closing equipments "PENDING ACTION PLAN" ACTION PLAN: New and adequate protective closing equipments will be acquired (DOC PRE 704.05 - 06 APR 05) - (DOC PRE 4593.05 de 20 DEC 05) CORRECTED (DOC PRE-ORAC-4143-06, 26 SEP 06)	INAC/IAAIM	30 OCT 06	U			
AGA 416 S	Annex 14, Vol. I, Ch. 9	VENEZUELA/INAC/IAAIM	Risks of bird strikes. Many birds at/on the airport	DEC 2004	ICAO regular mission (06-09 DEC 2004, Recommended Action AGA/28 of its respective Report)	Create Apt. Coord. Comm. on Bird/wildlife Hazard Prevention. Work hard for reduction/ control of birds "PENDING ACTION PLAN" ACTION PLAN: Committee will be created and equipments for dispersing birds will be acquired (DOC PRE 704.05 - 06 APR 05) - (DOC PRE 4593.05 de 20 DEC 05) CORRECTED (DOC PRE-ORAC-4143-06, 26 SEP 06)	INAC/IAAIM	28 APR 05	U			
AGA 403 S	Doc 8733, FASID CAR/SAM – AOP	VENEZUELA/INAC/Margarita	TWY holding position marking for RWY 27	DEC 2004	ICAO regular mission (06-09 DEC 2004, Recommended Action AGA/15 of its respective Report)	Provide RWY holding position marking for RWY 27 "PENDING ACTION PLAN" ACTION PLAN: Painting planned (DOC PRE 704.05 - 06 APR 05) - (DOC PRE 4593.05 de 20 DEC 05) CORRECTED (DOC PRE-ORAC-4143-06, 26 SEP 06)	INAC	31 DEC 06	U			

CORRECTED DEFICIENCIES

REPORTING FORM ON AIR NAVIGATION DEFICIENCIES IN THE AIS FIELD IN THE CAR REGION

Identification				Deficiencies			Corrective Action			ASB Action			
Requirements			States/facilities	Description	Date first reported	Remarks	Description	Executing body	Comp. date	P	ASB remedial action	Executing body	Results
AIS Anguilla													
AIS	202 C	Annex 4 Chap. 3; Doc. 8733 Basic ANP, Part VIII, Paras. 59 a) and 64 1); FASID Table AIS 6	Anguilla	Partial application of ICAO requirements for the production of Aerodrome obstacle chart-ICAO Type A.	06/01/94	Records/files in NACC RO; New AIP Edition (May-01)	Corrected	State	17/05/2001	U	Corrected		
AIS Antigua and Barbuda/Antigua y Barbuda													
AIS	203 C	Annex 4 Chap. 3; Doc. 8733 Basic ANP, Part VIII, Paras. 59 a) and 64 1); FASID Table AIS 6	Antigua and Barbuda	Partial application of ICAO requirements for the production of Aerodrome obstacle chart-ICAO Type A.	06/01/94	Records/files in NACC RO; New AIP Edition (May-01)	Corrected	State	TBD	U	Corrected		
AIS Bahamas													
AIS	97 C	Doc. 8733 Basic ANP, Part VIII, Paras. 9 to 12	Bahamas	Lack of highest priority for printing of AIS publications.	18/09/96	Records/files NACC RO; GREPECAS reports	Need to provide a higher priority for the printing of AIS publications	State	TBD	U	Referred to AIS/MAP/SG for further action	NACC/AIS/MAP/SG	
AIS Belize/Belice													
AIS	8 C	Annex 15, Chap. 4, Para. 4.2.9; Doc. 8733, Basic ANP, Part VIII, Paras 33 to 37	Belize	Lack of regular and effective updating of the AIP Document	24/10/00	GREPECAS AIS/MAP Subgroup	Corrected	State	TBD	U	Corrected	NACC/IATA	
AIS	18 C	Annex 15, Chapter 3, Paras. 3.1.5 and 3.1.6; Chapter 5, Paras. 5.1.1.1 and Sec. 5.3	Belize	Timely distribution of the information through NOTAM	25/10/00	COCESNA assumes control of the NOF/CA and implement the NOTAM Data Base in CA	Corrected	State/COCESNA	27/04/2001	U	Corrected		
AIS Cayman Islands/Islas Caimanes													
AIS	19 C	Annex 15, Chapter 3, Paras. 3.1.5 and 3.1.6; Chapter 5, Paras. 5.1.1.1 and Sec. 5.3	Cayman Islands	Timely distribution of the information through NOTAM	25/10/00	GREPECAS AIS/MAP Subgroup	Corrected	State	2001	U	Corrected		
AIS	32 C	Annex 15, Para. 3.6.4; Annex 4, Para. 2.18; Doc. 8733, Basic ANP, Part VIII, Paras 50 to 58, FASID Table AIS 5	Cayman Islands	Implementation of the WGS-84 is on going	01/01/98	GREPECAS AIS/MAP Subgroup Survey to States	Corrected	State	2001	U	Corrected		

CORRECTED DEFICIENCIES

REPORTING FORM ON AIR NAVIGATION DEFICIENCIES IN THE AIS FIELD IN THE CAR REGION

Identification				Deficiencies			Corrective Action			ASB Action			
Requirements			States/facilities	Description	Date first reported	Remarks	Description	Executing body	Comp. date	P	ASB remedial action	Executing body	Results
AIS	204 C	Annex 4 Chap. 3; Doc. 8733 Basic ANP, Part VIII, Paras. 59 a) and 64 1); FASID Table AIS 6	Cayman Islands	Partial application of ICAO requirements for the production of Aerodrome obstacle chart-ICAO Type A.	06/01/94	Records/files in NACC RO; New AIP Edition (Jan-01)	Corrected	State	01/01/2001	U	Corrected		
AIS	**Costa Rica**												
AIS	9 C	Annex 15, Chap. 4, Para. 4.2.9	Costa Rica	Lack of regular and effective updating of the AIP Document	24/10/00	GREPECAS AIS/MAP Subgroup	Corrected	State	08/12/2000	U	Corrected		
AIS	20 C	Annex 15, Chapter 3, Paras. 3.1.5 and 3.1.6; Chapter 5, Paras. 5.1.1.1 and Sec. 5.3	Costa Rica	Timely distribution of the information through NOTAM	25/10/00	COCESNA assumes control of the NOF/CA and implement the NOTAM Data Base in CA	Corrected	State/COCESNA	08/12/2000	U	Corrected		
AIS	73 C	Annex 15, Chapter 4, Paras. 4.2.8 and 4.3.4., Chapter 6; Doc 8733 Basic ANP Part VIII, Paras. 45 to 49	Costa Rica	Lack of effective compliance with the AIRAC system requirement	01/11/94	Records/files NACC RO; ICAO visit December 2000	Corrected	State	2002	U	Corrected		
AIS	**Cuba**												
AIS	205 C	Annex 4 Chap. 3; Doc. 8733 Basic ANP, Part VIII, Paras. 59 a) and 64 1); FASID Table AIS 6	Cuba	Partial application of ICAO requirements for the production of Aerodrome obstacle chart-ICAO Type A.	06/01/94	Records/files in NACC RO; GREPECAS and AIS/MAP/SG reports.	Action Plan: Publish the ICAO Type-A aerodrome obstacle charts for those international aerodromes with air navigation obstacles pending publication.	State	End 2006	U	Referred to AIS/MAP/SG		Corrective action included in the action plan.
AIS	269 C	Doc. 8733 Basic ANP, Part VIII, Paras. 61 to 64, FASID Table AIS 7	Cuba	Lack of production of the World Aeronautical Chart ICAO 1:1000 000	01/11/94	Records/files NACC RO; GREPECAS reports	Corrected	State	2002	U	Corrected		
AIS	**Dominica**												
AIS	206 C	Annex 4 Chap. 3; Doc. 8733 Basic ANP, Part VIII, Paras. 59 a) and 64 1); FASID Table AIS 6	Dominica	Partial application of ICAO requirements for the production of Aerodrome obstacle chart-ICAO Type A.	06/01/94	Records/files in NACC RO; New AIP Edition (May-01)	Corrected	State	17/05/2001	U	Corrected		
AIS	**El Salvador**												
AIS	21 C	Annex 15, Chapter 3, Paras. 3.1.5 and 3.1.6; Chapter 5, Paras. 5.1.1.1 and Sec. 5.3	El Salvador	Timely distribution of the information through NOTAM	25/10/00	COCESNA assumes control of the NOF/CA and implement the NOTAM Data Base in CA	Corrected	State/COCESNA	30/11/2000	U	Corrected		

CORRECTED DEFICIENCIES

REPORTING FORM ON AIR NAVIGATION DEFICIENCIES IN THE AIS FIELD IN THE CAR REGION

Identification			Deficiencies			Corrective Action			ASB Action			
Requirements		States/facilities	Description	Date first reported	Remarks	Description	Executing body	Comp. date	P	ASB remedial action	Executing body	Results
AIS French Antilles/Antillas Francesas												
AIS 270 C	Doc. 8733 Basic ANP, Part VIII, Paras. 61 to 64, FASID Table AIS 7	French Antilles	Lack of production of the World Aeronautical Chart ICAO 1:1000 000	01/11/94	Records/files NACC RO; GREPECAS reports	Corrected	State	2003	U	Corrected		
AIS Grenada/Granada												
AIS 208 C	Annex 4 Chap. 3; Doc. 8733 Basic ANP, Part VIII, Paras. 59 a) and 64 1); FASID Table AIS 6	Grenada	Partial application of ICAO requirements for the production of Aerodrome obstacle chart-ICAO Type A.	06/01/94	Records/files in NACC RO; New AIP Edition (May-01).	Corrected	State	17/05/2001	U	Corrected		
AIS Guatemala												
AIS 22 C	Annex 15, Chapter 3, Paras. 3.1.5 and 3.1.6; Chapter 5, Paras. 5.1.1.1 and Sec. 5.3	Guatemala	Timely distribution of the information through NOTAM	25/10/00	COCESNA assumes control of the NOF/CA and implement the NOTAM Data Base in CA	Corrected	State/COCESNA	28/11/2000	U	Corrected		
AIS 74 C	Annex 15, Chapter 4, Paras. 4.2.8 and 4.3.4., Chapter 6; Doc 8733 Basic ANP Part VIII, Paras. 45 to 49	Guatemala	Lack of effective compliance with the AIRAC system requirement	01/11/94	Records/files NACC RO; ICAO visit November 2000	Corrected	State	2002	U	Corrected		
AIS Haiti												
AIS 12 C	Annex 15, Chap. 4, Para. 4.2.9; Doc 8733 ANP Básico, Parte VIII, Paras 33 a 37	Haiti	Lack of regular and effective updating of the AIP Document	24/10/00	GREPECAS AIS/MAP Subgroup	Corrected	State	TBD	U	Corrected		
AIS 23 C	Annex 15, Chapter 3, Paras. 3.1.5 and 3.1.6; Chapter 5, Paras. 5.1.1.1 and Sec. 5.3	Haiti	Timely distribution of the information through NOTAM	25/10/00	GREPECAS AIS/MAP Subgroup	Corrected	State	TBD	U	Corrected		
AIS 37 C	Annex 15, Para. 3.6.4; Annex 4, Para. 2.18; Doc. 8733, Basic ANP, Part VIII, Paras 50 to 58, FASID Table AIS 5	Haiti	Lack of implementation of the WGS-84	01/01/98	GREPECAS AIS/MAP Subgroup Survey to States	Corrected	State	30/11/04	U	Corrected	GEN NACC	
AIS 209 C	Annex 4 Chap. 3; Doc. 8733 Basic ANP, Part VIII, Paras. 59 a) and 64 1); FASID Table AIS 6	Haiti	Partial application of ICAO requirements for the production of Aerodrome obstacle chart-ICAO Type A.	06/01/94	Records/files in NACC RO; GREPECAS and AIS/MAP/SG reports.	Corrected	State	TBD	U	Corrected.		

CORRECTED DEFICIENCIES

REPORTING FORM ON AIR NAVIGATION DEFICIENCIES IN THE AIS FIELD IN THE CAR REGION

Identification				Deficiencies			Corrective Action			ASB Action			
Requirements			States/facilities	Description	Date first reported	Remarks	Description	Executing body	Comp. date	P	ASB remedial action	Executing body	Results
AIS	100 C	Doc. 8733 Basic ANP, Part VIII, Paras. 9 to 12	Haiti	Lack of highest priority for printing of AIS publications.	18/09/96	Records/files NACC RO; GREPECAS reports	Corrected	State	TBD	U	Corrected		
AIS		**Honduras**											
AIS	24 C	Annex 15, Chapter 3, Paras. 3.1.5 and 3.1.6; Chapter 5, Paras. 5.1.1.1 and Sec. 5.3	Honduras	Timely distribution of the information through NOTAM	25/10/00	COCESNA assumes control of the NOF/CA and implement the NOTAM Data Base in CA	Corrected	State/COCESNA	04/12/2000	U	Corrected		
AIS	38 C	Annex 15, Para. 3.6.4; Annex 4, Para. 2.18; Doc. 8733, Basic ANP, Part VIII, Paras 50 to 58, FASID Table AIS 5	Honduras	Partial implementation of the WGS-84	01/01/98	GREPECAS AIS/MAP Subgroup Survey to States	Need to implement the WGS-84 Geodetic System	State	30/08/05	U	Corrected		
AIS		**Nicaragua**											
AIS	27 C	Annex 15, Chapter 3, Paras. 3.1.5 and 3.1.6; Chapter 5, Paras. 5.1.1.1 and Sec. 5.3	Nicaragua	Timely distribution of the information through NOTAM	25/10/00	COCESNA assumes control of the NOF/CA and implement the NOTAM Data Base in CA	Corrected	State/COCESNA	06/12/2000	U	Corrected		
AIS	274 C	Annex 15, Chapter 4, Paras. 4.2.8 and 4.3.4., Chapter 6; Doc 8733 Basic ANP Part VIII, Paras. 45 to 49	Nicaragua	Lack of effective compliance with the AIRAC system requirement	06/12/00	Records/files NACC RO; ICAO visit December 2000	Corrected	State	2004	U	Corrected		
AIS	103 C	Doc. 8733 Basic ANP, Part VIII, Paras. 9 to 12	Nicaragua	Lack of highest priority for printing of AIS publications.	18/09/96	Records/files NACC RO; GREPECAS reports	Corrected	State	2004	U			
AIS		**Saint Kitts and Nevis/San Kitts y Nevis**											
AIS	212 C	Annex 4 Chap. 3; Doc. 8733 Basic ANP, Part VIII, Paras. 59 a) and 64 1); FASID Table AIS 6	Saint Kitts and Nevis	Partial application of ICAO requirements for the production of Aerodrome obstacle chart-ICAO Type A.	06/01/94	Records/files in NACC RO; New AIP Edition (May-01)	Corrected	State	17/05/2001	U	Corrected		
AIS		**Saint Lucia/Santa Lucía**											
AIS	213 C	Annex 4 Chap. 3; Doc. 8733 Basic ANP, Part VIII, Paras. 59 a) and 64 1); FASID Table AIS 6	Saint Lucia	Partial application of ICAO requirements for the production of Aerodrome obstacle chart-ICAO Type A.	06/01/94	Records/files in NACC RO; New AIP Edition (May-01)	Corrected	State	17/05/2001	U	Corrected		

CORRECTED DEFICIENCIES

REPORTING FORM ON AIR NAVIGATION DEFICIENCIES IN THE AIS FIELD IN THE CAR REGION

Identification				Deficiencies			Corrective Action			ASB Action			
	Requirements	States/facilities		Description	Date first reported	Remarks	Description	Executing body	Comp. date	P	ASB remedial action	Executing body	Results
AIS Saint Vincent and the G./San Vicente y las Granadinas													
AIS	214 C	Annex 4 Chap. 3; Doc. 8733 Basic ANP, Part VIII, Paras. 59 a) and 64 1); FASID Table AIS 6	Saint Vincent and the Grenadines	Partial application of ICAO requirements for the production of Aerodrome obstacle chart-ICAO Type A.	06/01/94	Records/files in NACC RO; New AIP Edition (May-01)	Corrected	State	17/05/2001	U	Corrected		
AIS Trinidad and Tobago/Trinidad y Tabago													
AIS	215 C	Annex 4 Chap. 3; Doc. 8733 Basic ANP, Part VIII, Paras. 59 a) and 64 1); FASID Table AIS 6	Trinidad and Tobago	Partial application of ICAO requirements for the production of Aerodrome obstacle chart-ICAO Type A.	06/01/94	Records/files in NACC RO; New AIP Edition (May-01)	Corrected	State	17/05/2001	U	Corrected		

CORRECTED DEFICIENCIES

REPORTING FORM ON AIR NAVIGATION DEFICIENCIES IN THE AIS FIELD IN THE SAM REGION

Identification				Deficiencies			Corrective Action			ASB Action			
Requirements			States/facilities	Description	Date first reported	Remarks	Description	Executing body	Comp. date	P	ASB remedial action	Executing body	Results
AIS Guyana													
AIS	29 S	CAO Annex 15, Chapter 6; ANP (Doc. 8733) Par. 46 - 49. Sistema AIRAC.	Guyana	Need for an effective implementation of AIRAC requirements	1994	SAM RO Records.	Action plan (2004).	Indicated State	2004	U	NOT REQUIRED	SAM RO	NONE
AIS Venezuela													
AIS	33 S	ICAO Annex 15, Chapter 6; ANP (Doc. 8733) Par. 45. Sistema AIRAC.	Venezuela	Need for implementation of AIRAC requirements.	1996	SAM RO Records.	Action (2006)	Indicated State	2005	U	NOT REQUIRED	SAM RO	NONE

CORRECTED DEFICIENCIES

REPORTING FORM ON AIR NAVIGATION DEFICIENCIES IN THE ATM FIELD IN THE CAR REGION

Identification				Deficiencies			Corrective Action			ASB Action			
Requirements			States/facilities	Description	Date first reported	Remarks	Description	Executing body	Comp. date	P	ASB remedial action	Executing body	Results
ATM Antigua and Barbuda/Antigua y Barbuda													
ATM	17 C	Use of the aeronautical phraseology	Antigua and Barbuda	In general, the use of aeronautical phraseology in English does not meet the required levels and it is a relevant factor with regard to ATS incidents.	Sept./2000	ATS/SG/9	Corrected.	CAA OECS	08/2003	U			
ATM Aruba													
ATM	35 C	Use of the aeronautical phraseology	Aruba	In general, the use of aeronautical phraseology in English does not meet the required levels and it is a relevant factor with regard to ATS incidents.	Sept./2000	ATS/SG/9	Corrected	CAA Aruba	09/2003	U			
ATM Barbados													
ATM	19 C	Use of the aeronautical phraseology	Barbados	In general, the use of aeronautical phraseology in English does not meet the required levels and it is a relevant factor with regard to ATS incidents.	Sept./2000	ATS/SG/9	Corrected	CAA Barbados	05/2003	U			
ATM CAR/SAM													
ATM	46 C	English proficiency in Air Traffic Services, CAR/SAM/3 Rec. 5/35	This problem exists both in CAR and SAM Regions	The proficiency in the English language of some ATC units is below the desired level and could be a contributory factor for the occurrence of incidents and/or aeronautical accidents. (Annex 1)	Oct/1995	GREPECAS/5	Only 2 CAR States still present this deficiency. They are reported separately.	CAR/SAM States		U	SARPs effective 2008	NACC	
ATM	47 C	Use of the aeronautical phraseology	This problem exists both in CAR and SAM Regions	In general, the use of aeronautical phraseology in Spanish and English does not meet the required levels and it is a relevant factor with regard to ATS incidents	Sep/2000	ATS/SG/9	Continuous training and supervision in the use of aeronautical phraseology is required. The ATM CO/4 meeting was of the opinion that, in view that this is a general aspect where all CAR/SAM States are involved, it should be detelted and the attention should be centered on States/Territories/International Organizations presenting this deficiency.	CAR/SAM States		U	SIPs for Central America in 2003 and for Caribbean ongoing	NACC	

CORRECTED DEFICIENCIES

REPORTING FORM ON AIR NAVIGATION DEFICIENCIES IN THE ATM FIELD IN THE CAR REGION

Identification			Deficiencies			Corrective Action			ASB Action			
Requirements		States/facilities	Description	Date first reported	Remarks	Description	Executing body	Comp. date	P	ASB remedial action	Executing body	Results
ATM Cayman Islands/Islas Caimanes												
ATM 36 C	Use of the aeronautical phraseology	Cayman Islands	In general, the use of aeronautical phraseology in English does not meet the required levels and it is a relevant factor with regard to ATS incidents.	Sept./2000	ATS/SG/9	Corrected	CAA Cayman Islands	2002	U			
ATM COCESNA												
ATM 14 C	English proficiency in Air Traffic Services CAR/SAM/3 Rec. 5/35	COCESNA	The proficiency in the English language of some ATC units is below the desired level and could be a contributing factor for the ocurrence of incidents and/or aeronautical accidents.	Oct. 95	GREPECAS/5	Corrected	COCESNA	2005	U			
ATM 43 C	Use of the aeronautical phraseology	COCESNA	In general, the use of aeronautical phraseology in Spanish and/or English does not meet the required levels and it is a relevant factor with regard to ATS incidents.	Sept./2000	ATS/SG/9	Corrected	COCESNA	2003	U			
ATM Costa Rica												
ATM 6 C	English proficiency in Air Traffic Services CAR/SAM/3 Rec. 5/35	Costa Rica	The proficiency in the English language of some ATC units is below the desired level and could be a contributing factor for the ocurrence of incidents and/or aeronautical accidents.	10/95	GREPECAS/5	Corrected	CAA Costa Rica	06/2003	U			
ATM 21 C	Use of the aeronautical phraseology	Costa Rica	In general, the use of aeronautical phraseology in Spanish and/or English does not meet the required levels and it is a relevant factor with regard to ATS incidents.	Sept./2000	ATS/SG/9	Corrected	CAA Costa Rica	2003	U			
ATM Cuba												
ATM 7 C	English proficiency in Air Traffic Services CAR/SAM/3 Rec. 5/35	Cuba	The proficiency in the English language of some ATC units is below the desired level and could be a contributing factor for the ocurrence of incidents and/or aeronautical accidents.	10/95	Proficiency in the English language is required to take controller training courses. Specialized English courses are also provided to existing personnel when deficiencies are detected	Corrected	CAA Cuba	2002	U			

CORRECTED DEFICIENCIES

REPORTING FORM ON AIR NAVIGATION DEFICIENCIES IN THE ATM FIELD IN THE CAR REGION

Identification				Deficiencies			Corrective Action			ASB Action			
Requirements			States/facilities	Description	Date first reported	Remarks	Description	Executing body	Comp. date	P	ASB remedial action	Executing body	Results
ATM Dominican Republic/República Dominicana													
ATM	13 C	English proficiency in Air Traffic Services CAR/SAM/3 Rec. 5/35	Dominican Republic	The proficiency in the English language of some ATC units is below the desired level and could be a contributing factor for the ocurrence of incidents and/or aeronautical accidents.	Oct. 95	GREPECAS/5	Corrected	CAA Dominican Republic	2002	U			
ATM French Antilles/Antillas Francesas													
ATM	16 C	English proficiency in Air Traffic Services CAR/SAM/3 Rec. 5/35	French Antilles	The proficiency in the English language of some ATC units is below the desired level and could be a contributing factor for the ocurrence of incidents and/or aeronautical accidents.	Oct. 95	GREPECAS/5	Corrected	CAA French Antilles	2000	U			
ATM Guatemala													
ATM	2 C	Provision of air traffic control service CAR/SAM/3 Rec. 5/33	Guatemala	Some segments of ATS routes of the FIR do not count yet with ATS at the required levels.	Sept./94	GREPECAS/4, Report IATA Conc. 4/10, Appendix 5	Provide ATS and improve VHF COM in the area in question. Corrected	CAA Guatemala	2005	U	IATA will carry out a survey on this deficiency.	NACC/IATA	
ATM Haiti													
ATM	15 C	English proficiency in Air Traffic Services CAR/SAM/3 Rec. 5/35	Haiti	The proficiency in the English language of some ATC units is below the desired level and could be a contributing factor for the ocurrence of incidents and/or aeronautical accidents.	Oct. 95	GREPECAS/5	Corrected	CAA Haiti	2002	U			
ATM	27 C	Use of the aeronautical phraseology	Haiti	In general, the use of aeronautical phraseology in English does not meet the required levels and it is a relevant factor with regard to ATS incidents.	Sept./2000	ATS/SG/9	Corrected.	OFNAC Haiti	2003	U	SIPs for Central America in 2003 and for Caribbean ongoing	NACC	
ATM Honduras													
ATM	3 C	Provision of air traffic control service CAR/SAM/3 Rec. 5/33	Honduras	Some segments of ATS routes of the FIR do not count yet with ATS at the required levels.	Sept./94	GREPECAS/4, Report IATA Conc. 4/10, Appendix 5	Provide ATS and improve VHF COM in the area in question. Corrected	CAA Honduras	2005	U	IATA will carry out a survey on this deficiency.	NACC/IATA	

CORRECTED DEFICIENCIES

REPORTING FORM ON AIR NAVIGATION DEFICIENCIES IN THE ATM FIELD IN THE CAR REGION

Identification				Deficiencies			Corrective Action			ASB Action			
Requirements			States/facilities	Description	Date first reported	Remarks	Description	Executing body	Comp. date	P	ASB remedial action	Executing body	Results
ATM Jamaica													
ATM	29 C	Use of the aeronautical phraseology	Jamaica	In general, the use of aeronautical phraseology in English does not meet the required levels and it is a relevant factor with regard to ATS incidents.	Sept./2000	ATS/SG/9	Corrected	CAA Jamaica	05/2003	U			
ATM Mexico													
ATM	11 C	English proficiency in Air Traffic Services CAR/SAM/3 Rec. 5/35	Mexico	The proficiency in the English language of some ATC units is below the desired level and could be a contributing factor for the ocurrence of incidents and/or aeronautical accidents.	Oct. 95	In 1998, Mexico instituted a programme to review and update the study programme for air traffic controllers and therefore, requires from candidates a certificate of English proficiency at an advanced level of 80%. The ATS providing agency has established a programme to encourage ATS personnel to improve their level of English through advanced courses at recognised institutions, offering the possibility of covering the cost of said courses	Corrected	CAA Mexico	09/2003	U			
ATM	30 C	Use of the aeronautical phraseology	Mexico	In general, the use of aeronautical phraseology in Spanish and/or English does not meet the required levels and it is a relevant factor with regard to ATS incidents.	Sept./2000	Although no document has been approved containing a standard phraseology for adoption by the States in the Region, Mexico has developed a Manual on Aeronautical Phraseology for use by ATS personnel and pilots. This document is constantly being reviewed.	Corrected	CAA Mexico / SENEAM	2003	U			
ATM Netherlands Antilles/Antillas Neerlandesas													
ATM	44 C	Curaçao ACC Air/Ground Communications in order to give the Area Control Services	Netherlands Antilles Curaçao FIR	IATA Reports indicated difficulties to communicate in VHF with the Curaçao ACC in the NW part of the Curaçao FIR during RNAV trials in the CAR/SAM Regions	May 2001	Second Meeting/Workshop of ATM Authorities and Planners Lima, May 2001	Corrected	DCA Netherlands Antilles	2003	U			

CORRECTED DEFICIENCIES

REPORTING FORM ON AIR NAVIGATION DEFICIENCIES IN THE ATM FIELD IN THE CAR REGION

Identification				Deficiencies			Corrective Action			ASB Action			
Requirements			States/facilities	Description	Date first reported	Remarks	Description	Executing body	Comp. date	P	ASB remedial action	Executing body	Results
ATM	38 C	Use of the aeronautical phraseology	Netherlands Antilles	In general, the use of aeronautical phraseology in English does not meet the required levels and it is a relevant factor with regard to ATS incidents.	Sept./2000	ATS/SG/9	Corrected	CAA Netherlands Antilles	2003	U			
ATM Saint Vincent and the G./San Vicente y las Granadinas													
ATM	22 C	Use of the aeronautical phraseology	Saint Vincent and the Grenadines	In general, the use of aeronautical phraseology in English does not meet the required levels and it is a relevant factor with regard to ATS incidents.	Sept./2000	ATS/SG/9	Corrected	CAA OECS	2003	U			

CORRECTED DEFICIENCIES

REPORTING FORM ON AIR NAVIGATION DEFICIENCIES IN THE ATM FIELD IN THE SAM REGION

Identification			Deficiencies			Corrective Action			ASB Action			
Requirements		States/facilities	Description	Date first reported	Remarks	Description	Executing body	Comp. date	P	ASB remedial action	Executing body	Results
ATM Argentina												
ATM	12 S Use of the aeronautical phraseology	Argentina	In general, the use of aeronautical phraseology in Spanish and English does not meet the required levels and it is a relevant factor with regard to ATS incidents	Sep/2000	ATM/SAR 02/00-SAM Meeting	The Argentinean administration emphasized training to ATCOs on the correct use of ICAO aeronautical phraseology. The verification of the correct use was initiated through tapes listening, and also a high level of non-compliance by crews was also detected. A training, improvement and continuous updating plan (PC PAC) has been implemented. Corrected	CRA Argentina	Corrected	U			

CORRECTED DEFICIENCIES

REPORTING FORM ON AIR NAVIGATION DEFICIENCIES IN THE ATM FIELD IN THE SAM REGION

Identification				Deficiencies			Corrective Action			ASB Action			
Requirements			States/facilities	Description	Date first reported	Remarks	Description	Executing body	Comp. date	P	ASB remedial action	Executing body	Results
ATM Bolivia													
ATM	2 S	English proficiency in Air Traffic Services, CAR/SAM/3 Rec. 5/35.	Bolivia	The proficiency in the English language of some ATC units is below the desired level and could be a contributory factor for the occurrence of incidents and/or aeronautical accidents. (Annex 1).	Oct/1995	GREPECAS/5	Through Note NAV/AER/702/02 DGAC-0-1-1876 dated 12 November 2002, Bolivia informed that: 1) At the end of 2001 and beginning of 2002, two ATS procedures courses were held in English language, for ATCOs carried out by FAA instructors. 2) During 2002, two courses were carried out for ATCOs, with emphasis in English language phraseology. 3) The requisites for new a ATCOs is maintained, English knowledge and test, as of 2002. 4) CAD informed AASANA on the audits to ATS units, as of November 2003 and instructed ATCOs in English language. 5) AASANA is aware of ICAO requirements for 2008 in the English language.	CAD Bolivia	Corrected	U			

CORRECTED DEFICIENCIES

REPORTING FORM ON AIR NAVIGATION DEFICIENCIES IN THE ATM FIELD IN THE SAM REGION

Identification				Deficiencies			Corrective Action			ASB Action			
Requirements			States/facilities	Description	Date first reported	Remarks	Description	Executing body	Comp. date	P	ASB remedial action	Executing body	Results
ATM	13 S	Use of the aeronautical phraseology	Bolivia	In general, the use of aeronautical phraseology does not meet the required levels and it is a relevant factor with regard to ATS incidents	Sep/2000	ATM/SAR 02/00-SAM Meeting.	Through note NAV/AER/702/02 DGAC-0-1-1876 dated 12 November 2002, Bolivia informed that: 1) Aeronautical phraseology included in Doc 4444, last edition 2001, was disseminated to all ATS untis personnel, with recommendations for its appropriate use to persons in charge of the supervision. 2) Supervisors and persons in charge are monitoring on a permanent basis on the use of aeronautical phraseology. 3) The refreshment courses provided at the INAC, include the use of the aeronautical phraseology and place special emphasis on ATS personnel training. Corrected	CAD Bolivia	Corrected	U			

CORRECTED DEFICIENCIES

REPORTING FORM ON AIR NAVIGATION DEFICIENCIES IN THE ATM FIELD IN THE SAM REGION

Identification				Deficiencies			Corrective Action			ASB Action			
Requirements			States/facilities	Description	Date first reported	Remarks	Description	Executing body	Comp. date	P	ASB remedial action	Executing body	Results
ATM Brazil/Brasil													
ATM	3 S	English proficiency in Air Traffic Services, CAR/SAM/3 Rec. 5/35	Brazil/Brasil	The proficiency in the English language of some ATC units is below the desired level and could be a contributory factor for the occurrence of incidents and/or aeronautical accidents. (Annex 1)	Oct/1995	GREPECAS/5	Through MSSGE No. 198/CECATI/2002-30 August 2002, Brazil informed that improvement courses are being provided to ATCOs in the operational units, with the aim to improve English language fluently. The English language competence is being verified, taking as a basis the new regulations of ICAO Annex 1 on this matter. At the same time, refreshing courses are being provided to ATC personnel.	CERNAI Brazil	Corrected	U			
ATM	14 S	Use of the aeronautical phraseology	Brazil/Brasil	In general, the use of aeronautical phraseology in English does not meet the required levels and it is a relevant factor with regard to ATS incidents	Sep/2000	ATM/SAR 02/00-SAM Meeting.	1) Implement a continuous training and updating plan. 2) Continuously monitor its correct use in ATS units.	CERNAI Brazil	Corrected	U			

CORRECTED DEFICIENCIES

REPORTING FORM ON AIR NAVIGATION DEFICIENCIES IN THE ATM FIELD IN THE CAR REGION

Identification				Deficiencies			Corrective Action			ASB Action			
Requirements			States/facilities	Description	Date first reported	Remarks	Description	Executing body	Comp. date	P	ASB remedial action	Executing body	Results
ATM CAR/SAM													
ATM	28 S	English proficiency in Air Traffic Services, CAR/SAM/3 Rec. 5/35	This problem exists both in CAR and SAM Regions	The proficiency in the English language of some ATC units is below the desired level and could be a contributory factor for the occurrence of incidents and/or aeronautical accidents.	Oct/1995	GREPECAS/5	a) After the effective date of Amendment to Annex 1, which establishes that the English level required for ATC personnel, the States/Territories/International Organizations, should evaluate the personnel of their ATC units and further provide information regarding the deviation level required in the box "Remarks". b) In order to reach and maintain the English language level required, the States/Territories/International Organizations shall establish a permanent and continuous training plan of ATC units, which contemplates the follow-up of the improvements of personnel of ATC units and shall implement in the same, the ATS quality assurance programme. c) The States/Territories/International Organizations shall demand the personnel who works in ATC units, the English language knowledge to be required by ICAO Annex 1.	CAR/SAM States	Corrected	U	SARPs effective 2008	SAM/IATA	
ATM	29 S	Use of the aeronautical phraseology	This problem exists both in CAR and SAM Regions	In general, the use of aeronautical phraseology in Spanish and English does not meet the required levels and it is a relevant factor with regard to ATS incidents	Sep/2000	ATS/SG/9	Continuous training and supervision in the use of aeronautical phraseology is required.	CAR/SAM States	Corrected	U	Ongoing	SAM	

CORRECTED DEFICIENCIES

REPORTING FORM ON AIR NAVIGATION DEFICIENCIES IN THE ATM FIELD IN THE SAM REGION

Identification				Deficiencies			Corrective Action			ASB Action			
Requirements			States/facilities	Description	Date first reported	Remarks	Description	Executing body	Comp. date	P	ASB remedial action	Executing body	Results
ATM Chile													
ATM	4 S	English proficiency in Air Traffic Services, CAR/SAM/3 Rec. 5/35	Chile	The proficiency in the English language of some ATC units is below the desired level and could be a contributory factor for the occurrence of incidents and/or aeronautical accidents.	Oct/1995	GREPECAS/5	By letter dated 7 May 2002, received by SAM RO, the Chile CAD informed that there is an improvement programme for the English language for ATCOs. The first state of the programme will cover 98 ATCs from the most important ATS units who use language. The second stage, 2003, shall cover the rest of the ATS units. (2004: through letter No. 04/3/915 of September 2004, air traffic servcies in Chile are certified as per ISO 9001:2000 standard, which contains the necessary procedures to keep quality assurance on this matter).	CAD Chile	Corrected	U			
ATM	16 S	Use of the aeronautical phraseology	Chile	In general, the use of aeronautical phraseology does not meet the required levels and it is a relevant factor with regard to ATS incidents	Sep/2000	ATM/SAR 02/00-SAM Meeting.	Aeronautical phraseology will have to be widely disseminated so it may be studied, learnt and well applied by ATCOs. (2004: through letter No. 04/3/915 of September 2004, air traffic servcies in Chile are certified as per ISO 9001:2000 standard, which contains the necessary procedures to keep quality assurance on this matter).	CAD Chile	Corrected	U	Ongoing	SAM	

CORRECTED DEFICIENCIES

REPORTING FORM ON AIR NAVIGATION DEFICIENCIES IN THE ATM FIELD IN THE SAM REGION

Identification			Deficiencies			Corrective Action			ASB Action			
Requirements		States/facilities	Description	Date first reported	Remarks	Description	Executing body	Comp. date	P	ASB remedial action	Executing body	Results
ATM Colombia												
ATM	9 S English proficiency in Air Traffic Services, CAR/SAM/3 Rec. 5/35	Colombia	The proficiency in the English language of some ATC units is below the desired level and could be a contributory factor for the occurrence of incidents and/or aeronautical accidents.	Oct/1995	GREPECAS/5	Through Note 1003-52-03-A dated 17 February 2003, in reply to letter LT 1/19-SA985 dated 27 December 2002, the Colombian Administration has established a minimum level of English knowledge to access technical courses of the CEA, especially for ATC/AIS/COM/MET personnel, firemen, and electronics. A permanent training programme of grammar and technical English supports this. (Mission 2003: has a training programme which establishes a regular programme of refreshing courses for ATCOs).	UAEAC Colombia	Corrected	U			
ATM	15 S Use of the aeronautical phraseology	Colombia	In general, the use of aeronautical phraseology does not meet the required levels and it is a relevant factor with regard to ATS incidents.	Sep/2000	ATM/SAR 02/00-SAM Meeting.	1) Implement a continuous training and updating plan. 2) Continuously monitor its correct use in ATS units. (Mission 2003: has a training programme which establishes a regular programme of refreshing courses for ATCOs).	UAEAC Colombia	Corrected	U	Ongoing	SAM	

CORRECTED DEFICIENCIES

REPORTING FORM ON AIR NAVIGATION DEFICIENCIES IN THE ATM FIELD IN THE SAM REGION

Identification				Deficiencies			Corrective Action			ASB Action			
Requirements			States/facilities	Description	Date first reported	Remarks	Description	Executing body	Comp. date	P	ASB remedial action	Executing body	Results
ATM Ecuador													
ATM	17 S	Use of the aeronautical phraseology	Ecuador	In general, the use of aeronautical phraseology does not meet the required levels and it is a relevant factor with regard to ATS incidents.	Sep/2000	ATM/SAR 02/00-SAM Meeting.	1) Implement a continuous training and updating plan. 2) Continuously monitor its correct use in ATS units. (Mission 2003: the State is encouraged to continue with training plan).	CAD Ecuador	Corrected	U	Ongoing.	SAM	
ATM French Guiana/Guyana Francesa													
ATM	8 S	English proficiency in Air Traffic Services, CAR/SAM/3 Rec. 5/35	French Guyana/Guyana Francesa	The proficiency in the English language of some ATC units is below the desired level and could be a contributory factor for the occurrence of incidents and/or aeronautical accidents.	Oct/1995	a) After the effective date of Amendment to Annex 1, which establishes that the English level required for ATC personnel, the States/Territories/International Organizations, should evaluate the personnel of their ATC units and further provide information regarding the deviation level required in the box "Remarks". b) In order to reach and maintain the English language level required, the States/Territories/International Organizations shall establish a permanent and continuous training plan of ATC units, which contemplates the follow-up of the improvements of personnel of ATC units and shall implement in the same, the ATS quality assurance programme. c) The States/Territories/International Organizations shall demand the personnel who works in ATC units, the English language knowledge to be required by ICAO Annex 1.	There is a National Programme in place that consists if the following: 1) Define the minimum average English proficiency level; 2) Assess the level of each ATC controller and after, 3) Definition of an English language programme in three areas: a) Phraseology, b) Aeronautical English, and c) General English (25th E/CAR IWG Meeting, May 2001).	CAD French Guyana	Corrected	U			

CORRECTED DEFICIENCIES

REPORTING FORM ON AIR NAVIGATION DEFICIENCIES IN THE ATM FIELD IN THE SAM REGION

Identification				Deficiencies			Corrective Action			ASB Action			
Requirements			States/facilities	Description	Date first reported	Remarks	Description	Executing body	Comp. date	P	ASB remedial action	Executing body	Results
ATM	18 S	Use of the aeronautical phraseology	French Guyana/Guyana Francesa	In general, the use of aeronautical phraseology in Spanish and English does not meet the required levels and it is a relevant factor with regard to ATS incidents	Sep/2000	Continuous training and supervision in the use of aeronautical phraseology is required.	The national phraseology (English and French) has been reviewed by a Working Group in France. The result is the publication of a new official phraseology (English and French); this phraseology has been distributed to each ATC who has received complementary training (E-CAR/SAM-NE ICG/2 Dic 2003).	CAD French Guyana	Corrected	U			
ATM Guyana													
ATM	26 S	Provision of air traffic control service CAR/SAM/3, Rec 5/33	Guyana	Due to air traffic volume at Georgetown FIR area control provision is required	NA	Finalized	The ICAO SAM Regional Office, through a Technical Cooperation project, assisted Guyana in the implementation of the Georgetown ACC, implemented on 21 March 2002.	CAA Guyana	Corrected	U			Corrected
ATM	19 S	Use of the aeronautical phraseology	Guyana	In general, the use of aeronautical phraseology in Spanish and English does not meet the required levels and it is a relevant factor with regard to ATS incidents	Sep/2000	ATM/SAR 02/00-SAM Meeting.	1) Implement a continuous training and updating plan. 2) Continuously monitor its correct use in ATS units.	CAD Guyana	Corrected	U			
ATM Panama													
ATM	6 S	English proficiency in Air Traffic Services, CAR/SAM/3 Rec. 5/35	Panama	The proficiency in the English language of some ATC units is below the desired level and could be a contributory factor for the occurrence of incidents and/or aeronautical accidents.	Oct/1995	GREPECAS/5	Through Note DAC-1038-NA dated 24 December 2002, the Panamanian administration has established through its Human Factors Office, the English language as a second language, within the ATCOs profile. (Mission 2003 programme continues to be applied as a permanent measure).	CAD Panama	Corrected	U			

CORRECTED DEFICIENCIES

REPORTING FORM ON AIR NAVIGATION DEFICIENCIES IN THE ATM FIELD IN THE SAM REGION

Identification				Deficiencies			Corrective Action			ASB Action			
Requirements			States/facilities	Description	Date first reported	Remarks	Description	Executing body	Comp. date	P	ASB remedial action	Executing body	Results
ATM	20 S	Use of the aeronautical phraseology	Panama	In general, the use of aeronautical phraseology in Spanish and English does not meet the required levels and it is a relevant factor with regard to ATS incidents	Sep/2000	ATM/SAR 02/00-SAM Meeting.	Through DAC-1038-NA dated 24 December 2002, the Panamanian administration informed that they will implement in 2003 the quality assurance programme, in which, among other things, an intensive monitoring programme on the English language and aeronautical phraseology will be developed through a continuous review of the ATC voice recording. Mission 2003 programme continues to be applied as a permanent measure).	CAD Panama	Corrected	U			
ATM Peru													
ATM	7 S	English proficiency in Air Traffic Services, CAR/SAM/3 Rec. 5/35	Peru	The proficiency in the English language of some ATC units is below the desired level and could be a contributory factor for the occurrence of incidents and/or aeronautical accidents.	Oct/1995	GREPECAS/5	Through Note G.G.985.2002 dated 7 October 2002, the Peruvian administration has informed that the programme established to reach de advanced English language level. The personnel that reaches an advanced level will participate in permanent conversation workshops. (Mission 2003: Programme continues to be applied).	CAD Peru	Corrected	U			

CORRECTED DEFICIENCIES

REPORTING FORM ON AIR NAVIGATION DEFICIENCIES IN THE ATM FIELD IN THE SAM REGION

Identification				Deficiencies			Corrective Action			ASB Action			
Requirements			States/facilities	Description	Date first reported	Remarks	Description	Executing body	Comp. date	P	ASB remedial action	Executing body	Results
ATM	22 S	Use of the aeronautical phraseology	Peru	In general, the use of aeronautical phraseology does not meet the required levels and it is a relevant factor with regard to ATS incidents	Sep/2000	ATM/SAR 02/00-SAM Meeting.	1) Implement a continuous training and updating plan. 2) Continuously monitor its correct use in ATS units. (Mission 2003: Programme continues to be applied).	CAD Peru	Corrected	U			
ATM Suriname													
ATM	24 S	Use of the aeronautical phraseology	Suriname	In general, the use of aeronautical phraseology in does not meet the required levels and it is a relevant factor with regard to ATS incidents.	Sep/2000	ATM/SAR 02/00-SAM Meeting.	1) Implement a continuous training and updating plan. 2) Continuously monitor its correct use in ATS units. 3) During mission carried out 2004, of plan mentioned in 1) continued.	CAD Suriname	Corrected	U	Ongoing.	SAM	

CORRECTED DEFICIENCIES

REPORTING FORM ON AIR NAVIGATION DEFICIENCIES IN THE CNS FIELD IN THE CAR REGION

Identification			Deficiencies			Corrective Action			ASB Action			
Requirements		States/facilities	Description	Date first reported	Remarks	Description	Executing body	Comp. date	P	ASB remedial action	Executing body	Results
CNS Bahamas												
CNS	31 C Radio navigation Aids (Table CNS 3) - VOR	Bahamas, Nassau, Nassau Intl.	VOR is regularly out of service.	Sept. 2000	- IATA report Sept. 2000 - ICAO Visit, Oct. 2000 - IFALPA Meeting, Nov. 2000	Corrected.	Bahamas	2002	U			
CNS Mexico												
CNS	55 C HF/AMS-voice. Mobile Aeronautical Service plan (CNS2A and CNS2B Tables). Merida ACC	Mexico	Low availability (80%) of the Mexico Radio HF/AMS voice communications, installed in Merida due that the HF and SELCAL equipment are obsolete	01/2002	RO/ATM mission	Mexico completed final tests of the new HF/AMS and SELCAL equipment are being carried out. Corregida	Mexico	06/2005	U	State letter to be sent		

CORRECTED DEFICIENCIES

REPORTING FORM ON AIR NAVIGATION DEFICIENCIES IN THE CNS FIELD IN THE SAM REGION

Identification			Deficiencies			Corrective Action			ASB Action			
Requirements		States/facilities	Description	Date first reported	Remarks	Description	Executing body	Comp. date	P	ASB remedial action	Executing body	Results
CNS Brazil/Brasil												
CNS	13 S Aeronautical Mobile Service Plan. Table CNS 1A. Lack of VHF communications coverage in the Manaus, Porto Velho and Recife FIRs	Brazil/Brasil	Due to the lack of VHF coverage in some segments of ATS routes crossing the Manaus, Porto Velho and Recife FIRs, ATS is not yet provided in the required level.	09/1994	GREPECAS Conclusion 4/10. IATA Report	Corrected	Brazil CAA	)ecember 200	U			Fixed
CNS	12 S Aeronautical mobile service plan. Table CNS 1A. Lack of HF communications coverage in the Brasilia FIR, Oceanic Sector	Brazil/Brasil	Deficiencies in the HF communications have been identified in the oceanic part of the Brasilia FIR	09/1994	GREPECAS/4. IATA Report.	Corrected	Brazil CAA	Junio 2002	U			Fixed

CORRECTED DEFICIENCIES

REPORTING FORM ON AIR NAVIGATION DEFICIENCIES IN THE MET FIELD IN THE CAR REGION

Identification				Deficiencies			Corrective Action			ASB Action			
Requirements			States/facilities	Description	Date first reported	Remarks	Description	Executing body	Comp. date	P	ASB remedial action	Executing body	Results
MET Dominican Republic/República Dominicana													
MET	1 C	CAR/SAM ANP requirements, Part VI, para. 6 and Annex 3 provision, Chapter 7, para. 7.2.1.	Dominican Republic	There is no follow-up on local procedures for issuance of SIGMETs.	22/05/96	CAR/SAM ANP requirements, Part VI, par. 6 and availability of Annex 3, Chapter 7, par. 7.2.1	Corrected	States	2005	U	ICAO SIP Project. Ongoing	NACC	SIP Meeting in 4th quarter. Then need to verify
MET Honduras													
MET	3 C	CAR/SAM ANP requirements, Part VI, para. 6 and Annex 3 provision, Chapter 7, para. 7.2.1.	Honduras	There is no follow-up on local procedures for issuance of SIGMETs.	22/05/96	MWOs should review the local procedures for the issuance of SIGMETs and control of its issuance on a periodical basis.	Corrected	State	2002	U			

CORRECTED DEFICIENCIES

REPORTING FORM ON AIR NAVIGATION DEFICIENCIES IN THE MET FIELD IN THE SAM REGION

Identification			Deficiencies			Corrective Action			ASB Action			
Requirements		States/facilities	Description	Date first reported	Remarks	Description	Executing body	Comp. date	P	ASB remedial action	Executing body	Results
MET Argentina												
MET	24 S SIGMET information (Annex 3, Chapter 7, Standard 7.1.1)	Argentina / Meteorological watch offices (MWOs)	Not all SIGMET messages are prepared based on the procedures established by ICAO.	06/2000	a) Implement the SIGMET SIP recommendations for the SAM Region; and b) make use of the Guide for the preparation, dissemination and use of SIGMET messages in the CAR/SAM Regions.	CORRECTED	National Meteorological Service	March 2001	U			
MET Brasil												
MET	73 S Notify the RVR for CAR III operations [Annex 3, Chap 4, Standards: 4.6.3.1 and 4.6.3.4 c)]	Brazil, Runway visual range	The RVR of SBCT have not been implemented	28/11/05	Plan RVR acquisition	The RVR SBCT has already been implemented. CORRECTED	DECEA	2005	U			
MET Chile												
MET	55 S Exchange of special AIREPs (Annex 3, Chap 5, Standard. 5.9)	Chile / ATS dependencies	ATS dependencies do not transmit regularly all special AIREPs to MET dependencies.		Review the ATS/MET letter of agreement and make a follow-up to ensure its compliance.	CORRECTED	DGAC	December 200	U			
MET	26 S SIGMET information (Annex 3, Chapter 7, Standard 7.1.1)	Chile / Meteorological watch offices (MWOs)	Not all SIGMET messages are prepared based on the procedures established by ICAO.	06/2000	a) Implement the SIGMET SIP recommendations for the SAM Region; and b) make use of the Guide for the preparation, dissemination and use of SIGMET messages in the CAR/SAM Regions.	CORRECTED	DGAC	December 200	U			
MET Colombia												
MET	2 S Relay of air-reports by ATS units (Annex 3, Chapter 5, Standard 5.8)	Colombia / ATS Dependencies	ATS dependencies do not transmit regularly all special AIREPs to MET dependencies	22/06/96	Review the ATS/MET Letter of agreement and make a follow-up to ensure its compliance.	CORRECTED	UAEAC	TBD	U			

CORRECTED DEFICIENCIES

REPORTING FORM ON AIR NAVIGATION DEFICIENCIES IN THE MET FIELD IN THE SAM REGION

Identification				Deficiencies			Corrective Action			ASB Action			
Requirements			States/facilities	Description	Date first reported	Remarks	Description	Executing body	Comp. date	P	ASB remedial action	Executing body	Results
MET	25 S	SIGMET information (Annex 3, Chapter 7, Standard 7.1.1)	Colombia / Meteorological watch offices (MWOs) of Bogotá	Not all SIGMET messages are prepared based on the procedures established by ICAO.	06/2000	a) Implement the SIGMET SIP recommendations for the SAM Region; and b) make use of the Guide for the preparation, dissemination and use of SIGMET messages in the CAR/SAM Regions.	a) In consultancy process, through TDA, through which alternatives for the solution to this problems are expected; and b) the organization of the Meteorological Services is being carried out in Aerocivil Colombia. CORRECTED	UAEAC		U			
MET Ecuador													
MET	3 S	Relay of air-reports by ATS units (Annex 3, Chapter 5, Standard 5.8)	Ecuador / ATS dependencies	ATS dependencies do not transmit regularly all special AIREPs to MET dependencies.	22/06/96	Review the ATS/MET letter of agreement and make a follow-up to ensure its compliance.	CORRECTED			U			
MET	27 S	SIGMET information (Annex 3, Chapter 7, Standard 7.1.1)	Ecuador / Meteorological watch office (MWO) of Guayaquil	Not all SIGMET messages are prepared based on the procedures established by ICAO.	06/2000	a) Implement the SIGMET SIP recommendations for the SAM Region; and b) make use of the Guide for the preparation, dissemination and use of SIGMET messages in the CAR/SAM Regions.	CORRECTED	DGAC	2002	U			
MET Panama													
MET	5 S	Exchange of special AIREPs (Annex 3, Chapter 5, Standard 5.9)	Panama / ATS Dependencies	ATS dependencies do not transmit regularly all special AIREPs to MET dependencies	22/06/96	Review ATS/MET Letter of agreement and make a follow-up to ensure its compliance.	CORRECTED	DAC	Dec 2004	U			
MET	57 S	Relay of air-reports by ATS units (Annex 3, Chap 5, Standard. 5.8)	Panama ATS dependency	ATS dependencies do not relay regularly all the special AIREPs to the MET dependencies	Sep. 2003	Review the ATS letter of agreement and follow-up to the compliance of same	Emphasis to the ATS/MET personnel to comply with this requirement. They will initiate a programme to regulate the AIREPs retransmission CORRECTED	CAA	Dec. 2004	U			
MET Paraguay													
MET	6 S	Relay of air-reports by ATS units (Annex 3, Chapter 5, Standard 5.8)	Paraguay / ATS Dependencies	ATS dependencies do not trasmit regularly all special AIREPs to MET dependencies.	22/06/96	Review the ATS/MET Letter of agreement and make a follow-up to ensure its compliance.	ATS/MET coordination has been reviewed (2002) CORRECTED	DINAC	Dec 2004	U			

CORRECTED DEFICIENCIES

REPORTING FORM ON AIR NAVIGATION DEFICIENCIES IN THE MET FIELD IN THE SAM REGION

Identification			Deficiencies			Corrective Action			ASB Action			
Requirements		States/facilities	Description	Date first reported	Remarks	Description	Executing body	Comp. date	P	ASB remedial action	Executing body	Results
MET Uruguay												
MET	71 S	Clouds watch and report (Annex 3, Chap 4, Standard 4.9.3)	Uruguay, aeronautical meteorological stations	Dec 2003	Plan the acquisition of instrument systems to measure the clouds base altitude.	Coordination DINACIA/Consorcio Puerta del Sol/DNM. Clouds base measurement equipment was installed. Pending its standardization. CORRECTED	DINACIA / Consorcio Puerta del Sol / DNM	End 2006	U			
MET	60 S	Requirements for communications (Annex 3, Chap 11, Standards 11.1.1 and 11.1.2)	Uruguay CNS 1 Units	There is no communication between the aerodrome MET office and the ATS dependencies neiterh with the MWO and the ACC.	Dec. 2003	Establish communications. Implemented	CORRECTED	DINACIA/Electronics	TBD	U			
MET Venezuela												
MET	9 S	Exchange of special AIREPs (Annex 3, Chapter 5, Standard 5.9)	Venezuela / ATS dependencies	ATS dependencies do not transmit regularly all special AIREPs to MET dependencies	22/06/96	Review ATS/MET Letter of agreement and make a follow-up to ensure its compliance.	CORRECTED	INAC, in coordination with Natl. MET Service	December 200	U			
MET	54 S	SIGMET information (Annex 3, Chap 7, Standard. 7.1.1)	Venezuela / Meteorological watch offices (MWOs) of Maiquetía	Not all SIGMET messages are prepared based on the procedures established by ICAO.	06/2000	a) Implement the SIGMET SIP recommendations for the SAM Region; and b) make use of the Guide for the preparation, dissemination and use of SIGMET messages in the CAR/SAM Regions.	CORRECTED	INAC in coordination with National Weather Service	June 2004	U			

CORRECTED DEFICIENCIES

REPORTING FORM ON AIR NAVIGATION DEFICIENCIES IN THE SAR FIELD IN THE SAM REGION

Identification				Deficiencies			Corrective Action			ASB Action			
Requirements			States/facilities	Description	Date first reported	Remarks	Description	Executing body	Comp. date	P	ASB remedial action	Executing body	Results
SAR Bolivia													
SAR	1 S	Search and Rescue Facilities CAR/SAM/3 Rec. 6/2	Bolivia SRR La Paz	RCC not implemented. Lack of SAR qualified personnel. Inadequate SAR organization	Oct 95	GREPECAS/5	Comply with CAR/SAM/3 Rec. 6/2, 6/8, 6/9, 6/10, 6/11, 6/12 and CAR/SAM/2 Rec. 7/12. Preparation of a National SAR Plan, SAR Agreements and assignment of a data provider for Cospas-Sarsat.	Bolivia CAD, AASANA and BAF	Dec 2005	U	Mission carried out	SAM	
SAR Guyana													
SAR	2 S	Search and Rescue Facilities CAR/SAM/3 Rec. 6/2	SRR Georgetown	RCC not implemented. Lack of SAR qualified personnel. Inadequate SAR organization.	Oct/95	GREPECAS/5	Comply with CAR/SAM/3 Rec. 6/2, 6/8, 6/9, 6/10, 6/11, 6/12 and CAR/SAM/2 Rec. 7/12.	Guyana CAD	2004	U	AGA/ATM/CNS/AI S/SAR experts Mission	SAM/IATA	

ACTION PLAN FOR RESOLVING REGIONAL AIR NAVIGATION DEFICIENCIES

REPORTING FORM ON AIR NAVIGATION DEFICIENCIES IN THE AGA FIELD IN THE CAR REGION

Identification			Deficiencies	Action Plan				
Requirements		States/facilities	Description	Date of presentation	Corrective Action	Executing Body	Date of correction	Difficulties Encountered
AGA Antigua and Barbuda/Antigua y Barbuda								
AGA 93 C	Obstacles (Annex 14, Vol. I , Chap. 4, Rec. 4.2.12 & 27)	Antigua and Barbuda, ST. JOHNS, V. C. Bird Intl	Vehicles on the public road at the east runway end are obstacles infringing on the Runway 07 take-off climb and Runway 25 approach and transitional obstacle limitation surfaces	22/07/2003	Reduce the runway declared distances or implement traffic control system on the public road. Action Plan: Reduce the runway declared distances. Relocation of the road.	Antigua and Barbuda Ministry of Aviation	2003&2004	
AGA 99 C	Pavement Surface Conditions (Annex 14, Vol. I, Chap. 10, 10.2, 10.2.1 & 10.2.2.)	Antigua and Barbuda, ST. JOHNS, V. C. Bird Intl	Runway pavement surface deficient at the runway ends due to aircraft turn-arounds	22/07/2003	Upgrade pavements at runway ends	Antigua and Barbuda Ministry of Aviation	12/2004	Pending the availability of funding for completion of Phase I of Master Plan.
AGA 91 C	Runway End Safety Area (Annex 14, Vol. I, Chap. 3.5, 3.5.1 & Rec. 5.11)	Antigua and Barbuda, ST. JOHNS, V. C. Bird Intl	Runway end safety areas are not provided at both runway ends: East runway end – fence, road & sea West runway end – fence & grading	22/07/2003	Provide east RESA by reducing the Runway 07 declared distances by approximately 90 m.Do not declare stopway, thereby bringing the runway strip end and RESA 60 m closer to the west runway end and prepare and grade the surface for a RESA.	Antigua and Barbuda Ministry of Aviation	12/2003	
AGA 101 C	Visual Aids (Annex 14, Vol. I, Chap. 10, 10.4, 10.4.10)	Antigua and Barbuda, ST. JOHNS, V. C. Bird Intl	Runway 07 approach lighting system reported to be 50 % serviceable	22/07/2003	Repair approach lighting system. Action Plan: Replace approach lighting system.	Antigua and Barbuda Ministry of Aviation	7/2004	Pending the availability of funding for completion of Phase I of Master Plan.
AGA Aruba								
AGA 303 C	Rescue and Fire Fighting (Annex 14, Vol. I, Chap. 9.1 & 2 - Std. 9.2.21 and Rec. 9.2.22, 30 & 31)	Aruba, ORANJESTAD, Reina Beatrix Int'l	RFFS response time was reported to be between 2.5 and 3 minutes. Furthermore, a test alarm from the control tower resulted in a 1.5 minute delay between alarm call and RFFS response	10/06/2003	Reduce the response time by providing direct access to runway. Improve the alarm system and procedures between the control tower and the RFFS control room and test regularly. Action Plan: Remarks forwarded to Chief Fire Services for comment.	Aruba Airport Authority	TBD	
AGA 296 C	Runway End Safety Area (Annex 14, Vol. I, Chap. 10, 10.2 & 10.2.1)	Aruba, ORANJESTAD, Reina Beatrix Int'l	No runway end safety areas are provided at both runway ends	10/06/2003	Provide runway end safety areas by not declaring stopways, extension and/or displacing the runway ends and reducing the runway declared distances.	Aruba Airport Authority	TBD	Compliance with the standard will have significant structural and financial implications on the infrastructure of the airport. Several factors such as land acquisition, construction in the sea and the impact here-of on the community demand extensive study to arrive at the final decisions.
AGA 297 C	Visual Aids (Annex 14, Vol. I, Chap. 5, 5.2.10, 5.10.1, 5.10.2 & 5.10.4)	Aruba, ORANJESTAD, Reina Beatrix Int'l	The runway-holding position on the south side of the runway is provided on the GA apron. The old runway-holding position markings on Taxiways D, E and F are no longer valid.	10/06/2003	Remove the disused runway-holding position markings on Taxiways D, E and F. Action Plan: The old runway-holding position markings on taxiways D, E and F will be removed.	Aruba Airport Authority	6/2003	

ACTION PLAN FOR RESOLVING REGIONAL AIR NAVIGATION DEFICIENCIES

REPORTING FORM ON AIR NAVIGATION DEFICIENCIES IN THE AGA FIELD IN THE CAR REGION

Identification			Deficiencies	Action Plan				
Requirements		States/facilities	Description	Date of presentation	Corrective Action	Executing Body	Date of correction	Difficulties Encountered
AGA Barbados								
AGA 161 C	Visual Aids (Annex 14, Vol. I, Chap. 5 - 5.2.8, 5.2.8.1 & 3)	Barbados, BRIDGETOWN, Grantley Adams Intl	Taxiway centreline marking to guide aircraft turning around at the east runway end is not provided	06/10/2004	Provide turn-around guidance centreline markings at the runway end. Action Plan: The necessary drawings and funding to address this matter have been approved. Work will start shortly on this item. Completion has been scheduled for November 2004.	Barbados	11/2004	
AGA Cayman Islands/Islas Caimanes								
AGA 22 C	Runway End Safety Area (Annex 14, Vol. I, 4th Edition, Chap. 3.5.1	Cayman Islands, GRAND CAYMAN, Owen Roberts Intl	No runway end safety area is provided at the eastern runway end as specified in Annex 14 Vol I, 4th Ed., Section 3.5.1	25/03/2003	Provide runway end safety areas by extending the platform or reducing the declared distances. Action Plan: Provide runway end safety area.	Cayman Islands	12/2007	Delayed implementation of airport development master plan.
AGA 12 C	Runway Strip (Annex 14, Vol. I, 4th Edition, Chap. 3.4, 3.4.2)	Cayman Islands, GRAND CAYMAN, Owen Roberts Intl	Runway strip length at the eastern runway end does not comply with Annex 14 Vol. I, 4th Ed., Section 3.4.2	25/03/2003	Extend the runway strip or reduce declared distances. Action Plan: Provide runway strip. Subject to airport master plan implementation date. Difference published in AIP.	Cayman Islands	12/2007	Delayed implementation of airport development master plan.
AGA Cuba								
AGA 133 C	Pavement surface conditions (Annex 14, Vol. I, 4th Edition, Chap. 10.2, 10.2.1, 10.2.2, & 10.2.7)	Cuba, HABANA, José Marti International	The runway, taxiway and Terminal 1 apron surfaces are failing causing irregularities and FOD in large areas.	24/02/06	To remove FOD through continous monitoring and to repair the pavement surfaces Action Plan: Resurfacing works of the apron of Terminal 1 are scheduled for May 2006. Minor repairs have been performed, eliminating the concerned of surface and loose materials.	ECASA	2006	
AGA 139 C	Runway End Safety Area (Annex 14, Vol. I, 4th Edition, Chap. 3.5.1)	Cuba, SANTIAGO DE CUBA, Antonio Maceo	There are no runway end safety areas.	24/02/06	To provide runway end safety areas possible through the reduction of declared distances. Action Plan: The reduction in declared distance, without effecting the ILS location, threshold lights, runway end, etc., has been preformed. At present the revision is being revised by IACC.	ECASA	June 2006	
AGA Dominican Republic/República Dominicana								
AGA 61 C	Fencing (Annex 14, Vol. I, Chap. 9, 9.10 & 9.10.2)	Dominican Republic, SANTO DOMINGO, Las Americas Intl	Perimeter security deficient	09/02/04	Provide secure perimeter barrier. Action Plan: The perimeter barrier is being installed.	Dominican Republic	2004	

ACTION PLAN FOR RESOLVING REGIONAL AIR NAVIGATION DEFICIENCIES

REPORTING FORM ON AIR NAVIGATION DEFICIENCIES IN THE AGA FIELD IN THE CAR REGION

Identification			Deficiencies	Action Plan				
Requirements		States/facilities	Description	Date of presentation	Corrective Action	Executing Body	Date of correction	Difficulties Encountered
AGA 77 C	Pavement Surface Conditions (Annex 14, Vol. I, Chap. 10, 10.2, 10.2.1,10.2.2, 10.2.3 & 10.2.4)	Dominican Republic, SANTO DOMINGO, Las Americas Intl	Runway surface pavement irregularities and rubber deposit accumulation.	09/02/04	Remove rubber and upgrade pavements. Action Plan: Regarding the rubber removal, we are in the process of purchasing a removal machine. Regarding the pavement upgrade, we are conditioning the parallel taxiway in order to use it as a probable runway, by doing this, we will give maintenance to the runway.	Dominican Republic	2005	
AGA Grenada/Granada								
AGA 126 C	Fencing (Annex 14, Vol. I, Chap. 9, 9.10.1.9.10.4 & 9.10.6)	Grenada, ST. GEORGES, Point Salines Intl	Fencing incomplete around perimeter	28/01/2003	Provide complete perimeter security barrier	Grenada	04/2003	
AGA 128 C	Rescue and Fire Fighting (Annex 14, Vol. I, Chap. 9.2, Rec. 9.2.32 & 33)	Grenada, ST. GEORGES, Point Salines Intl	Present staff levels are considered inadequate for Category 9 with 7 plus a supervisor reported	28/01/2003	Staff levels should be increased to 9 plus supervisor for Category 9 and 3 vehicles	Grenada	03/2003	
AGA Mexico								
AGA 360 C	Maintenance (Annex 14, Chap. 10, 10.1, Rec. 10.1.1)	México, MÉXICO, Lic.Benito Juárez International Airport	The centreline markings of the runway, some taxiways and aprons are deficient	27/08/2003	Re-paint the deficient markings	AICM (Mexico)	TBD	
AGA 358 C	Pavement Surface Conditions (Annex 14, Vol. I, Chap. 10.1, 10.2.1, 10.2.2, 10.2.3 & 10.2.4)	México, MÉXICO, Lic.Benito Juárez International Airport	The runway, shoulder, taxiway and apron surfaces were observed to be deficient with irregularities and FOD. The taxiways and aprons have elevated and depressed manholes. Also, the fitted lights are elevated in both runways and there are holes on the pavement of Runway 05R/23L, where lights have been removed and not replaced	27/08/2003	Improve the runway, taxiway and apron pavement surface conditions. Taxiways B and C and the cargo apron require immediate attention. Action Plan: During this year the following will be reinstated/rehabilitated: Runway 05R/23L, Customs and Emergency Aprons, Bravo Taxiway, shoulders, slope lamps and pavement sealing. Two additional taxiways will be built. The manhole correction will be finished in December 2003	AICM (Mexico)	TBD	
AGA 345 C	Runway End Safety Area (Annex 14, Vol.I, Chap. 3.5 & 3.5.1)	México, MÉXICO, Lic.Benito Juárez International Airport	The length and width of the runway end safety area of Runway 05L/23R is insufficient at both ends	27/08/2003	To broaden the runway end safety area dimensions of Runway 05L/23R or to reduce the runway declared distances. Action Plan: To attend this observation, the AICM is preparing proposals to be studied and approved by the DGAC, or that the DGAC prepares the corresponding recommendations and adopts the necessary measures in order to notify ICAO of the differences or to establish a Mexican Standard that endorses the difference as a State rule.	AICM (Mexico)	TBD	

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REPORTING FORM ON AIR NAVIGATION DEFICIENCIES IN THE AGA FIELD IN THE CAR REGION

Identification			Deficiencies	Action Plan				
Requirements		States/facilities	Description	Date of presentation	Corrective Action	Executing Body	Date of correction	Difficulties Encountered
AGA 341 C	Runway Geometry (Annex 14, Vol. I, Chapter 3.1 - 3.1.18 and 19, 3.2.4, 3.3.14,Chap. 10, Rec. 10.1.1, 10.2, 10.2.1, 10.2.2, 10.2.3, 10.2.4)	México, MÉXICO, Lic.Benito Juárez International Airport	The transversal slopes of the runways, shoulders and strips should ease to have a fas evacuation and to prevent the water accumulation on the surfaces. Sometimes runways are closed after it rains due to water saturation and innapropriate drainage.	27/08/2003	To adequate the transversal slopes of the ruways, shoulders and strips and to improve the drainage in order to avoid water accumulation on the runway and shoulders surfaces; to provide the adequate resistance to the strips. To consider the slots on the runway surfaces. Action Plan: Emergent actions: Maintenance of strips, neighboring areas and complementary works. Rehabilitation of rain drainage in taxiways Bravo 3, Bravo 4, Bravo 7, replacement of collapsed pipes in Bravo 3 and complementary works. Emergent re-adaptation to the water displacement in the current drainage. Draining and rehabilitation of the drainage system (1st Phase). Rental of two high-pressure and vacuum hydropneumatic draining equipment. Removal of nozzles to link them to the main drainage network. Finishing of the deep drainpipes. Rectify strips. Rehabilitate the general drainage system. Waterproofing of the terminal building. Future actions: Hydraulic studies and photogrammetric surveys. Replacement of the pumping equipment. Draining and rehabilitation of the drainage system (2nd Phase).	AICM (Mexico)	TBD	
AGA 349 C	Runway holding position (Annex 14, Chap. 5, 5.2.10, 5.2.10.3)	México, MÉXICO, Lic.Benito Juárez International Airport	The runway holding positions in some taxiways do not have the required distance from the corresponding centreline	27/08/2003	Provide the required distance between the runway holding positions in the taxiways and the runway centrelines.	AICM (Mexico)	TBD	
AGA 342 C	Runway Strip (Annex 14, Vol.I, Chap.3, 3.4, 3.4.2)	México, MÉXICO, Lic.Benito Juárez International Airport	The length of the Runway Strip 05L/23R is insufficient at both runway ends	27/08/2003	To extend the strip or to reduce the declared distances of the runway. Action Plan: To attend this observation, the AICM is preparing proposals to be studied and approved by the DGAC, or that the DGAC prepares the corresponding recommendations and adopts the necessary measures in order to notify ICAO of the differences or to establish a Mexican Standard that endorses the difference as a State rule.	AICM (Mexico)	TBD	
AGA Netherlands Antilles/Antillas Neerlandesas								
AGA 264 C	Obstacles (Annex 14, Vol. I , Chap. 4, 4.2, Rec. 4.2.12)	Netherlands Antilles, SINT MAARTEN/ PHILIPSBURG, Princess Juliana Int'l	Obstacles infringing on the take off climb and approach obstacle limitation surfaces for both Runways 09 & 27 include fencing, vehicles on roads, buildings, vegetation and terrain.	02/2002	Eliminate some obstacles by not declaring the stopways at both runway ends. This may involve a displacement of the Runway 09 threshold and Runway 27 end. Remove, light and mark remaining obstacles as appropriate.	PJIAE (Netherlands Antilles)	12/2005	

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Identification			Deficiencies	Action Plan				
Requirements		States/facilities	Description	Date of presentation	Corrective Action	Executing Body	Date of correction	Difficulties Encountered
AGA 251 C	Pavement Surface Conditions (Annex 14, Vol. I, Chap. 10.2, 10.2.1,10.2.2, 10.2.4 & 10.2.7)	Netherlands Antilles, CURACAO/ WILLEMSTAD, Hato Int'l	Runway pavement has extensive cracking	25/03/2003	Upgrade runway pavement. Action Plan: Airport operator to seal runway surface.	Netherlands Antilles	2003	Airport operator has carried out a specialized technical study, which establishes that the cracking is only superficial, not structural.
AGA 261 C	Runway End Safety Area (Annex 14, Vol. I, Chap. 3.5 - 3.5.1)	Netherlands Antilles, SINT MAARTEN/ PHILIPSBURG, Princess Juliana Int'l	Runway end safety areas are not provided at both runway ends	02/2002	Provide the required runway end safety areas by not declaring the stopways at both runway ends. Action Plan: NACO has been commissioned and has worked out a plan of action to address this matter.	PJIAE (Netherlands Antilles)	12/2005	
AGA 259 C	Runway Strip (Annex 14, Vol. I, Chap. 3.4 - 3.4.2)	Netherlands Antilles, SINT MAARTEN/ PHILIPSBURG, Princess Juliana Int'l	The runway strip length is insufficient at both runway ends.	02/2002	Provide the required runway strip length by not declaring the stopways at both runway ends. Action Plan: Strip extends up to 60 m beyond end of runway. This length is available by not declaring stopways. Has been investigated to establish the implications.	PJIAE (Netherlands Antilles)	12/2005	
AGA 246 C	Visual Aids (Annex 14, Vol. I, Chap. 5 - 5.2.8.1 & 3)	Netherlands Antilles, CURACAO/ WILLEMSTAD, Hato Int'l	Taxiway centreline markings at runway – taxiway intersections are not provided on some taxiways	25/03/2003	Provide taxiway centreline markings at all runway – taxiway intersections. Action Plan: Airport operator to paint taxiway centreline markings on runway intersections.	Netherlands Antilles	30/04/2003	
AGA 249 C	Visual Aids (Annex 14, Vol. I, Chap. 5, 5.3.15 - 5.3.15.1)	Netherlands Antilles, CURACAO/ WILLEMSTAD, Hato Int'l	Stopway lights are not provided	25/03/2003	Provide stopway lights or do not declare stopway. Action Plan: NOTAM to be issued by DCA notifying lack of stopway lights. Airport operator to engage in consultation process with DCA and aircraft operators to confirm the need for stopways. If stopways are not necessary, DCA not to declare, modify the runway declared ASDA distance and amend AIP. If stopways are necessary, airport operator to provide stopway lights.	Netherlands Antilles	2004	
AGA 270 C	Visual Aids (Annex 14, Vol. I, Chap. 5, 5.3.15, 5.3.15.1)	Netherlands Antilles, SINT MAARTEN/ PHILIPSBURG, Princess Juliana Int'l	Stopway lights are not provided at both runway ends	02/2002	Provide stopway lights or do not declare stopways at both runway ends. Action Plan: Stopways should not be declared, no lights required.	PJIAE (Netherlands Antilles)	12/2005	
AGA Saint Kitts and Nevis/San Kitts y Nevis								
AGA 286 C	Runway End Safety Area (Annex 14, Vol. I, Chap. 3.5 - Std. 3.5.2)	St. Kitts and Nevis, CHARLESTOWN, Vance W. Amory Int'l	The runway end safety area length at the east end is insufficient	09/09/2003	Extend the runway end safety area length, reduce the Runway 10 declared distances or reduce the aerodrome category. Action Plan: Runway upgrade project.	Nevis Island Administration	2006	

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REPORTING FORM ON AIR NAVIGATION DEFICIENCIES IN THE AGA FIELD IN THE CAR REGION

Identification			Deficiencies	Action Plan				
Requirements		States/facilities	Description	Date of presentation	Corrective Action	Executing Body	Date of correction	Difficulties Encountered
AGA Saint Lucia/Santa Lucía								
AGA 120 C	Visual Aids (Annex 14, Vol. I, Chap. 5, 5.3.5.1 & 3 and ANP FASID Table AOP 1)	Saint Lucia, VIEUX FORT, Hewanorra Intl	Runway 28 PAPI is not operational due to lack of electrical power supply	14/04/2004	Provide PAPI for Runway 28. Status: Pending	SLASPA	10/2003	
AGA 118 C	Visual Aids (Annex 14, Vol. I, Chap. 5, Rec. 5.1.1.5)	Saint Lucia, VIEUX FORT, Hewanorra Intl	Wind direction indicator is not illuminated	14/04/2004	Provide illuminated wind indicator. Status: Pending	SLASPA	06/2003	
AGA Saint Vincent and the G./San Vicente y las Granadinas								
AGA 213 C	Fencing (Annex 14, Vol. I, Chap.9, 9.10, 9.10.1 & 9.10.3)	St. Vincent and the Grenadines, KINGSTOWN, E. T. Joshua	An unauthorised person was observed crossing the runway strip at the west runway end and chickens were observed in front of the rescue and fire-fighting facility	5/02/2004	Ensure perimeter barrier is secure to prevent access to the airfield by animals and unauthorised persons. Action Plan: Repair and replacement of security fences, and construction of a perimeter road along the fence.	Min. NS. PS & AD St. Vincent and the Grenadines	12/2005	
AGA 209 C	Obstacles (Annex 14, Vol. I , Chap. 4, 4.2 , Rec. 4.2.27)	St. Vincent and the Grenadines, KINGSTOWN, E. T. Joshua	Obstacles infringing on the Runway 07 take off climb obstacle limitation surface include fencing, roads, terrain, buildings and vegetation	5/02/2004	Discontinue Runway 07 take-off operations with immediate effect. Action Plan: Discontinuation of Runway 07 take offs except under special dispensation by licensing authority.	Min. NS, PS & AD St. Vincent and the Grenadines	12/2004	
AGA 215 C	Pavement Surface Conditions (Annex 14, Vol. I, Chap. 10.2, 10.2.1, 10.2.2, 10.2.3 & 10.2.4)	St. Vincent and the Grenadines, KINGSTOWN, E. T. Joshua	Runway sides, taxiway and apron pavement surfaces severely deficient in many areas and FOD is present	5/02/2004	Maintain pavement surfaces clean of FOD and repair pavements. Action Plan: Repair and upgrading of pavement surfaces is a part of the ongoing Airport Improvement Project.	Min. NS, PS & AD St. Vincent and the Grenadines	6/2006	
AGA 214 C	Rescue and Fire Fighting (Annex 14, Vol. I, Chap. 9.2 - 9.2.3, 5 & 6)	St. Vincent and the Grenadines, KINGSTOWN, E. T. Joshua	Rescue and fire-fighting Category should be 7, minimum 6, for B727 operations	5/02/2004	Discontinue B727 operations or upgrade RFFS Category to 7, or 6 minimum. Action Plan: RFF Category to be upgraded in keeping with aircraft types using airport.	Min. NS, PS & AD St. Vincent and the Grenadines	6/2006	
AGA 206 C	Runway End Safety Area (Annex 14, Vol. I, Chap. 3.5 - 3.5.1)	St. Vincent and the Grenadines, KINGSTOWN, E. T. Joshua	No runway end safety area is provided at the east runway end	5/02/2004	Provide a runway end safety area by displacing the Runway 07 end and reducing the declared landing distance. Action Plan: Runway end safety area will be established under Airport Improvement Project. New declared distances will be published.	Min. NS, PS & AD St. Vincent and the Grenadines	6/2006	
AGA 207 C	Runway End Safety Area (Annex 14, Vol. I, Chap. 3.5, 3.5.1, 3.5.2 & 3.5.4)	St. Vincent and the Grenadines, KINGSTOWN, E. T. Joshua	Length and width of the runway end safety area at the west runway end is insufficient	5/02/2004	Correct the runway end safety area deficiencies by displacing the Runway 25 end and reducing the declared take-off distance. Action Plan: Runway end safety area will be established at west runway end under the Airport Improvement Project.	Min. NS, PS & AD St. Vincent and the Grenadines	6/2006	

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Identification			Deficiencies	Action Plan				
Requirements		States/facilities	Description	Date of presentation	Corrective Action	Executing Body	Date of correction	Difficulties Encountered
AGA 204 C	Runway Strip (Annex 14, Vol. I, Chap. 3.4 - 3.4.2)	St. Vincent and the Grenadines, KINGSTOWN, E. T. Joshua	No runway strip is provided at the east runway end	5/02/2004	Provide the runway strip by displacing the Runway 07 end and reducing the declared landing distance. Action Plan: Runway 07 end will be displaced to provide runway strip. Declared distances will be revised.	Min. NS, PS & AD St. Vincent and the Grenadines	6/2006	
AGA 216 C	Visual Aids (Annex 14, Vol. I, Chap. 5, 5.2.4 & 5.2.4.1)	St. Vincent and the Grenadines, KINGSTOWN, E. T. Joshua	Runway 07 designation and threshold markings are faded	5/02/2004	Re-paint runway markings. Action Plan: Corrective action being undertaken.	Min. NS, PS & AD St. Vincent and the Grenadines	6/2004	
AGA Trinidad and Tobago/Trinidad y Tabago								
AGA 84 C	Pavement Surface Conditions (Annex 14, Vol. I, Chap. 10, 10.2, 10.2.1, 10.2.2, 10.2.3, 10.2.4 & 10.2.8)	Trinidad & Tobago, PORT OF SPAIN, Piarco Intl	Runway pavement surface condition deficient. Excessive rubber deposits on the runway surface	10/12/2003	Upgrade runway pavement. Action Plan: Rubber has been removed. Runway upgrading project ongoing.	AATT (Trinidad and Tobago)	9/2004	
AGA 71 C	Rescue and Fire Fighting Service and Airport Emergency Planning (Annex 14, Vol. I, Chap. 9.1 & 9.2)	Trinidad and Tobago, PORT OF SPAIN, Piarco	RFFS facilities are inadequate- Ref Annex 14 Vol. I Sections 9.2.21, 22, 29 & 30	10/12/2003	Provide new RFFS facility at a location with direct access to the runway and ensuring minimum response times to both runway ends. Action Plan: New RFFS facility under construction.	Trinidad & Tobago	6/2004	
AGA 291 C	Runway End Safety Area (Annex 14, Vol. I, Chap. 3.5 - 3.5.1)	Trinidad and Tobago. SCARBOROUGH, Crown Point Int'l	No runway end safety area is provided at the western runway end	10/12/2003	Provide the required runway end safety area. Action Plan: Publish lack of RESA in AIP. Analyse operational impact of reducing runway declared distances.	TTCAA/AATT (Trinidad and Tobago)	3/2004	
AGA 290 C	Runway Strip (Annex 14, Vol. I, Chap. 3.4 - 3.4.2)	Trinidad and Tobago. SCARBOROUGH, Crown Point Int'l	The runway strip length is insufficient at the western runway end.	10/12/2003	Provide the required runway strip length. Action Plan: Publish lack of runway strip in AIP. Analyse operational impact of reducing runway declared distances.	TTCAA/AATT (Trinidad and Tobago)	3/2004	
AGA United States/Estados Unidos								
AGA 279 C	Runway end safety area (Annex 14, Vol. I, Chapter 3, 3.5, 3.5.1 & 3.5.2)	United States, San Juan, Luis Muñoz Marin International	No RESA is provided at the east end of Runway 08/26	16/02/2005	Provide RESA Action Plan: Threshold displaced to coincident with new parallel Twy S (underway) and relocated ILS. SJU working with FAA, US EPA and US Army Corps of Engineers to obtain a FONSI to continue extension of RESA.	United States	TBD	

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REPORTING FORM ON AIR NAVIGATION DEFICIENCIES IN THE AGA FIELD IN THE CAR REGION

Identification			Deficiencies	Action Plan				
Requirements		States/facilities	Description	Date of presentation	Corrective Action	Executing Body	Date of correction	Difficulties Encountered
AGA 323 C	Runway End Safety Area (Annex 14, Vol.I, Chap. 3, 3.5, 3.5.1 & 3.5.2)	United States, Puerto Rico, Luis Muñoz Marin International Airport	No runway end safety area is provided at the east end of Runway 08/26	16/02/2005	Provide runway end safety area by extension and/or displacing the Runway 08 end and Runway 26 threshold and reduce the runway declared distances accordingly. Action Plan: Threshold displaced to coincident with new parallel Twy S (underway) and relocated ILS. SJU working with FAA, US EPA and US Army Corps of Engineers to obtain a FONSI to continue extension of RESA.	United States	TBD	
AGA 321 C	Runway Strip (Annex 14, Vol.I, Chap.3, 3.4 & 3.4.2)	United States, Puerto Rico, Luis Muñoz Marin International Airport	Runway 08/26 strip length is insufficient at the east end	16/02/2005	Lengthen the runway strip or displace the Runway 08 end and Runway 26 threshold and reduce the runway declared distances accordingly. Action Plan: Threshold displaced to coincident with new parallel Twy S (underway) and relocated ILS. SJU working with FAA, US EPA and US Army Corps of Engineers to obtain a FONSI to continue extension of RESA.	United States	TBD	

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REPORTING FORM ON AIR NAVIGATION DEFICIENCIES IN THE AGA FIELD IN THE SAM REGION

Identification			Deficiencies	Action Plan				
Requirements		States/facilities	Description	Date of presentation	Corrective Action	Executing Body	Date of correction	Difficulties Encountered
AGA Argentina								
AGA 220 S	Emergency plans (Annex 14, Vol. I, Ch. 9, Doc 9137-AN/898, Part 7)	Argentina/BUENOS AYRES/Ezeiza/Min. Pistarini Int´l Airport	Last aerodrome emergency exercise was conducted on 9 NOV 2000	NOV 2004	Carry out aerodrome emergency exercises at intervals not exceeding two years and comply with ICAO SARPS and/or inform the ICAO SAM Office when it will be done "PENDING ACTION PLAN" ACTION PLAN: Scheduled for 09 NOV 2004 (AGA/AOP/SG/4, Mexico, 15-18 NOV 2004) Re-scheduled for October 2005 (Fax 273/05, FAA, 18 AUG 05)	Argentina	NOV 2004	
AGA Ecuador								
AGA 306 S	Emergency Plans (Annex 14, Vol. I, Ch. 9)	ECUADOR/DAC	The emergency plans are not updated	DEC 05	Update emergency plans "PENDING ACTION PLAN" The information "The emergency plans administrated by DGAC are updated every year after the general exercises" of the Doc DGAC-j-025-04, 25 JUN 2004 is in conflict with was informed by the DGAC personnel during the above mentioned mission. ACTION PLAN: Quito & Guayaquil have updated emergency plans. Manta and Latacunga will be required to do so in 2006 (Doc DGAC-k3-O-05-1237, 05 DEC 2005).	ECUADOR/DAC	2006	
AGA Guyana								
AGA 446 S	Annex 14, Vol. I, Ch. 9	GUYANA/CAA/SYCJ – TIMEHRI/ Cheddi Jagan Int´l	Bad communication between airport tower and RFF. Presence of RFF tower, which is not necessary.	SEP 05	Provide direct communication between tower and fire fighting services without intermediate tower ACTION PLAN: In process. Expected to be complete by 15 OCT 05 (Doc GCAA/ICAO/5/3/2, 28 SEP 05)	CAA/ Airport Operator	OCT 05	
AGA Paraguay								
AGA 24 S	RWY surface conditions (Annex 14, Vol. I, Chap. 3)	Paraguay, Aerodrome of Asuncion/Silvio Pettirossi	The main RWY pavement is in process of deterioration	22 NOV 2002	ACTION TAKEN: The repair in both ends: 1000m RWY02 and 600m RWY 20 was finalized, and to this date the overlaying of the 100% of the runway is in process. 60 working days is estimated for the finalization of the second phase of 1.700m of runway. ACTION PLAN: Resurface scheduled for the 15m RWY central part for 2006 (Doc DINAC 832/2005, 22 JUL 05)	Paraguay	2006	

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REPORTING FORM ON AIR NAVIGATION DEFICIENCIES IN THE AGA FIELD IN THE SAM REGION

Identification		Deficiencies	Action Plan				
Requirements	States/facilities	Description	Date of presentation	Corrective Action	Executing Body	Date of correction	Difficulties Encountered
AGA Venezuela							
AGA 424 S Annex 14, Vol. I, Ch. 10	VENEZUELA/INAC/IAAIM	Rubber built-up on the first third of RWY 10	01 MAR 05	Remove excess of rubber built-up from the first third of RWY 10 "PENDING ACTION PLAN" ACTION PLAN: The excess of rubber will be removed after the pavement studies (DOC PRE 704.05 - 06 APR 05) - (DOC PRE 4593.05 de 20 DEC 05) Rescheduled for DEC 06 (DOC PRE-ORAC-4143-06, 26 SEP 06)	INAC/IAAIM	30 MAY 06	
AGA 427 S Annex 14, Vol. I, Ch. 4	VENEZUELA/INAC/IAAIM	Presence of concrete boxes > 20 cm of the terrain surface, open box (4m x 4m x ≈ 5 m deep, room for equipments, rigid base for antennas, etc on the RWY strip	01 MAR 05	Eliminate all the obstacles from the RWY strip and provide frangible base for antennas. "PENDING ACTION PLAN" ACTION PLAN: The obstacles will be eliminated and frangible bases will be provided for the antennas (DOC PRE 704.05 - 06 APR 05) - (DOC PRE 4593.05 de 20 DEC 05) Rescheduled for JUN 07 (DOC PRE-ORAC-4143-06, 26 SEP 06)	INAC/IAAIM	31 MAR 06	
AGA 392 S Annex 14, Vol. I, Ch. 9	VENEZUELA/INAC	Emergency plans are not updated & no good facilities for Emergency Operations Centre	01 MAR 05	Update Emergency plans and provide good facilities for Emergency Operations Centre "PENDING ACTION PLAN" ACTION PLAN: The int´l airports will be required to present updated plans between 01 JUL and 31 DEC 05 (DOC PRE 704.05 - 06 APR 05) - (DOC PRE 4593.05 de 20 DEC 05) Rescheduled for JUN 07 (DOC PRE-ORAC-4143-06, 26 SEP 06)	INAC	31 DEC 05	

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REPORTING FORM ON AIR NAVIGATION DEFICIENCIES IN THE AIS FIELD IN THE CAR REGION

Identification			Deficiencies	Action Plan				
	Requirements	States/facilities	Description	Date of presentation	Corrective Action	Executing Body	Date of correction	Difficulties Encountered
AIS	**Dominican Republic/República Dominicana**							
AIS	34 C Annex 15, Para. 3.6.4; Annex 4, Para. 2.18; Doc. 8733, Basic ANP, Part VIII, Paras 50 to 58, FASID Table AIS 5	Dominican Republic	Partial implementation of the WGS-84	09/02/04	Need to implement the WGS-84 Geodetic System. Action Plan: 90% completed.	State	30/11/04	Administrative coordination.
AIS	**Nicaragua**							
AIS	42 C Annex 15, Para. 3.6.4; Annex 4, Para. 2.18; Doc. 8733, Basic ANP, Part VIII, Paras 50 to 58, FASID Table AIS 5	Nicaragua	Lack of implementation of the WGS-84	16/01/04	Need to implement the WGS-84 Geodetic System. Action Plan: Surveys have been performed at the main aerodromes of the country.	State	30/11/04	

ACTION PLAN FOR RESOLVING REGIONAL AIR NAVIGATION DEFICIENCIES

REPORTING FORM ON AIR NAVIGATION DEFICIENCIES IN THE AIS FIELD IN THE SAM REGION

Identification				Deficiencies	Action Plan				
		Requirements	States/facilities	Description	Date of presentation	Corrective Action	Executing Body	Date of correction	Difficulties Encountered
AIS	**Bolivia**								
AIS	27 S	ICAO Annex 15, Chapter 6; ANP (Doc. 8733) Par. 46 - 49. Sistema AIRAC.	Bolivia	Need for an effective implementation of AIRAC requirements	2004	Action Plan (2006) 90% implemented	Indicated State	TBD	
AIS	7 S	ICAO Annex 15, Para. 3.4.4.1 WGS-84.Geodetic System	Bolivia	Need to comply with effective and total implementation of the WGS-84.	2003	Action Plan (2006) 40% implemented	Indicated State	TBD	
AIS	16 S	ICAO Annex 4. WGS-84.Geodetic System	Bolivia	.Need for production of all required aeronautical charts under the WGS-84 system.	2003	Action Plan (2006 . 40% implemented	Indicated State	TBD	
AIS	**Ecuador**								
AIS	32 S	ICAO Annex 15, Chapter 6; ANP (Doc. 8733) Par. 45.	Ecuador	Need for implementation of AIRAC requirements.	2006	Action plan 2006 20% implemented	Indicated State.	TBD	
AIS	**Guyana**								
AIS	9 S	ICAO Annex 15, Para. 3.4.4.1 WGS-84.Geodetic System	Guyana	Need to comply with effective and total implementation of the WGS-84.	2003	Actiona Plan (2004 60% implemented	Indicated State	TBD	
AIS	20 S	ICAO Annex 4. WGS-84.Geodetic System	Guyana	Need for production of all required aeronautical charts under the WGS-84 system.	2003	Action Plan (2004) 80% implemented.	Indicated State	TBD	
AIS	**Suriname**								
AIS	31 S	CAO Annex 15, Chapter 6; ANP (Doc. 8733) Par. 46 - 49. Sistema AIRAC.	Suriname	Need for an effective implementation of AIRAC requirements.	2005	Action Plan (2005). 80% implemented	Indicated State	TBD	
AIS	13 S	ICAO Annex 15, Para. 3.4.4.1 WGS-84.Geodetic System	Suriname	Need to comply with effective and total implementation of the WGS-84.	2005	Action plan 2005. Ongoing	Indicated State	TBD	

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Identification			Deficiencies	Action Plan				
Requirements		States/facilities	Description	Date of presentation	Corrective Action	Executing Body	Date of correction	Difficulties Encountered
AIS Venezuela								
AIS	14 S	ICAO Annex 15, Para. 3.4.4.1 WGS-84.Geodetic System	Venezuela	Need to comply with effective and total implementation of the WGS-84.	2006	Action plan (2006) Ongoing	Indicated State	TBD

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REPORTING FORM ON AIR NAVIGATION DEFICIENCIES IN THE ATM FIELD IN THE CAR REGION

Identification			Deficiencies	Action Plan				
Requirements		States/facilities	Description	Date of presentation	Corrective Action	Executing Body	Date of correction	Difficulties Encountered
ATM Dominican Republic/República Dominicana								
ATM	23 C Use of the aeronautical phraseology	Dominican Republic	In general, the use of aeronautical phraseology in Spanish and/or English does not meet the required levels and it is a relevant factor with regard to ATS incidents.	02/04	Continuous training and supervision in the use of aeronautical phraseology is required. Action Plan: Training processes carried out since 2002 have satisfactorily risen the use of aeronautical phraseology, which has considerably decreased the aeronautical incidents. In addition, enhancements to the training plans have been implemented in order to keep on rising the aeronautical phraseology standards.	CAA Dominican Republic	2005	
ATM Honduras								
ATM	10 C English proficiency in Air Traffic Services CAR/SAM/3 Rec. 5/35	Honduras	The proficiency in the English language of some ATC units is below the desired level and could be a contributing factor for the ocurrence of incidents and/or aeronautical accidents.	10/04	a) The required English language evaluation was carried out and effectively, its was noted that 60% of the Air Traffic Controllers presented the deficiency. b) The State has been required to ensure that the recruitment of new personnel be done in accordance with ICAO standards, as well as English proficiency. Additionally, The ATS Quality Assurance Plan is in process. c) The required use of English and Spanish aeronautical phraseology has also been demanded, and to that end, some local courses have been offered in this regard.	CAA Honduras	2005	

ACTION PLAN FOR RESOLVING REGIONAL AIR NAVIGATION DEFICIENCIES

REPORTING FORM ON AIR NAVIGATION DEFICIENCIES IN THE ATM FIELD IN THE SAM REGION

Identification			Deficiencies	Action Plan				
Requirements		States/facilities	Description	Date of presentation	Corrective Action	Executing Body	Date of correction	Difficulties Encountered
ATM Brazil/Brasil								
ATM	36 S	Unmanned free balloons (Annex 2, Chapter 3, para. 3.1.9) Brazil/Brasil	Free balloons are launched by people during the months of May, June and July, causing serious problems in air operations.	2004	The State has taken measures through television programmes to make people aware of the problem. Actions directed to ATC on information provided to pilots. The deficiency persists.	Indicated State	TBD	This is a deficiency which is produced in the months of May, June and July due to national festivities. The major difficulty is that its is a popular costum. In view of this, the State has taken measures such as making the population aware through the media. It has also adopted actions directed towards the ATC and to inform pilots through aeronautical publications. Brazil informed that laws were developed that prevent punishments for people launching free balloons. However, due that this is a popular tradition; it is difficult to establish a finalization date.
ATM Paraguay								
ATM	10 S	English proficiency in Air Traffic Services, CAR/SAM/3 Rec. 5/35 Paraguay	The proficiency in the English language of some ATC units is below the desired level and could be a contributory factor for the occurrence of incidents and/or aeronautical accidents. (Annex 1)	2003	Through Note GNA-001/02 dated 22 November 2002, the administration has initiated the training process for the English language proficiency, scheduled to finalize in 2005. (Mission 2004: State is encouraged to maintain the training programme on this field).	DINAC Paraguay	2007	Paraguay informed that the solution is foreseen by 2007.
ATM	21 S	Use of the aeronautical phraseology Paraguay	In general, the use of aeronautical phraseology does not meet the required levels and it is a relevant factor with regard to ATS incidents	2003	The training process is expected to be finalized for 2005. (Mission 2004: State is encouraged to maintain the training programme on this field).	DINAC Paraguay	2006	Paraguay informed that the solution is foreseen by 2006.
ATM Uruguay								
ATM	11 S	English proficiency in Air Traffic Services, CAR/SAM/3 Rec. 5/35 Uruguay	The proficiency in the English language of some ATC units is below the desired level and could be a contributory factor for the occurrence of incidents and/or aeronautical accidents. (Annex 1)	2003	Through communication No. 025/02 dated 20 March 2002, the Uruguayan administration informed that they are studying the possibility to reinitiate improvement of English courses for ATCOs, planning aeronautical phraseology course for ATCOs with bilingual requirements in Spanish and English. During 2003, training programme was reinitiated to reach level 5 of Annex 1. When hiring neew personnel the minimum level required corresponds to the "First Certificate of Advanced English".	DINACIA Uruguay	2007	Uruguay informed that a training system for air traffic controllers in English language proficiency foreseeing its solution by 2007.

ACTION PLAN FOR RESOLVING REGIONAL AIR NAVIGATION DEFICIENCIES

REPORTING FORM ON AIR NAVIGATION DEFICIENCIES IN THE ATM FIELD IN THE SAM REGION

Identification			Deficiencies	Action Plan				
Requirements		States/facilities	Description	Date of presentation	Corrective Action	Executing Body	Date of correction	Difficulties Encountered
ATM 23 S	Use of the aeronautical phraseology	Uruguay	In general, the use of aeronautical phraseology does not meet the required levels and it is a relevant factor with regard to ATS incidents	2003	1) Implement a continuous training and updating plan. 2) Continuously monitor its correct use in ATS units. 3) Has training programmes (Mission Nov 2003) for the correct use of aeronautical phraseology in Spanish and English languages for ATCOs, with supervision on the adequate use of the same.	DINACIA Uruguay	2006	Uruguay informed that a training process on the use of aeronautical phraseology for air traffic controllers has been implemented, foreseeing its solution by 2006.
ATM Venezuela								
ATM 27 S	English proficiency in Air Traffic Services, CAR/SAM/3 Rec. 5/35	Venezuela	The proficiency in the English language of some ATC units is below the desired level and could be a contributory factor for the occurrence of incidents and/or aeronautical accidents. (Annex 1)	2002	1) Incorporate personnel with a good level of colloquial English. 2) Establish a training plan and recurrence of the English language. (E-CAR/SAM-NE ICG/2 Dic 2003). Also, the administration has informed that they are carrying out coordinations with the PANAM Int. Flight Academy to send ATCOs. (Note 0253 dated 19 February 2003).	INAC Venezuela	2008	Venezuela informed that a continuing process for training of air traffic controllers has been implemented, foreseeing its solution by 2008.
ATM 25 S	Use of the aeronautical phraseology	Venezuela	In general, the use of aeronautical phraseology does not meet the required levels and is a relevant factor with regard to ATS incidents.	2002	1) Implement a continuous training and updating plan. 2) Continuously monitor its correct use in ATS units. (E-CAR/SAM-NE ICG/2 Dic 2003). Realization of refreshment courses for ATCOs during 2004.	INAC Venezuela	2007	Venezuela informed that a continuing process for training in the use of aeronautical phraseology for air traffic controllers has been implemented, foreseeing its solution by 2007.

ACTION PLAN FOR RESOLVING REGIONAL AIR NAVIGATION DEFICIENCIES

REPORTING FORM ON AIR NAVIGATION DEFICIENCIES IN THE CNS FIELD IN THE CAR REGION

Identification				Deficiencies	Action Plan				
Requirements			States/facilities	Description	Date of presentation	Corrective Action	Executing Body	Date of correction	Difficulties Encountered
CNS Mexico									
CNS	54 C	VHF/AMS-voice. Aeronautical Mobile Service Plan (Table CNS 2A)	United States	Lack of VHF-AMS oral coverage under the FL280 in Houston oceanic FIR in the CTA Merida boundaries with the CTA Monterrey. This requirement does not figure in the Table CNS 2A of the FASID, which ICAO is coordinating with the United States.	10/02/2004	To implement the required equipment for the operation of VHF/AMS oral functions. Implement a VHF remote stations in Mexico, based in a current agreement between Unites States and Mexico, as well as its mitigation by implementing ADS-B.	United States/Mexico	2005	Budget specific approval for this purpose.
CNS Trinidad and Tobago/Trinidad y Tabago									
CNS	22 C	VHF/HF-AMS Communications Plan (Table CNS 2A) TTZP Piarco HF Voice	Trinidad and Tobago/CAR-A(3), CAR-B(1), SAM-2(2)	Several reports of pilots indicated that Piarco ACC was not available via HF frequencies. The Piarco centre has not implemented all required frequency, so it does not has 24 hours a day communication availability.	10/2004	It has been agreed that airlines contact Piarco ACC through ARINC's HF radio facilities in New York, this temporary solution was implemented. Through an ICAO Technical cooperation project a new equipment has been installed and according to information from Trinidad and Tobago, it was expeted that its commissioning would be in September 2005.	CAA Trinidad and Tobago.	09/2005	

ACTION PLAN FOR RESOLVING REGIONAL AIR NAVIGATION DEFICIENCIES

REPORTING FORM ON AIR NAVIGATION DEFICIENCIES IN THE CNS FIELD IN THE SAM REGION

Identification				Deficiencies	Action Plan				
Requirements			States/facilities	Description	Date of presentation	Corrective Action	Executing Body	Date of correction	Difficulties Encountered
CNS Argentina									
CNS	11 S	Aeronautical Mobile Service Plan. Table CNS 1A. Lack of HF communicaitons coverage in the Ezeiza FIR, Oceanic Sector	Argentina	Deficiencies in the HF communications have been identified in the oceanic part of the Ezeiza FIR.	October 2005	Total renewal of the HF equipments in Ezeiza (October 1999). The HF transmitter and receiver field antenna repaired on October 1999. FA Atlantic circuit, links verified 86,84%. New position was incorporated for the FA Atlantico. Operational extension of ACC Ezeiza and TMA Baires. Incorporation of means of communications between the aeronautical station and the remote equipment, obtaining the noise suppression in aeronautical station of the ACC. Receive only one HF frequency it is missing the monitor of other HF frequencies of the family assigned.	Argentina CAA	March 2007	Installation of a module in the Ezeiza ACC that permit the selection of more than one HF frequency.
CNS Ecuador									
CNS	28 S	Aeronautical Mobile Service Plan. Table CNS 1A. Lack of VHF communications in the Guayaquil FIR	Ecuador	North portion of the Guayaquil FIR lacked VHF communications coverage	June 2004	Ecuador assured the deficiency will be resolved by September 2004	State	09/2004	
CNS Venezuela									
CNS	14 S	Aeronautical Mobile Service Plan. Table CNS 1A. Lack of VHF communications in the Maiquetia FIR	Venezuela	Due to the lack of VHF coverage in some segments of ATS routes crossing the Maiquetia FIR, ATS is not yet provided in the required level	January 2004	A NEW VHF COMMUNICATION SYSTEM FOR MAIQUETIA ACC WAS ACQUIRED THROUGH THE ICAO TECHNICAL COOPERATION WHIT THE AIM TO GUARANTEE THE COMPLETE COVERAGE OF THE ACC .	Venezuela CAA	03/07	Delay in the process of acquisition

ACTION PLAN FOR RESOLVING REGIONAL AIR NAVIGATION DEFICIENCIES

REPORTING FORM ON AIR NAVIGATION DEFICIENCIES IN THE MET FIELD IN THE SAM REGION

Identification				Deficiencies	Action Plan				
Requirements			States/facilities	Description	Date of presentation	Corrective Action	Executing Body	Date of correction	Difficulties Encountered
MET Bolivia									
MET	30 S	Compliance with the requirements of the World Meteorological Organization (WMO) with regard to qualifications and training of aeronautical meteorology (MET) personnel (Annex 3, Chapter 2, Standard 2.1.5)	Bolivia / Aerodrome meteorological offices and meteorological watch office (MWO) of La Paz	Not all MET personnel complies with the requirements related to qualifications and training of WMO Publication No. 49. MET Technical personnel is complying functions of professional meteorologists.	2006	They have sent MET personnel to get trained in Argentina. These efforts will continue.	AASANA	TBD	
MET Colombia									
MET	32 S	Compliance with the requirements of the World Meteorological Organization (WMO) with regard to qualifications and training of aeronautical meteorology (MET) personnel (Annex 3, Chapter 2, Standard 2.1.5)	Colombia / Aerodrome meteorological offices and meteorological watch office (MWO) of Bogotá	Not all MET personnel complies with the requirements related to qualifications and training of WMO Publication No. 49, MET Class IV personnel is carrying out functions of MET Class II personnel.	2000	In consultancy process, through TDA; through which alternatives for the solution to this problem are expected.	UAEAC	TBD	
MET Panama									
MET	35 S	Compliance with the requirements of the World Meteorological Organization (WMO) with regard to qualifications and training of aeronautical meteorology (MET) personnel (Annex 3, Chapter 2, Standard 2.1.5)	Panama / Aerodrome meteorological offices and meteorological watch offices (MWO) of Tocumen	Not all MET personnel complies with the requirements related to qualifications and training of WMO Publication No. 49.	2002	They are making efforts to use the resources of some projects to be implemented.	NCAA in coordination with Hydromet Nat. Service	TBD	

ACTION PLAN FOR RESOLVING REGIONAL AIR NAVIGATION DEFICIENCIES

REPORTING FORM ON AIR NAVIGATION DEFICIENCIES IN THE MET FIELD IN THE SAM REGION

Identification				Deficiencies	Action Plan				
Requirements			States/facilities	Description	Date of presentation	Corrective Action	Executing Body	Date of correction	Difficulties Encountered
MET Paraguay									
MET	36 S	Compliance with the requirements of the World Meteorological Organization (WMO) with regard to qualifications and training of aeronautical meteorology (MET) personnel (Annex 3, Chapter 2, Standard 2.1.5)	Paraguay / Aerodrome meteorological offices and meteorolgoical watch office (MWO)	Not all MET personnel complies with the requirements related to qualifications and training of WMO Publication No. 49. The actual personnel does not satisfy the minimum requirements for the preovision of MET service.	2003	Short Term: Hire the personnel available graduated at the FP-UNA and 5 meteorological observers, graduated in Class IV Course carried out by INAC. Med. Term: Carry out an Aeronautical Meteorology Formation Course, in accordance with the requirements of WMO document No. 258. Long Term: Develop projects for the formation of Class I and Class II personnel with the assistance of Voluntary Technical Cooperation and senior level education institutes of the country.	DINAC	Dec 2007	There are legal restrictions, since currently it is not possible to increase the number of public officers hired.
MET Peru									
MET	63 S	Runway visual range (Annex 3, Chap. 4, Standard 4.6.3.4) FASIC Table AOP 1 (CAR/SAM III-AOP 1-39)	Aerodrome meteorological station of Lima-Callao	No runway visual range assessments are made in the middle point.	2004	The RVR will be transferred from the runway end to the middle point.		2005	
MET	62 S	WMO requirements regarding qualifications and training of MET personnel (Annex 3, Chap 2, Standard 2.1.15)	Peru, MWO and Aerodrome MET Office of Lima-Callao	Meteorological technicians (Classes III and IV) are making MET forecasts and developing supervisory functions.	2004	Rotation of the corresponding charges.	CORPAC	2005	

ACTION PLAN FOR RESOLVING REGIONAL AIR NAVIGATION DEFICIENCIES

REPORTING FORM ON AIR NAVIGATION DEFICIENCIES IN THE SAR FIELD IN THE CAR REGION

Identification				Deficiencies	Action Plan				
Requirements			States/facilities	Description	Date of presentation	Corrective Action	Executing Body	Date of correction	Difficulties Encountered
SAR Haiti									
SAR	1 C	Search and Rescue facilities CAR/SAM/3 Rec. 6/2	Haiti SRR/RCC Port-au-Prince	SRR/RCC not implemented	04/05	The following items will be developed: SAR General Mission, Legal Aspects, Responsibility of providing SAR services, National entity SAR, Covering Area, SAR Means, SAR training, SAR Documentation, SAR Agreements.	CAA Haiti	2006	
SAR Trinidad and Tobago/Trinidad y Tabago									
SAR	2 C	Search and Rescue facilities CAR/SAM/3 Rec. 6/2	Trinidad and Tobago RCC Piarco	SAR partially implemented	10/12/03	Procurement of equipment ongoing.	CAA Trinidad and Tobago/Ministry of Nat.Sec.	2006	Signatures of SAR Agreememts with SRRs and RCCs pending.

Table A1 - Runway Strips and Runway End Safety Area (RESA) **2006**

Reporte de 2006 de Franjas de Pista y Las Areas de Seguridad de Extremo de Pista (RESA)

OCTOBER 2006 REPORTED DEFICIENCIES AND ACTION PLANS

INFORMATION:
INFORMACION: Working Paper (WP) #03 Appendices A - F, 5th MEETING OF THE GREPECAS AGA/AOP/SG/5, Montevideo, Uruguay; 20 – 24 Nov., 2006

CAR REGION				**SAM REGION**			
COUNTRY PAIS	AIRPORT / CITY AEROPUERTO / CUIDAD	DEFICIENCY & ACTION PLANS DEFICIENCIAS Y PLANOS de ACCION		COUNTRY PAIS	AIRPORT / CITY AEROPUERTO / CUIDAD	DEFICIENCY & ACTION PLANS DEFICIENCIAS Y PLANOS de ACCION	
		RESA CASES/ CASOS 40 Total 24 No Action Plans	RWY STRIP CASES/ CASOS 41 23 No Action Plans			RESA CASES/ CASOS 6 Total 6 No Action Plan	RWY STRIP CASES/ CASOS 12 Total 7 No Action Plan
Column Columna #1	Column Columna #2	Column Columna #3	Column Columna #4	Column Columna #5	Column Columna #6	Column Columna #7	Column Columna #8
ANTIGUA & BARBUDA				BOLIVIA			

	ST. JOHNS V.C.	2	2		LA PAZ	2	
ARUBA				COLOMBIA			
	ORANJESTAD	2			EL DORADO		2
					LETICIA		1
BELIZE					RIO NEGRO	2	2
	BELIZE CITY/PHILIP GOLDSON	2	1		SAN ANDRES		1
					SANTA FE DE BOGOTA	2	1
CAYMAN ISLANDS							
	GRAND CAYMAN	1	1	ECUADOR			
					GUAYAQUIL QUIPORT		1
COSTA RICA							
	ALAJUELA/SAN JOSE	2	2	PANAMA			
	LIBERIA/QUIROS	2			TOCUMEN		1
CUBA				PARAGUAY			
	HABANA		1		ASUNCION/ SILVIO PETTIRROSSI		1
	SANTIAGO DE CUBA	2					
				SURINAME			
EL SALVADOR					SMUPZANDERLY		1
	SAN SALVADOR/EL SALVADOR	1					
				URUGUAY			
GUATEMALA					SUMU-MONTEVIDEO		1
	LA AURORA/ GUATEMALA	2	2				

	MUNDO MAYA/FLORES	2	2	VENEZUELA			
					INCA/IAAIM		1
GRENADA							
	ST. GEORGE		2				
HONDURAS							
	TONCONTIN/ TEGUCIGALPA	2	2				
	LA MESA/SAN PEDRO SULA	2	2				
JAMAICA							
	KINGSTON	2	2				
	MONTEGO BAY	2	2				
MEXICO							
	BENITO JUAREZ	2	2				
	CANCUN	1	1				
	MONTERREY	1					
NETHER-LANDS ANTILLES							
	BONAIRE/KRALENDIJK		2				
	CURACAO/ WILLEMSTAD		1				
	ST. MAARTEN/ PHILIPSBURG	2	2				
NICARAGUA							
	MANAGUA	1	2				
SAINT KITTS & NEVIS							
	BASSETERRE	2	2				
	CHARLESTOWN	1	2				

ST. VINCENT & THE GRENADINES							
	KINGSTOWN	2	1 1				
	MUSTIQUE		2				
TRINIDAD & TOBAGO							
	PORT OF SPAIN		1				
	SCARBOROUGH	1	1				
UNITED STATES							
	SAN JUAN	1	2				

NOTES: The color ***RED*** and ***ORANGE*** indicate deficient RESA or Runway Strip with No Action Plan with ICAO
The color ***YELLOW*** indicates Action Plan with ICAO.
The color ***PURPLE*** indicates Action Plan on file as a Difficulty.

NOTAS El color ***ROJO*** y ***NARANJA*** indican deficiente RESA o Franja de Pista sin Plano de Acción con OACI.
El color *AMARILLO* indica Plano de Accion con OACI.
El color ***MORADO*** indica Plan de Accion con Dificultad

Agenda Item 5 Management of the GREPECAS Mechanism

5.1 Report of the ACG/6 Meeting

5.1.1 The Meeting took note of the results of the Sixth Meeting of the Administration Coordination Group (ACG/6) held in Lima, Peru, 2-3 March 2006, that included the review of terms of reference and work programmes of GREPECAS and all of its contributory bodies, status of implementation of these work programmes, review of the GREPECAS Procedural Handbook, review of the Procedural Handbook of the Group, establishment of a tentative programme of meetings for 2006-2007, and definition of the Order of Business for GREPECAS/14.

5.1.2 Upon discussing the progress made by the GREPECAS contributory bodies in their work, the Meeting took note of the lack of use of Microsoft Project for managing and presenting work programmes. In this regard, all Secretaries were reminded of Decision ACG/3/01, ***"Management and presentation of work programmes using MS Project Manager***," and were urged to use the format model contained in Appendix B, corresponding to Item 1 of ACG/4.

5.1.3 The Meeting noted that the ACG/6 had reviewed and updated the Procedural Handbook, as agreed upon by GREPECAS/13, and had produced Amendment No 2.

5.1.4 The Meeting noted that the ACG/7 Meeting was being scheduled for March 2008, in Lima, Peru, concurrently with the ASB/8 Meeting. In this sense, the Meeting agreed that if it were to wait for the ACG/7 to define the 2008 programme of meetings for the GREPECAS mechanism, valuable time would be lost as well as the opportunity to coordinate with the members of GREPECAS in attendance at this Meeting, to establish a tentative programme of meetings for 2008. In this respect, the Meeting analysed a proposal made by the Secretariat and formulated the following decision:

DECISION 14/62 TENTATIVE PROGRAMME OF MEETINGS FOR 2008

The tentative programme of meetings for 2008 is approved, as shown in **Appendix A** to this part of the Report.

5.1.5 The Meeting went on to discuss the conditions and venues for the meetings contained in the aforementioned Appendix. In this respect, and pursuant to *Decision 13/96 – Review and optimisation of the GREPECAS mechanism*, the Meeting acknowledged the offer made by the States, as summarised below:

GREPECAS/15 Meeting	Brazil
AGA/AOP/SG/6 Meeting	Cuba/Trinidad and Tobago
AERMET/SG/9 Meeting	United States
ATM/CNS/SG/6 Meeting	Dominican Republic
AIM/SG/11 Meeting	Colombia
AVSEC/COMM/6 Meeting	Mexico
AI/TF/4 Meeting	Colombia, Cartagena

5.2 Review of the Terms of Reference and Work Programmes for GREPECAS and its Contributory Bodies

5.2.1 The Meeting took note that, to date, the Human Resources Subgroup (HR/SG) had not had a chance to meet for reasons that would be analysed at the ASG/7 Meeting, to be held at the SAM Office in 2008, concurrently with an extraordinary meeting of the ASB. In this regard, a decision would be proposed for consideration by GREPECAS/15.

5.2.2 After discussing the work done by GREPECAS and its contributory bodies under Agenda Items 3, 4, and 5, the Group went on to review its respective Terms of Reference and Work Programmes. In view of the above, the Meeting formulated the following decision:

DECISION 14/63 TERMS OF REFERENCE, WORK PROGRAMME, AND COMPOSITION OF GREPECAS CONTRIBUTORY BODIES

GREPECAS approves the Terms of Reference, Work Programme, and composition of its contributory bodies, as shown in **Appendices B** to **K** to this part of the Report.

Appendix A to the Report on Agenda Item 5

GREPECAS MEETINGS DURING 2008

DAY	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T
JANUARY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31						
FEBRUARY					1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29						
								AVSEC/COMM/6																																
MARCH						1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31			
															ACG/7 & ASB/8																								
APRIL	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30									
															AGA/AOP/SG/6						IA/TF/4																		
MAY					1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31				
																					AERMET/SG/9																		
JUNE								1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30		
																						AIM/SG/11																	
JULY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31								
																					ATM/CNS/SG/6																		
AUGUST					1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31				
SEPTEMBER	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30									
OCTOBER			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31						
															GREPECAS/15																								
NOVEMBER					1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30					
DECEMBER	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31								

APPENDIX B

TERMS OF REFERENCE OF GREPECAS

1. The Terms of Reference of the Group are:

   a) continuous and coherent development of the CAR/SAM Air Navigation Plan and other relevant regional documentation in a manner that is harmonized with adjacent regions, consistent with ICAO SARPs and reflecting global requirements;

   b) facilitate the implementation of air navigation systems and services as identified in the CAR/SAM air navigation plan with due observance to the primacy of air safety and security; and

   c) identification and addressing of specific deficiencies in the air navigation field.

2. In order to meet the Terms of Reference the Group shall:

   a) review, and propose when necessary, the target dates for implementation of facilities, services and procedures to ensure the coordinated development of the Air Navigation System in the CAR and SAM Regions;

   b) assist the ICAO Regional Offices providing services in the CAR and SAM Regions in their assigned task of fostering implementation of the CAR/SAM Regional Air Navigation Plan;

   c) in line with the Global Aviation Safety Plan (GASP), ensure the conduct of any necessary systems performance monitoring, identify specific deficiencies in the Air Navigation field, especially in the context of safety and security, and propose corrective action;

   d) ensure the development and implementation of an action plan by States to resolve identified deficiencies, where necessary;

   e) promote, support and facilitate the regional implementation of AVSEC provisions;

   f) develop amendment proposals for the update of the CAR/SAM Air Navigation Plan necessary to satisfy any changes in the requirements, thus removing the need for regular regional air navigation meetings;

   g) monitor implementation of air navigation facilities and services and where necessary, ensure interregional harmonization, taking due account of cost/benefit analysis, business case development, environmental benefits and financing issues;

   h) examine human resource planning and training issues and ensure that the human resource development capabilities in the region are compatible with the CAR/SAM Regional Air Navigation Plan;

i) review the Statement of Basic Operational Requirements and Planning Criteria and recommend to the Air Navigation Commission such changes to them as may be required in the light of developments;

j) invite financial institutions, as required, on a consultative basis and at a time it considers appropriate in the planning process to participate in this work;

k) ensure close cooperation with relevant organizations and State grouping to optimize the use of available expertise and resources; and

l) conduct the above activities in the most efficient manner possible with a minimum of formality and documentation and call meetings of the GREPECAS only when the Secretary and the Chairperson, through the Administration Coordination Group (ACG), are convinced that it is necessary to do so.

3. Composition

Antigua and Barbuda (*representing Dominica, Grenada, Saint Kitts and Nevis, Saint Lucia, and Saint Vincent and Grenadines*), Argentina, Barbados, Bolivia, Brazil, Chile, Colombia, Costa Rica, Cuba, Dominican Republic, Ecuador, France, Haiti, Jamaica, Mexico, Panama, Paraguay, Peru, Trinidad and Tobago, United Kingdom, United States, Uruguay and Venezuela.

4. Chairman – Normando Araujo de Medeiros (Brazil)
Vice-Chairman – Oscar Derby (Jamaica)
Second Vice-Chairman – Jacques Borsiquot (Haiti)

ADMINISTRATION COORDINATION GROUP (ACG)

1. **Terms of reference**

a) To coordinate and harmonize administrative matters of GREPECAS and its contributory bodies, and to take part in the tasks relating to its internal organization, the holding of events, and the administrative supervision of the subgroups and task forces.

b) To expedite follow-up work of the GREPECAS and its contributory bodies between plenary meetings, taking into account the work undertaken by other contributory bodies active in the air navigation field in the CAR/SAM Regions.

c) To take follow-up action and monitoring of target dates assigned to tasks under a project management process.

2. **Work Programme**

TASK NUMBER	TASK DESCRIPTION	Priority	Date	
			Start	End
ACG/1	Review and propose amendments to the GREPECAS Procedural Handbook as required.	A		Continuous
ACG/2	Monitor the planning and progress of GREPECAS contributory body work programmes and meeting schedules and offer any advice thereon, as appropriate.	A		Continuous
ACG/3	Seek the prompt approval preferably by electronic means of draft GREPECAS Conclusions developed by GREPECAS Contributory Bodies on the basis of specific requests from such bodies or when the ACG deems that efficiencies could be derived.	A		Continuous
ACG/4	Prepare reports of ACG activities to each GREPECAS meeting, as appropriate.	A		Continuous
ACG/5	Review the GREPECAS working methods and propose specific actions to improve its performance.	A		Continuous
ACG/6	Prepare the draft Agenda for GREPECAS meetings and plan and coordinate Secretariat support work and documentation for such meetings.	A		Continuous

3. **Composition**

The Administration Coordination Group is composed by the Chairperson and Vice-Chairperson and Secretary of GREPECAS, the Regional Directors, a RAO representative and the Secretaries of the Contributory Bodies. In the event of considering it necessary, the Chairpersons and Vice-Chairpersons of the Contributory Bodies will be invited to participate.

AVIATION SAFETY BOARD

1. **Terms of reference**

a) The Board will evaluate, validate, monitor and follow-up urgent air navigation deficiencies in the CAR/SAM regions and develop appropriate action to be taken.

b) The Board will act as an advocate and instrument in resolving urgent (U) deficiencies.

2. **Work Programme**

TASKS		Priority	Completion
1)	The Board will consider urgent deficiencies and develop solutions it would propose through the appropriate ICAO regional office. To achieve resolution, either an individual state/states/executing body, the Air Navigation Commission, or referral to the appropriate subgroup for further evaluation may need to be involved.	A	
2)	The Board will offer, through the ICAO Regional Offices, to assist an individual state/states/executing body in identifying resources and acting as a resource in order to resolve the shortcoming/deficiency through the advocacy with relevant high-level officials and/or donor organizations.	A	

3. **Priority**

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

4. **Composition**

The Aviation Safety Board is composed by the Chairperson and Secretary of GREPECAS, the Directors of the ICAO Regional Offices, a representative from the Regional Affairs Office at ICAO Headquarters, the Chairpersons and/or Vice-Chairpersons of the Subgroups and a representative from the following observer organizations: ACI, IATA, IBAC, IFALPA and IFATCA. The secretaries of the contributory bodies may participate in an advisory capacity as required.

AVIATION SECURITY COMMITTEE (AVSEC/COMM)

1. **Terms of Reference**

a) To foster regional cooperation among States, international organizations and industry in order to facilitate the successful implementation of ICAO Standards and Recommended Practices (SARPs) related to aviation security (AVSEC);

b) to encourage the participation of States in the ICAO AVSEC Mechanism and Implementation Programmes to include their provision of voluntary funding and personnel when requested by ICAO;

c) to actively support the approved ICAO AVSEC Plan of Action and other regional AVSEC initiatives; and

d) to promulgate AVSEC awareness within the region through sponsorship of and participation in related training activities and seminars.

2. **Work Programme**

TASK NUMBER	TASK DESCRIPTION	PRIORITY	DATE	
			START	END
AVSEC/1	Identify and analyse shortcomings in the implementation of ICAO AVSEC provisions which are common in many States/Territories of the CAR/SAM Regions and develop regional initiatives and measures which will encourage and facilitate their resolution.	A	AVSEC/COMM/1	Continuous
AVSEC/1-1	Conduct periodic surveys to identify difficulties in shortcomings from States in the implementation of AVSEC/Facilitation Standards.	A	AVSEC/COMM/2	Continuous
AVSEC/1-1.2	Establishment of Hold Baggage Screening (HBS) Task Force to examine new and emerging threats; new and emerging technology; to provide States with technical information guidance to States in order to implement Annex 17 Standard in conjunction with LACAC.	A	AVSEC/COMM/4	Continuous
AVSEC/1-1.4	Finalize HBS Task Force report with recommendation (90%).	A	3 December 2005	15 June 2006
AVSEC/1-1.5	Review HBS report and validate HBS action plan by the Ad Hoc Group and make recommendations (90%).	A	AVSEC/COMM/5	GREPECAS/14
AVSEC/1-1.6	Conduct a survey of the States in the CAR/SAM Regions to validate five conclusins regarding the implementation of Annex 17 standards.	A	AVSEC/COMM/5	1 September 2006
AVSEC/1-2	Establish Cargo Security Programme Model.	A	AVSEC/COMM/5	AVSEC/COMM/6
AVSEC/1-2.1	Establish Cargo Security Task Force to develop a Cargo Security Programme Model.	A	AVSEC/COMM/5	Continuous
AVSEC/2	Monitor existing and develop new regional AVSEC training programmes	A	AVSEC/COMM/2	Continuous

TASK NUMBER	TASK DESCRIPTION	PRIORITY	DATE	
			START	END
AVSEC/2-1	Establish a Training Task Force to coordinate AVSEC training activities and information	A	AVSEC/COMM/4	Continuous
AVSEC/2-1.1	To maintain database of qualified AVSEC Instructors available to States/Territories in the CAR/SAM Regions for use in regional training events	B	AVSEC/COMM/4	Continuous
AVSEC/2-1.2	Establish Passenger/Cabin Baggage Screening guidance to provide States with current information on screening techniques and advance technology to meet new and emerging threats to civil aviation.	A	AVSEC/COMM/5	AVSEC/COMM/6
AVSEC/2-1.3	Establish Passenger/Cabin Baggage Screening Task Force to coordinate a Passenger Screening Seminar/Meeting and provide States with guidance material.	A	AVSEC/COMM/5	AVSEC/COMM/6
AVSEC/2-1.4	That the Passenger/Cabin Baggage Screening Task Force establish a Passenger/Cabin Baggage Seminar/Meeting from 13-17 November 2006in coordination with the ICAO NACC Office.	A	AVSEC/COMM/5	13-17 November 2006
AVSEC/6	Review all proposals for Amendments to Annexes 9 and 17.	A	AVSEC/COMM/3	Continuous
AVSEC/8	Coordinate with the LACAC Group of AVSEC Experts on all AVSEC activities and initiatives in the CAR/SAM Regions.	B	AVSEC/COMM/3	Continuous
AVSEC/9	Establish a Facilitation Task Force to work with the Annex 9 provisions.	B	AVSEC/COMM/5	Continuous

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, Brazil, Canada, Chile, Costa Rica, Cuba, Guyana, Jamaica, Mexico, Panama, Paraguay, Peru, Spain, Trinidad and Tobago, United States, Venezuela, ACI, COCESNA, IATA, IFALPA and LACAC.

5. **Chairperson**

Chairman – Oscar Derby (Jamaica)
Vice-Chairman – Eduardo Cerda Gómez (Chile)

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APPENDIX F

WORK PROGRAMME OF THE AERONAUTICAL METEOROLOGY SUBGROUP (AERMETSG)

1. Terms of reference

a) Monitor the implementation of MET facilities and services; of the world area forecast system; of the international airways volcano watch; of the tropical cyclone alert system; and the issuance and dissemination of OPMET data. Identify any deficiency and develop proposals to improve their implementation;

b) Review and update the CAR/SAM Air Navigation Plan in accordance with the operational requirements of the CAR/SAM Regions and ensure its seamless and consistent implementation addressed to the new CNS/ATM systems concerning MET;

c) Review in a continuous basis the list of MET deficiencies, identify new deficiencies that prevent the implementation or provision of MET service in the CAR/SAM Regions and propose actions for their correction;

d) Monitor the research and development of CNS/ATM systems, the tests and demonstrations in the CNS/MET field and facilitate the transference of these information and experience among the CAR/SAM States and recommend specific actions aimed at the implementation of MET services to satisfy CNS/ATM requirements.

2. Work Programme

TASK NUMBER	TASK DESCRIPTION	PRIORITY	DATE	
			START	END
	MET Facilities and Services			
1	Carry out a survey on MET facilities and services and present the results in terms of percentage of implementation of facilities and services at the AERMETSG/9.	A	JUL 2007	DEC 2007
	WAFS Implementation			
2	Monitor WAFS implementation, in particular States readiness to convert significant weather forecasts (SYGWX) received, into SIGWX in BUFR code and present the results in percentage terms to the AERMETSG/9.	A	FEB 2001	DEC 2007
3	Carry out a survey on ISCS efficacy in order to send it to the focal points and analyze the results to be presented at the AERMETSG/9.	A	FEB 2007	MAY 2007
	IAVW Implementation			
4	Monitor IAVW implementation, in particular the status of the designation of volcano observatories and present the results in terms of percentage of IAVW implementation and of the designation of volcano observatories at the AERMETSG/9.	A	FEB 2001	DEC 2007

TASK NUMBER	TASK DESCRIPTION	PRIORITY	DATE	
			START	END
5	Carry out annual SIGMET WV tests, analyze their results and present them at the following AERMETSG Meeting.	B	NOV 2006	Continuous
6	Develop, in coordination with the Secretariat, the draft Guidance Material for the development of airport emergency plans in case of volcanic eruptions in the CAR/SAM Regions.	B	JUL 2005	MAR 2008
7	Monitor the implementation of the tropical cyclones alert system, in particular the introduction of every 6 hours forecasts.	A	JAN 2007	DEC 2007
	OPMET exchange			
8	Monitor the issuance and dissemination of OPMET data, in particular of ISGMET according with CAR/SAM FASID Tables MET 1A and 2B and "global" requirements.	B	MAR 2007	Continuous
9	Monitor OPMET information exchange (METAR/SPECI, TAF and SIGMET in BUFR code).	TBD	TBD	TBD
10	Develop in coordination with the Secretariat the OPMET Guide	B	JUL 2005	MAR 2008
11	Develop a plan for the implementation of migration of OPMET messages in BUFR code, with possibilities of different scenarios for the transition, including a cost-benefit study and its implications.	A	JAN 2007	DEC 2008
12	Coordinate the OPMET exchange control, analyze the results and present them in the next AERMETSG Meeting.	A	JUL 2006	Continuous
	MET Requirements in the CNS/ATM concept			
13	Based on the edition in preparation of Doc 9750 - *Global Air Navigation Plan for CNS/ATM*, develop MET chapter of the *CAR/SAM Regional Plan for the implementation of CNS/ATM systems*, Document I.	B	JUN 2006	DEC 2007
14	Monitor the research and development of MET concept in CNS/ATM field and facilitate the transference of this information and experience among CAR/SAM States.	B	JUL 2005	DEC 2007
15	Identify activities for the implementation of new meteorological services related both to training and application of the new CNS/ATM systems. Provide guidelines.	A	JUL 2005	DEC 2007
16	Carry out a study to determine the need for VOLMET services in the CAR/SAM Regions.	B	JUL 2005	DEC 2007
	MET Training			
17	Propose short, medium and long-term measures to satisfy the requirements for MET personnel in the States of the CAR/SAM Regions.	B	JAN 2005	DEC 2007
	MET Deficiencies			
18	Update the list of MET deficiencies.	A	JUL 2005	Continuous

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, Ecuador, France, Panama, Paraguay, Peru, Spain, United States, Uruguay, Venezuela, COCESNA, IATA, IFALPA and WMO.

5. Chairmanship

Chairman: Sr. Gustavo Flores (Argentina)

Vice-Chairman: Will be elected in the AERMETSG/9.

AERODROMES AND GROUND AIDS/AERODROME OPERATIONAL PLANNING SUBGROUP (AGA/AOP/SG)

1. **Terms of reference**

a) To promote and follow-up the implementation of the AOP requirements of the CAR/SAM ANP and to place special emphasis on identifying, evaluating and proposing, according to established procedures, the corresponding timely corrective actions to the deficiencies affecting aircraft and airport operations.

b) Develop the planning for the AOP Part of the CAR/SAM ANP.

c) To carry out permanent co-ordination with GREPECAS Contributory Bodies in order to ensure appropriate integration of all tasks contributing to the implementation of the CAR/SAM ANP.

d) To review the requirements of the AOP Part of the CAR/SAM Regional Air Navigation Plan with a view to developing any changes required to comply with new technological developments including environmental impact aspects.

2. **Work Programme**

TASK NUMBER	TASK DESCRIPTION	PRIORITY	DATE	
			START	END
AGA/AOP/2	Review and update the Table AOP 1 of the AOP Part of the ANP/FASID CAR/SAM at regular intervals based on the greater demands on airports in relation to air traffic growth and the accommodation of aircraft with more onerous physical requirements	B	1st Meeting	Continuous
AGA/AOP/3	Review and follow-up the implementation of corrective actions for AGA deficiencies including: · ▪ Objects and depressions in runway strips, principally in the graded areas ▪ Runway and taxiway separations ▪ Runway and taxiway slopes ▪ Obstacles ▪ Secondary power supply ▪ Visual aids ▪ Fencing and perimeter roads ▪ Rescue and fire-fighting services ▪ Aerodrome emergency plans ▪ Runway surface conditions ▪ Runway strips and runway end safety areas Refer urgent (U) priority deficiencies, with proposed corrective actions, to the Aviation Safety Board.	A	1st Meeting	Continuous

TASK NUMBER	TASK DESCRIPTION	PRIORITY	DATE	
			START	END
AGA/AOP/6	Review demand/capacity problems at airports and develop options for alleviating airport congestion.	B	1st Meeting	Continuous
AGA/AOP/7	Review runway incursion incidents at airports and develop guidance to reduce their occurrence in coordination with ATM and OPS.	A	1st Meeting	6th Meeting
AGA/AOP/8	Development of samples that include the necessary minimum requirements for Emergency Plans and Emergency Operation Centres (EOC) of the aerodromes included in the ANP and online follow-up of their implementations, updating of complete and partial exercises in order to increase the safety of airports/aircraft	A	4th Meeting	Continuous
AGA/AOP/9	On-line follow-up to the implementation of the aerodrome certification process (basic documentation and certification of every aerodrome included in the ANP) with the corresponding implementation of Safety Management Systems, as a method to identify and resolve the deficiencies that compromise the implementation of these processes	A	4th Meeting	Continuous
AGA/AOP/10	On-line follow up of the maintenance at ANP aerodromes (runways), of the action plans and of the resolution of these deficiencies	A	4th Meeting	Continuous

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, Barbados, Bolivia, Brazil, Chile, Colombia, Costa Rica, Cuba, Dominican Republic, Ecuador, Guatemala, Haiti, Honduras, Mexico, Paraguay, Peru, Trinidad and Tobago, United States, Uruguay, Venezuela, ACI, ALACPA, CARSAMPAF, IATA, IFALPA and IFATCA.

5. **Chairpersons**

Chairman	Norberto Cabrera (Cuba)
Vice-Chairman	Alberto Palermo (Argentina)

NOTE: The Chairman and Vice-Chairman were elected for the period 2007-2009 (See Agenda Item 8).

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

1. Terms of Reference

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.

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 Operational Concept.	A	2007	2010
AIM/2	Coordinate the application of quality systems in AIM services, in keeping with the relevant ISO standards; propose action plans for the implementation by CAR/SAM States of these types of 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 within the framework of effective aeronautical information management, together with the consistent application of CAR/SAM AIM training programmes, also taking into account the need for basic criteria to ensure the development of an English language training programme related to effective aeronautical information management.	B	2007	2010
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 mutual inter-functionalities, both within the CAR/SAM Regions, as well as between these and other ICAO Regions.	B	2008	2010

TASK NUMBER	TASK DESCRIPTION	PRIORITY	DATE	
			START	END
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; also, 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.	B	2007	
AIM/8	Promote and follow-up on the effective implementation of AIM requirements in keeping with established procedures in order to take corresponding corrective action 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.	B	2007	

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, COCESNA, IATA, and PAIGH.

5. **Chairperson**

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

AIR TRAFFIC MANAGEMENT/COMMUNICATIONS, NAVIGATION AND SURVEILLANCE SUBGROUP (ATM/CNS/SG)

1. **Terms of reference**

a) To promote and follow-up the implementation of the CNS/ATM systems required in the CAR/SAM ANP and to place special emphasis on identifying, evaluating and proposing, according to the established procedures, the corresponding corrective actions to the /deficiencies affecting air operations.

b) To carry out permanent coordination with various GREPECAS Contributory Bodies in order to ensure appropriate integration of all tasks contributing to the implementation of the CAR/SAM ANP.

c) To develop and harmonize, in the CAR/SAM Regions, action plans to facilitate implementation of CNS/ATM systems, in order to reach a consistent and coordinated implementation, especially in multinational projects of regional/inter-regional nature, taking into account homogeneous areas and main air traffic flows contained in the CAR/SAM FASID.

d) Taking into consideration the material prepared by the different ICAO groups of experts in the CNS/ATM field, develop guidance material to keep and upgrade the technical and operational quality for the provision of CNS/ATM services.

2. **Work programme**

TASK NUMBER	TASK DESCRIPTION	PRIORITY	DATE	
			START	END
ATM/CNS/1	Follow up, coordinate and manage the work of the CNS and ATM Committees.	A	Permanent	
ATM/CNS/2	To establish inter- and intra-regional coordination on CNS/ATM systems applications.	A	Permanent	
ATM/CNS/3	To inform on the development of the new air navigation systems, SARPs development, as well as the work of the ICAO CNS/ATM Groups of Experts.	A	Permanent	
ATM/CNS/4	Refer urgent (U) priority deficiencies, with proposed corrective action, to the Aviation Safety Board.	A	Permanent	
ATM/CNS/5	Supervise the work programme of the Automation Task Force	A	Permanent	

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**

The ATM/CNS Subgroup is composed by the joint membership of the members of the ATM and CNS Committees.

5. **Chairperson**

Chairman	Mr. Claudio Arellano (Mexico)
Vice-Chairman	Mr. Julio Cesar de Souza Pereira (Brazil)

TERMS OF REFERENCE AND WORK PROGRAMME OF THE ATM COMMITTEE

1. **Terms of reference**

a) Assist and guide CAR and SAM States/Territories/International Organisations in the implementation of ATS safety management programmes.

b) Study, analyse, propose, and do the follow-up of projects that allow the optimisation of Airspace Organisation and Management (AOM), Air Traffic Services (ATS), Air Traffic Flow Management (ATFM), and Search and Rescue (SAR) in the CAR/SAM Regions, with a view to comply with ICAO strategic objectives, based on Global Plan Initiatives (GPI).

c) Be informed and analyse guidance material developed on ATM systems by other ICAO experts group for its possible adoption in the CAR and SAM Regions.

Number	Task description	Priority	Date	
			Start	End
General				
ATM-1	Based on the methodology standardised by the ICAO Council, identify, assess, and report air navigation deficiencies, assigning priorities.	N/A	Permanent	N/A
ATM- 2	Monitor the corresponding ATM parts of the CAR/SAM Regional CNS/ATM Implementation Plan, and keep them updated as a working document.	N/A	Permanent	N/A
ATM-3	Analyse and evaluate 300 ft or more large-height deviations (LHD)	A	Permanent	N/A
ATM-4	Identify activities for the implementation of new meteorological services related to both training and the implementation of the new CNS/ATM systems. Note: Joint MET/ATM Task Force (AERMETSG Decision 6/24)	B	2005	2009
Performance-based navigation (PBN) - GPI 5, 7, 8, 10, 11, 12, 20, 21				
ATM-5	Prepare a performance objective for RNAV and RNP implementation, taking into account the ICAO performance-based navigation concept.	A	PHASE 1	
			2005	2010
			PHASE 2	
			2011	2015

Number	Task description	Priority	Date	
			Start	End
Flexible use of airspace - GPI 1				
ATM-6	Prepare a performance objective for the implementation of the flexible use of airspace, based on the Global Air Navigation Plan guidelines.	B	2007	2010
Air traffic flow management (ATFM)- GPI 1, 6, 7				
ATM-7	Prepare a performance objective for the implementation of CAR and SAM harmonized inter-regional air traffic flow management (ATFM), based on the Global Air Navigation Plan guidelines.	A	2006	2015
ATM automation - GPI 6, 7, 9, 17, 18, 19				
ATM-8	Develop a performance objective for the implementation/integration of ATM automated systems, based on Global Air Navigation Plan guidelines	Together with CNSC	2006	2015
Search and rescue				
ATM-9	Develop a quality assurance programme for search and rescue services (SAR), according to the IAM/SAR manual, for its future implementation in the CAR/SAM Regions.	B	August 2003	ATMC/6

3. **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, Barbados, Bolivia, Brazil, Chile, Colombia, Costa Rica, Cuba**, Dominican Republic, Ecuador, France, Guatemala, Haiti, Jamaica , Mexico, Panama, Paraguay, Peru, Trinidad and Tobago, United States, Uruguay*, Venezuela, ARINC, COCESNA, IATA, IFALPA, IFATCA and SITA.

5. *Chairman: Roberto Arca (Uruguay)
**Vice-Chairman: Fidel Ara (Cuba)

ATM PERFORMANCE OBJECTIVES FOR CAR AND SAM REGIONS

<table>
<tr><th colspan="4">OPTIMIZE THE ATS ROUTE STRUCTURE IN BOTH
TERMINAL AND EN-ROUTE AIRSPACE</th></tr>
<tr><th colspan="4">Benefits</th></tr>
<tr><td>Environment
Efficiency</td><td colspan="3">• reductions in fuel consumption;
• ability of aircraft to conduct flight more closely to preferred trajectories;
• increase in airspace capacity;
• facilitate utilization of advanced technologies (e.g., FMS based arrivals) and ATC decision support tools (e.g., metering and sequencing), thereby increasing efficiency.</td></tr>
<tr><th colspan="4">Strategy
Short term (2010)
Medium term (2011 - 20015)</th></tr>
<tr><th>TASK</th><th>DESCRIPTION</th><th>START-END</th><th>STATUS</th></tr>
<tr><td>AOM</td><td>En-route airspace
• analyze the en-route ATS route structure and implement all identifiable improvements;
• implement all remaining regional requirements (e.g. RNP 10 routes); and
• Finalize implementation of WGS-84
• monitorear el avance de la implementación
• develop a strategy and work programme to design and implement a trunk route network, connecting major city pairs in the upper airspace and for transit to/from aerodromes, on the basis of PBN and, in particular, RNAV/5, taking into account interregional harmonization;
In terminal airspace
• develop a regional strategy and work programme for implementation of optimized standard instrument departures (SIDs), standard instrument arrivals (STARs), instrument flight procedures, holding, approach and associated procedures, on the basis of PBN and, in particular RNAV/1 and 2; and
• monitor implementation progress</td><td>2005-2010

2008-2011</td><td></td></tr>
<tr><td>References</td><td colspan="3">GPI/5: performance-based navigation, GPI/7: dynamic and flexible ATS route management, GPI/8: collaborative airspace design and management, GPI/10: terminal area design and management, GPI/11: RNP and RNAV SIDs and STARs and GPI/12: FMS-based arrival procedures.</td></tr>
</table>

IMPLEMENT RNP APPROACHES			
Benefits			
Efficiency **Safety**	• **Improvements in capacity and efficiency at aerodromes.** • **Improvements in safety at aerodromes.**		
Strategy (2008-2015)			
TASK	**DESCRIPTION**	**START-END**	**STATUS**
AOM	• development of a regional strategy and work programme for implementation of RNP approaches at aerodromes where aircraft weighing 5700 kg or more are operated, on the basis of the transition plan as follows: Stage 1 – Evaluate existing procedures, determine compatibility of use with RNAV overlay routes Stage 2 – Carry out cost benefit analysis and safety assessments of RNAV procedures Stage 3 – Use existing radar vectoring patterns as the basis for RNAV departure and arrival tracks Stage 4 – Evaluating and simulation of procedures Stage 5 – Design stand-alone RNAV procedures Stage 6 – Training phase Stage 7 – Publish new procedures and introduce into new service, meet AIRAC dates Stage 8 – Operational review Stage 9 – Removal of conventional procedures • monitor implementation progress		
References	GPI/5: performance-based navigation, GPI/7: dynamic and flexible ATS route management, GPI/8: collaborative airspace design and management, GPI/10: terminal area design and management, GPI/11: RNP and RNAV SIDs and STARs and GPI/12: FMS-based arrival procedures.		

ENHANCE CIVIL/MILITARY COORDINATION AND CO-OPERATION			
Benefits			
Efficiency	• increase airspace capacity;		
Continuity	• allow a more efficient ATS route structure • ensure safe and efficient action in the event of unlawful interference; • make available military restricted airspace more hours of the day so that aircraft can fly on their preferred trajectories; and • improve search and rescue services.		
Strategy (2008-2012)			
TASK	**DESCRIPTION**	**START-END**	**STATUS**
AOM	• develop guidance material on civil/military coordination and co-operation to be used by States/Territories to develop national policies, procedures and rules; • establish civil/military coordination bodies; • arrange for permanent liaison and close cooperation between civil ATS units and appropriate air defense units; • conduct a regional review of special use airspace; • develop a regional strategy and work programme for implementation of flexible use of airspace in a phased approach beginning with more dynamic sharing of restricted airspace while working towards full integration of civil and military aviation activities by 2012; and • monitor implementation progress		
References	GPI/1: flexible use of airspace.		

<table>
<tr><th colspan="4">ALIGN UPPER AIRSPACE CLASSIFICATION</th></tr>
<tr><th colspan="4">Benefits</th></tr>
<tr><td>Efficiency

Continuity</td><td colspan="3">• better utilization of data link communication;
• optimize use of flight plan data processing systems;
• enhance airspace management coordination, message exchange capabilities and utilization of flexible and dynamic airspace management techniques;
• harmonization of interregional coordination processes;
• improvement of airspace interoperability and seamlessness; and
• ensure the provision of positive air traffic control services to all aircraft operations.</td></tr>
<tr><td colspan="4">Strategy
(Target: 2008)</td></tr>
<tr><th>TASK</th><th>DESCRIPTION</th><th>START-END</th><th>STATUS</th></tr>
<tr><td>AOM</td><td>• Develop a regional implementation strategy and work programme for the implementation of ICAO Annex 11 airspace Class A above FL 195.
• identify key stakeholders, ATCOs, pilots, and relevant international organisations for coordination and cooperation on changes for new airspace organization, using a CDM process;
• develop new national airspace organization in accordance with ICAO provisions, as needed;
• Coordinate changes for regional and national documents;
  • Doc 8733, CAR/SAM ANP;
  • AIP; and,
  • ATS letters of agreement
• Carry out improvements in ground systems to support new airspace organization configurations, as necessary;
• Publish national regulatory material for implementation of new rules and procedures to reflect airspace organizational changes;
• Train ATCOs and pilots in new procedures, including all civil and military airspace users, as required;
• monitor implementation progress.</td><td></td><td></td></tr>
<tr><td>References</td><td colspan="3">GPI/4: align upper airspace classification.</td></tr>
</table>

IMPROVE DEMAND AND CAPACITY BALANCING			
Benefits			
Environment	• reduction in weather- and traffic-induced holding, leading to reduced fuel consumption and emissions;		
Efficiency	• improved and smoother traffic flows; • improved predictability; • improved management of excess demand of service in ATC sectors and aerodromes; • improved operational efficiency; • enhanced airport capacity; • enhanced airspace capacity; and		
Safety	• improved safety management.		
Strategy **Near term (2008)**			
TASK	**DESCRIPTION**	**START-END**	**STATUS**
ATFM (DCB)	• identify key stakeholders (ATC service providers and users, military authorities, airport authorities, aircraft operators and relevant international organisations) for purposes of coordination and cooperation, using a CDM process; • identify and analyse traffic flow problems and develop methods for improving efficiencies on gradual basis, as needed, through enhancements in current: o airspace organization and management (AOM) and airway structure (unidirectional routes), o communication, navigation and surveillance systems, o aerodrome capacity, o ATS capacity, and o ATS letters of agreement; • define common elements of situational awareness between FMUs; o common traffic displays, o common weather displays (Internet), o communications (teleconferences, web), and o daily teleconference/messages methodology advisories; • develop methods to establish demand/capacity forecasting; • develop a regional strategy and work programme for harmonized implementation of ATFM service; and,		
Medium term (2010)			

	• develop a regional strategy for the implementation of flexible use of airspace (FUA); o assess use of airspace management processes; o improve current national airspace management to adjust dynamic changes in traffic flows in tactical stage; o introduce improvements in ground ATS systems and associated procedures for the extension of FUA with dynamic airspace management processes; o implement dynamic ATC sectorization in order to provide the best balance between demand and capacity to respond in real-time to changing situations in traffic flows, and to accommodate in short-term the preferred routes of users; • define common electronic information and minimum databases required for decision support and alerting systems for interoperable situational awareness between Centralized ATFM units; • develop regional procedures for efficient and optimum use of aerodrome and runway capacity; • develop a regional ATFM procedural manual to manage demand/capacity balancing; • develop a regional strategy and framework for the implementation of Centralized ATFM unit; • develop operational agreements between Centralized ATFM units for interregional demand/capacity balancing; and, • monitor implementation progress.		
References	GPI/1: flexible use of airspace; GPI/6: air traffic flow management; GPI/7: dynamic and flexible ATS route management; GPI/9: Situational awareness; GPI/13: aerodrome design and management; GPI/14: runway operations; and GPI/16: decision support and alerting systems.		

IMPROVE ATM SITUATIONAL AWARENESS			
Benefits			
Efficiency **Safety**	• enhanced traffic surveillance; • enhanced collaboration between flight crew and the ATM system; • improved collaborative decision-making through sharing electronic aeronautical data information; • reduction of workload for both pilots and controllers; • improved operational efficiency; • enhanced airspace capacity; • improved implementation on a cost-effective basis; • improved available electronic terrain and obstacle data in the cockpit; • reduction of the number of controlled flight into terrain related accidents; and • improved safety management.		
Strategy Near term (2010)			
TASK	**DESCRIPTION**	**START-END**	**STATUS**
ATS (ATM SDM)	• **identify parties concerned** • identify the automation level required according to the ATM service provided in airspace and international aerodromes, assessing o operational architecture design, o characteristics and attributes for interoperability, o data bases and software, and o technical requirements; • improve ATS interfacility communication • implement flight plan data processing system and electronic transmission tools • implement radar data sharing programs where benefits can be obtained • develop situational awareness training programmes for pilots and controllers • implement ATM surveillance systems for situational traffic information and associated procedures • implement ATS automated message exchanges, as required o FPL, CPL, CNL, DLA, etc. • implement automated radar handovers, where able; • implement ground and air electronic warnings, as needed o Conflict prediction o Terrain proximity o MSAW o DAIW o Surveillance system for surface movement • implement data link surveillance technologies and applications: ADS, CPDLC, AIDC, as required		

Medium term (2015)			
	• implement additional/advanced automation support tools to increase sharing of aeronautical information o ETMS or similar o MET information o AIS/NOTAM dissemination o Surveillance tools to identify airspace sector constraints o A-SMGC in specific aerodromes, as required • implement teleconferences with ATM stakeholders • monitor implementation progress		
References	GPI/1: flexible use of airspace; GPI/6: air traffic flow management; and GPI/7: dynamic and flexible ATS route management; GPI/9: Situational awareness; GPI/13: aerodrome design and management; GPI/14: runway operations; and GPI/16: decision support and alerting systems; GPI/17: implementation of data link applications; GPI/18: aeronautical Information; GPI/19: meteorological systems.		

COMMUNICATIONS, NAVIGATION AND SURVEILLANCE COMMITTEE (CNS/COMM)

1. **Terms of Reference**

Review, fine-tune and complete the planning of the CNS systems, recommending its incorporation in the CAR/SAM FASID ANP, based on the application of planning principles developed by the CAR/SAM/3 RAN Meeting, in the global Plan of air navigation for the CNS/ATM systems, on the results of the inter-regional planning and co-ordination and on ICAO SARPs and technical guidelines, related with the coordinated implementation and harmonization of CNS/ATM systems. Also, to study, review and propose measures for the implementation of the CNS systems recommended in the ANP CAR/SAM FASID.

2. **Work Programme**

TASK NUMBER	TASK DESCRIPTION	PRIORITY	DATE	
			START	END
CNS/1	**General Matters**			
CNS/1-1	Review, identify, evaluate and recommend solutions with the necessary priority assignment on the deficiencies of the CNS systems.	A	Permanent	
CNS/1-4	Examine of the CNS systems in other regions, with the aim of contributing to a coordinated and harmonious interregional development, in accordance with the specified guidelines in the CNS/ATM Global Plan.	B	Permanent	
CNS/1-5	Suggest measures for the protection of the radio frequency spectrum management.	A	Permanent	
CNS/2	**Communications Developments**			
CNS/2-1.1	Continue the guidance and follow-up to the development of the aeronautical digital communication networks and develop regional guidelines for the inter operability between the communication networks of the CAR and SAM Regions and neighbouring areas.	A	31/05/02	01/04/07
CNS/2-1.2.3	Develop the regional plan for the implementation of VDL and air-ground applications.	B	02/05/05	19/10/07
CNS/2-1.3.2	Review, fine-tune and complete the initial transition plan for the evolutionary development of the ATN and of its applications.	A	07/047/03	29/09/06
CNS/2-1.3.3	Guide the development of the ATN addressing plan in accordance with the ICAO principles and technical provisions.	B	02/02/04	28/11/06
CNS/2-1.3.4	Develop plans for the evolutionary implementation of the ground infrastructure of ATN and the development of ground-ground applications such as AIDC and AMHS.	A	08/07/03	29/09/06

TASK NUMBER	TASK DESCRIPTION	PRIORITY	DATE	
			START	END
CNS/2-1.3.5	Develop recommendations on the initial operational and managerial use of ATN with regard to the implementation of:			
	a) ground-ground applications; and	A	08/07/03	28/11/06
	b) air-ground applications.	B	02/02/04	30/11/056
CNS/2-1.3.6	Review proposals for data communications infrastructure to support ATFM implementation	B	06/03/06	31/10/07
CNS/2-1.5	Develop CAR/SAM regional guidance to provide the communications system required for the migration toward the exchange of aeronautical MET messages (METAR/SPECI and TAF) in BUFR code form.	A	18/04/05	22/11/07
CNS/2-2.1	Development of the VHF and HF voice and data communication. Review, refine and complete the VHF and HF Regional Plan (FASID Table CNS 2A).	A	07/01/01	25/10/06
CNS/3	**Navigation Developments**			
CNS/3-2.2	Update the regional strategy for the deployment and implementation of the GNSS augmentation systems.	A	10/11/03	30/06/07
CNS/3.2.3.1	Considerations on the feasibility of regional application, technical aspects, operational benefits, related costs, implementation, implications for the on-board equipment and other relevant aspects.	A	02/06/03	22/06/07
CNS/3.2.3.2	To lead studies on regional implementation alternatives of a SBAS/GBAS system, taking into account the evolution of GNSS.	A	14/03/05	22/11/07
CNS/3-3.1	Update the regional strategy for the migration towards GNSS.	A	03/02/04	29/11/07
CNS/3-3.2	Develop a navaids transition plan and introduce pertinent target dates for the GNSS augmentation systems.	A	07/02/05	29/09/08
CNS/3-3.3	Prepare a Regional Plan for the deactivation of NDB stations	A	02/10/06	30/11/07
CNS/3-3.4	Review, fine-tune and complete the regional navigation plan suggesting the relevant amendments to FASID Table CNS 3.	B	02/10/05	09/05/07
CNS/4	**Surveillance Development**			
CNS/4-3.2	Studies and recommendations of actions for the SSR in Mode S, ADS-C, ADS-B and other surveillance systems, sub regional/regional implementation.	B	01/07/05	30/11/07
CNS/4-5	Update and follow-up of the regional plan on surveillance systems. Update FASID Table CNS 4A.	B	01/02/04	30/03/08

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**

Antigua, Argentina, Barbados, Bolivia, Brazil, Chile, Colombia, Cuba, Dominican Republic, Ecuador, France, Haiti, Jamaica, Mexico, Panama, Paraguay, Peru, Spain, Trinidad and Tobago, United States, Uruguay, Venezuela, ARINC, COCESNA, IATA, IFALPA and SITA.

The Chairperson and Vice-chairperson designated by the CNS Committee elected in the Fourth Meeting are: Ricardo Bordalí (Chile) and Mrs. Veronica Ramdath (Trinidad and Tobago) respectively.

HUMAN RESOURCES AND TRAINING SUBGROUP (HRT/SG)

1. **Terms of reference**

a) To promote and follow-up the implementation of the CAR/SAM Regional Air Navigation Plan and to place special emphasis on identifying, evaluating and proposing, according to established procedures, the corresponding corrective actions to the deficiencies affecting the safety of air operations attributable to human resource development.

b) To carry out permanent coordination with GREPECAS contributory bodies in order to ensure appropriate integration of all tasks contributing to implementation of the CAR/SAM Regional Air Navigation Plan.

c) Determine regional requirements for training and the capacity of the Regions to meet the demand for skilled human resources necessary to implement the facilities and services specified in the ANP.

d) Study and develop comprehensive regional plans to address professional/technical training of aeronautical personnel, incorporating human factors principles.

e) Harmonize and consolidate quality assurance programmes for training in the air navigation field.

2. **Work Programme**

Tasks		Priority	Completion
1)	Identify training needs and types of training to implement the facilities and services specified in the ANP.		
2)	Gather information and evaluate training required within the Regions.		
3)	Determine regional training capabilities required.		
4)	Develop a planning process for rectifying shortcomings in training capacity within the Regions.		
5)	Formulate a plan for the establishment of regional training capabilities.		
6)	Establish a timetable for training programmes in accordance with the ANP.		
7)	Update information about existing training capabilities within the Regions.		
8)	Gather and evaluate existing human factors and development guidance material.		
9)	Refer urgent (U) priority deficiencies, with proposed corrective action, to the Aviation Safety Board.		

3. **Priority**

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

4. **Composition**

Argentina, Brazil, Chile, Colombia, Panama, Paraguay, Peru, Spain, Trinidad and Tobago, United States, Uruguay, Venezuela and COCESNA.

5. **Chairperson**

The Chairperson will be designated by the Subgroup at its first meeting.

TASK FORCE ON INSTITUTIONAL ASPECTS

1. **Terms of Reference**

a) Based on the new ATM operational concept approved by the Eleventh Air Navigation Conference as the global framework for the implementation of ATM systems, study the actions taken by the ICAO Council, and by some States, regarding the institutional aspects for the implementation of the aforementioned systems in the CAR/SAM Regions.

b) Taking into account the performance objectives for the ATM improvements identified in the CAR/SAM Regions in keeping with the Global Plan, suggest measures to assist the States that so require, in the conduction of cost/benefit analyses and economic, financial, legal and administrative studies concerning technical and operational projects for the implementation of CNS/ATM systems.

c) Analyze, as necessary, those aspects of the CAR/SAM Regional Air Navigation Plan that would require multinational arrangements.

2. **Work Programme**

TASK NUMBER	TASK DESCRIPTION	PRIORITY	DATE	
			START	END
TF-IA/1	Taking into account the new ATM operational concept, as well as the performance objectives for the ATM improvements identified in the CAR/SAM Regions in keeping with the Global plan, develop proposals for the CAR/SAM Regions, based on the global action taken by the ICAO Council and by some States on institutional aspects.	B	As of new edition of CNS/ATM Global Plan	
TF-IA/2	Taking into account the performance objectives for the ATM improvements identified in the CAR/SAM Regions and the Global Plan, develop guidance material to assist CAR/SAM States in the conduction of cost/benefit analyses for the institutional arrangements of the multinational facilities identified.	A		2007
TF-IA/3	Develop proposals for the coordination of financial, administrative and other relevant arrangements for the implementation of multinational ATM systems.	A	Follow up on the application of the Constituent Agreement for the implementation of an OMR	

TASK NUMBER	TASK DESCRIPTION	PRIORITY	DATE	
			START	END
TF-IA/4	Determine the elements that require legal arrangements on the institutional aspects identified in the previous item, and provide guidelines to facilitate their implementation.	A		2008
TF-IA/5	Based on the available material, develop a strategy for the implementation of multinational facilities.	A	2006	2008
TF-IA/6	Study the most appropriate way of reflecting multinational facilities in the FASID in order to facilitate the identification, description and processing of future amendments.	B		2008

3. Composition

Argentina, Brazil, Chile, Colombia, Cuba, Peru, United States, Venezuela and COCESNA.

4. Rapporteur

Mr. Eduardo Rodino (Argentina)

Agenda Item 6 Examination of GREPECAS outstanding Conclusions

6.1 In accordance with standing practice, the Meeting reviewed the status of implementation of outstanding GREPECAS conclusions on the basis of a uniform classification. It noted that as a result of action taken since GREPECAS/13, the following conclusions had been completed or superseded:

Conclusions: 11/10, 11/35, 11/42, 11/50, 11/55, 11/71, 12/31, 12/34, 12/35, 12/36, 12/39, 12/41, 12/61, 12/64, 12/66, 12/70, 12/74, 12/99, 12/122, 12/123, 13/3, 13/6, 13/12, 13/13, 13/14, 13/16, 13/17, 13/18, 13/19, 13/20, 13/21, 13/22, 13/24, 13/25, 13/26, 13/27, 13/31, 13/37, 13/38, 13/39, 13/42, 13/43, 13/44, 13/46, 13/47, 13/48, 13/49, 13/50, 13/52, 13/56, 13/57, 13/58, 13/59, 13/60, 13/62, 13/63, 13/67, 13/70, 13/81, 13/83, 13/88, 13/90, 13/93, 13/98.

6.2 The Meeting also agreed that the following conclusions are still valid.

Conclusions: 10/32, 12/9, 12/10, 12/32, 12/37, 12/45, 12/67, 12/72, 12/77, 12/81, 12/100, 12/129, 13/2, 13/4, 13/5, 13/7, 13/8, 13/9, 13/10, 13/11, 13/15, 13/30, 13/32, 13/33, 13/36, 13/40, 13/41, 13/45, 13/51, 13/53, 13/61, 13/66, 13/68, 13/71, 13/72, 13/74, 13/75, 13/78, 13/79, 13/84, 13/85, 13/87, 13/89, 13/92, 13/95.

Agenda Item 7 Other Business

The WHTI/GEASSA Initiative

7.1 The Meeting took note that the Group of Experts on Aviation Safety, Security, and Assistance (GEASSA) will develop an action plan to improve safety and security in the Americas, expanded to other commitments that include cooperation with other international organizations.

7.2 The Meeting was informed about a series of projects and activities in the CAR/SAM Regions, which were aimed at increasing safety and security levels.

7.3 The Meeting took note that the next meeting of GEASSA would be convened by the Civil Aviation Authority of Panama during the second half of 2007. The States were asked to consider GEASSA as an important mechanism for supporting technical cooperation in the region and were encouraged to participate in the activities of GEASSA.

7.4 Based on the foregoing, the Meeting approved the following conclusion:

CONCLUSION 14/64 WHTI/GEASSA ACTIVITIES

That States/Territories/International Organizations:

a) consider GEASSA as an important means for supporting regional technical cooperation; and

b) participate in the activities of GEASSA as they deem appropriate.

Managing the Environmental Challenges of Air Transport

7.5 The Meeting took note of the information presented by IATA regarding the environmental challenges of air transport, and highlighted the growing importance of CNS/ATM activities for managing the impact of aviation on the environment. Against the background of ICAO's goal to limit or reduce the adverse impact of aviation emissions on the global climate, an analysis was made on the responsibility of air transport concerning environmental issues.

7.6 The Meeting noted several areas and procedures where operational improvements could be made, *inter alia,* promoting flight planning and flexible tracks, RNAV and RNP implementation in continental airspace, continuous descent approaches, etc.

7.7 Although it was recognised that many actions had been taken in the CAR/SAM Regions to reduce the impact of emissions on the environment, the Meeting considered that there was still room for improving aircraft operations management, and encouraged all stakeholders to adopt a more proactive approach to environmental management, and to apply operational measures to limit or reduce the adverse impact of aircraft engine emissions on the environment.

7.8 The Meeting thanked IATA for the information provided, and expressed its interest and commitment to continue including topics concerning environmental benefits in the work plan and activities programmed for the CAR/SAM Regions.

Election of Chairman and Vice-Chairman to AGA/AOP/SG

7.9 The Meeting was informed that the AGA/AOP/SG/5 Meeting elected Mr. Norberto Cabrera from Cuba as Chairman, and Mr. Alberto Palermo from Argentina as Vice-Chairman, during 2007-2009.

Election of Chairperson and Vice-Chairman to AIM/SG

7.10 The Meeting was informed that the AIS/MAP/SG/10 Meeting elected Ms. Noemí Carta from Cuba as Chairperson, and Mr. Rafael Torres from Venezuela as Vice-Chairman, during 2007-2009.

AERMET/SG

7-11 The Meeting was informed that Cuba has replaced their member, Mr. Guillermo Armengol Matas.

Statement of IFALPA at the 62nd Conference

7.12 IFALPA distributed and presented information on the urgent need for adopting strategic procedures for lateral deviation in remote and oceanic spaces within the CAR/SAM Regions; this resulted in the following Statement issued at the IFALPA 62nd Conference, held in Dubrovnik, Croatia:

> All States and ICAO Planning and Implementation Regional Groups (PIRGs) to authorize the ICAO SLP in all appropriate airspaces at the earliest opportunity,
>
> ICAO to support States and PIRGs in their efforts to implement Strategic Lateral Offset Procedure (SLOP), and
>
> ICAO to continue developing advanced offset tracking procedures (such as the embedded lateral offset concept.