INTERNATIONAL CIVIL AVIATION ORGANIZATION

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

FINAL REPORT

(Havana, Cuba, 7-11 June 2004)

Prepared by the Secretariat and the Chairman of GREPECAS June 2004

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HISTORY OF THE MEETING

ii.1 Place and Duration of the Meeting

Upon the kind invitation of the Cuban Civil Aeronautical Institute (IACC), the Twelfth Meeting of the CAR/SAM Planning and Implementation Group (GREPECAS/12) was held in Havana, Cuba, from 7 to 11 June 2004 at the Meliá Habana Hotel.

ii.2 Opening Ceremony and other matters

Mr. Raymond Ybarra, Regional Director of the ICAO NACC Regional Office and GREPECAS Secretary, summarized the GREPECAS history and accomplishments since the creation of the Group, and expressed his sincere appreciation to the authorities of Cuba for hosting this Meeting.

Mr. Normando Araújo de Medeiros (Brazil), Vice-chairman of the GREPECAS, expressed his appreciation to the IACC for the opportunity to preside over this event.

Mr. Argimiro Ojeda Vives, Vice-President of the IACC, welcomed the Delegates and wished them success in attaining the objectives of the Meeting, stressing the close links between Cuba and CAR/SAM States.

ii.3 Organization, Officers and Secretariat

Mr. Normando Araújo de Medeiros (Brazil), Vice-chairman of the GREPECAS, presided over the Meeting throughout its duration.

Mr. Raymond Ybarra, ICAO Regional Director, North American, Central American and Caribbean Office, was Secretary of the Meeting and was assisted by the following staff from the Organization:

Mr. José Miguel Ceppi	ICAO RD, SAM Office
Mr. José Antonio Díaz de la Serna	Secretary of the ATM/CNS Subgroup
Mr. Hindupur Sudarshan	Regional Affairs Officer, RAO, Headquarters
Mr. Aldo Martínez	Secretary of the CNS Committee
Mr. Jorge Fernández	Secretary of the ATM Committee
Ms. Nohora Arias	Secretary of the AERMET Subgroup
Mr. Samuel Cardoso	Secretary of the AGA/AOP Subgroup
Mr. Bernal Mesén	Secretary of the AIS/MAP Subgroup
Mr. Diego Martínez	Technical Co-operation Officer, Headquarters

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 ANC/Council actions on the GREPECAS/11 Report

MANAGEMENT OF THE CAR/SAM AIR NAVIGATION SYSTEM

Agenda Item 2 Review of other meeting Activities

2.1 Interregional and intra-regional CNS/ATM activities and coordination
2.2 Follow-up actions by GREPECAS to the outcome of the Eleventh Air Navigation Conference

Agenda Item 3 Review of Reports of GREPECAS Contributory Bodies

3.1 Report of the Task Force on Institutional Aspects
3.2 Report of the ATM/CNS/SG/3 Meeting
3.3 Report of the AERMET/SG/6 Meeting
3.4 Report of the AGA/AOP/SG/3 Meeting
3.5 Report of the AIS/MAP/SG/8 Meeting
3.6 Report of the AVSEC/COMM/2 and AVSEC/COMM/3 Meetings

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

Agenda Item 4 Air navigation planning and implementation deficiencies/problems in the CAR/SAM Regions

4.1 Report of the ASB/5 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/3 and ACG/4 Meetings
5.2 Review of GREPECAS and its Contributory Bodies Terms of Reference and Work Programmes

Agenda Item 6 Review of GREPECAS Outstanding Conclusions

Agenda Item 7 Other Business

7.1 Election of GREPECAS Chairperson

ii.6 **Attendance**

The Meeting was attended by 98 participants from 16 Member States and 6 Contracting States, located or having territories in the CAR/SAM Regions, as well as one 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.

ii.8 **List of Conclusions**

ii.9 **List of Decisions**

LIST OF PARTICIPANTS

Members	Advisers	Nominated by:
Herald Wilson		ANTIGUA AND BARBUDA (Representing Dominica, Grenada, St. Kitts and Nevis, Saint Lucia and Saint Vincent and the Grenadines)
José Antonio Álvarez	Carlos Esteban Matiak Luis Eduardo Cosci Guillermo Ricardo Cocchi Enrique José Muñoz	ARGENTINA
Anthony Archer		BARBADOS
Julio Fortun		BOLIVIA
Leci Oliveira Peres	Normando Araújo de Medeiros Manuel V. Schubnell Guilherme de Freitas Lopes Anselmo Duarte Ferreira Carlos Alberto Cirilo Ramos Valdir Rodrigues Eno Siewerdt Claudio Carvas	BRAZIL
	Iván Galán Martínez Darío Retamal Bustos Fernando Ramírez Valdés Teodoro Montini Ulloa	CHILE
	Héctor Matamoros	COLOMBIA
	Argimiro Ojeda Raúl Madrigal Pedro Colmenero Norberto Cabrera Fidel Ara Isabel León Juan Miguel Lafferté Mirta Crespo Vivian Travieso Gabino Cid Gustavo Brito	CUBA

Members	Advisers	Nominated by:
	Orestes Fabelo José Manuel Peña Silvio Michelena Enrique Echarri Orlando Nevot José Miguel Salazar Rigoberto Andalia Armando Garbalosa Juan Camilo Álvarez Luis Alberto Autié Osvaldo Sandoval	
	Miguel Campusano Enrique Reyes Gender Damián Castro	DOMINICAN REPUBLIC
Rafael Dávila	Alexandra Contreras Gonzalo Echeverría	ECUADOR
Alain Grandclaude	Roger-Gabriel Prudent Aniss Aqallal	FRANCE
	Claudio Arellano	MEXICO
Raymundo Hurtado	Carlos Chávez Jorge Raez Roberto Rodríguez	PERU
Francis Pedro	Trevor Dowrich	TRINIDAD AND TOBAGO
	Mark Rios Drazen Gardilcic Carey Fagan Dulce Roses	UNITED STATES
	Eduardo Gotopo Francisco Paz Miguel Torres Carolina Motta Cornelio Trujillo Luis Dominguez Iván Rivas Vargas	VENEZUELA

Also attending the Meeting:

Leonel Búcaro		GUATEMALA
Jean-Lemerque Pierre	Franck St. Juste Jacques Boursiquot Marc Paulemon	HAITI
Oscar Derby	Patrick Stern Carl Gaynair	JAMAICA
Vilmo Pieter	Rolando Emers	NETHERLANDS ANTILLES
Julio Sequeira		NICARAGUA
Carlos Pavetti	Hernán Colman Carlos Roberto Salinas	PARAGUAY
Juan de Mata Morales	Luis Andrada Jesús Cid	SPAIN

Observers	**Advisers**	**Nominated by:**
José Ramón Oyuela	Uriel Urbizo Gerardo Mendoza	COCESNA
Peter Cerdá	Joaquín Guibert	IATA
Adalberto Febeliano		IBAC
Salvador Gayón		IFALPA
Juan Pérez Mafla		IFATCA
Adriana Mattos	Akhil Sharma	SITA

List of Documentation

WORKING PAPERS

Number	Agenda Item	Title	Date	Prepared and Presented by
WP/01	--	Draft Agenda	14/04/04 **Revised**	Secretariat
WP/02	--	Proposed Meeting Sessions	25/03/04	Secretariat
WP/03	1	Review of Council and ANC actions on the Report of the Eleventh Meeting of GREPECAS	22/03/04	Secretariat
WP/04	2	Report on Global and Regional developments in the modernization of Air Navigation Systems	22/03/04	Secretariat
WP/05	2	Results of the Eleventh Air Navigation Conference (AN-Conf/11) 2003 – Follow-up action to be taken by GREPECAS/12	22/03/04	Secretariat
WP/06	3.1	Report of the Task Force on Institutional Aspects	21/05/04	Secretariat
WP/07	3.2	Review of the Report of the Third Meeting of the ATM/CNS Subgroup	29/03/04	Secretariat
WP/08	3.2	Report of the Third Meeting of the ATM Committee	14/05/04	Secretariat
WP/09	3.2	Report of the Third Meeting of the CNS Committee	22/04/04	CNS/COMM Chairman
WP/10	3.3	Report of the AERMET/SG/6 Meeting	19/04/04	Secretariat
WP/11	3.4	Report of the AGA/AOP/SG/3 Meeting	05/05/04	Secretary
WP/12	3.5	Report of the AIS/MAP/SG/8 Meeting	11/05/04	AIS/MAP/SG Chairperson
WP/13	3.6	Report of the AVSEC/COMM/2 and AVSEC/COMM/3 Meetings	26/04/04	AVSEC/COMM Chairman
WP/14	4.1	Report of the ASB/5 Meeting	06/06/04	Secretariat
WP/15	4.2	Other specific air navigation planning and implementation deficiencies in the CAR/SAM Regions	25/05/04	Secretariat
WP/16	5.1	ACG Activities and Report of the Third and Fourth Meetings	25/05/04	Secretariat
WP/17	5.2	GREPECAS and its Contributory Bodies Work Programme and Terms of Reference	25/05/04	Secretariat
WP/18	6	Review of GREPECAS Outstanding Conclusions	30/04/04	Secretariat
WP/19	5.2	Human Resources and Training Subgroup	19/05/04 **Revised**	United States of America

WORKING PAPERS

Number	Agenda Item	Title	Date	Prepared and Presented by
WP/20	7	The word Security in the Spanish Language	28/04/04	United States of America
WP/21		CANCELLED		
WP/22	2	Activities of the Coordination Informal Group for the improvement of Air Traffic Services over the South Atlantic (SAT)	14/05/04	Secretariat
WP/23	7	Expansion and continuation of the ICAO Universal Safety Oversight Audit Programme	06/05/04	Secretariat
WP/24	5.2	Proposal to activate the Human Resources and Training Subgroup	21/04/04	Cuba
WP/25	4.2	Need to finalize the establishment of the NOTAM Data Bank	21/04/04	Cuba
WP/26	4.2	Training needs in Aeronautical Quality Data Requirements and Implementation of AIS/MAP Quality Management Systems in the CAR/SAM Regions	25/04/04 **Revised**	Argentina, Brazil, Bolivia Cuba and COCESNA
WP/27	4.2	Need for implementation of a Quality Management System in the AIS/MAP of the CAR/SAM Regions	25/04/04 **Revised**	Cuba
WP/28	3.2	RVSM Implementation Programme for the CAR/SAM Regions	21/04/04	Cuba
WP/29		CANCELLED		
WP/30	3.5	AIS as a facilitator of the ATM Global System	21/05/04	Chile
WP/31	3.2	Enhanced Traffic Management System (ETMS)	21/05/04	Chile
WP/32	3.6	Support to the ICAO efforts to implement ATS Safety Programmes	20/04/04	Cuba
WP/33	2.2	Coordination with the Military Authorities	20/04/04	Cuba
WP/34	3.5	Need for codification of ATS Contingency NOTAMs	21/04/04	Cuba

INFORMATION PAPERS

Number	Agenda Item	Title	Date	Prepared and Presented by
IP/01	--	General Information	25/03/04	Secretariat
IP/02	--	List of Working, Information and Discussion Papers	07/06/04 **Rev. # 3**	Secretariat
NI/03	3.3	Estado actual de las estaciones automáticas en los aeropuertos ***Spanish Only***	28/04/04	Dominican Republic
NI/04	3.2	Estado actual del desarrollo de los Sistemas CNS/ATM de la República de Cuba ***Spanish Only***	21/04/04	Cuba
IP/05	3.2	ATC RVSM Simulation for ATC ARO/AIS Instruction Perfection and Experimentation Centre (CIPE)	20/05/04	CIPE/Argentine
IP/06	3.2	Report of the ionospheric problems found during the execution of the Project RLA/00/009	21/05/04	Brazil
IP/07	3.2	Air Traffic Controllers and their proficiency in English language	21/05/04	Chile
IP/08	3.3	Dissemination of WAFS products at national level	21/05/04	Chile
IP/09	3.4	Airport certification inspectors workshops	21/05/04	United States of America
IP/10	4.2	Terminal instrument procedures assessments	21/05/04	United States of America
NI/11	7	Seminarios OACI –AENA Spanish Only	25/05/04	Spain
NI/12	3.2	Informe de la Reunión ATM/CNS/SG/3 ***Spanish Only***	28/05/04	Argentina
NI/13	3.3	Experiencia de Cuba en el desarrollo y perfeccionamiento del servicio meteorológico aeronáutico ***Spanish Only***	16/04/04	Cuba
NI/14	3.3 & 3.5	Servicio combinado de Meteorología e Información Aeronáutica en los Aeródromos Internacionales de Cuba ***Spanish Only***	16/04/04	Cuba
NI/15	7	Estado del cumplimiento por Cuba de las Conclusiones de la Séptima Reunión de Directores CIAC's ***Spanish Only***	16/04/04	Cuba
NI/16	3.5	Logros obtenidos por Cuba en AIS/MAP ***Spanish Only***	16/04/04	Cuba
IP/17	3.2	Second phase of the regional project for the Implementation of a SBAS System in the CAR/SAM Regions	20/05/04	Secretariat
IP/18	3.5	Online French AIPs	02/06/04	France
IP/19	3.5	European AIS Database	02/06/04	France

INFORMATION PAPERS

Number	Agenda Item	Title	Date	Prepared and Presented by
NI/20	7	Plan Maestro de la Aviación Civil en Venezuela ***Spanish Only***	07/06/04	Venezuela
NI/21	7	Proyecto de Solución para la Modernización de la Infraestructura de los Sistemas y Equipos de Apoyo a la Navegación Aérea ***Spanish Only***	07/06/04	Venezuela
NI/22	3.2	Simulación RVSM para la FIR Maiquetía ***Spanish Only***	07/06/04	Venezuela

Agenda Item 1 Review of the ANC/Council actions on the GREPECAS/11 Report

1.1 The Meeting was presented with actions taken by the Air Navigation Commission and the Council during their review and approval of the Report of the Eleventh Meeting of the CAR/SAM Regional Planning and Implementation Group (GREPECAS) held in Manaus, Brazil from 3 to 7 December 2002. The Meeting noted the specific actions taken by the ANC, the Council and the follow-up by the States and Secretariat on conclusions and decisions of the Meeting as contained in **Appendix** to this part of the Report.

1.2 The Meeting was informed that the Commission agreed with GREPECAS on the need to define the term "runway incursion" (Conclusion 11/8 refers) and as such invited the Secretariat to develop a definition for its uniform application globally. The Meeting further noted that the definition has now been finalized and being incorporated as an amendment to Annex 11 with an applicability date of 24 November 2004.

1.3 Recognizing that there would be operational and economic benefits accrued as a result of the implementation of reduced vertical separation minimum (RVSM), the Meeting noted that the Commission endorsed the views of GREPECAS pertaining to RVSM introduction in CAR/SAM FIRs effective from 20 January 2005 (Conclusion 11/23 refers), coinciding with RVSM implementation in the domestic airspace of the United States.

1.4 Sharing the view of GREPECAS, the Meeting noted that the Commission agreed on the need to develop guidance material for use of the Internet for aeronautical purposes (Conclusion 11/43 refers) and consequently the Secretariat is addressing this issue with the assistance of a new air navigation study group. The guidance material would be available in fourth quarter of 2004.

1.5 On the subject of protection of the aeronautical frequency spectrum, the Meeting noted that the Council appreciated the efforts of the Region in addressing this issue in a number of fora, such as Inter-American Telecommunication Commission (CITEL) as well as regional preparatory Meetings (Conclusion 11/39 refers)

1.6 With regard to deficiencies, the Meeting was informed that the Council agreed with GREPECAS action in calling upon States to develop and implement an action plan for each deficiency (Conclusion 11/55 refers) and requested States to provide information to the Regional Office that includes specifying corrective measures taken, indicating the completion date and describing any difficulties encountered in addressing deficiencies. To expedite the process of resolving the deficiencies, the Council appreciated the initiative of GREPECAS (Conclusion 11/56 refers) in developing a project outline that describes a safety assessment tool for analysing and prioritizing the deficiencies.

1.7 In relation to Conclusion 11/73, GREPECAS noted that the Council had approved its revised Terms of Reference.

1.8 In response to Conclusion 11/75, the Meeting noted that the Council approved Uruguay to become a permanent member of GREPECAS, rather than participating on a rotational basis.

1.9 The Meeting thanked the Council and Air Navigation Commission for their valuable guidance on various activities of the GREPECAS and that it would be taken into account in the development of ongoing action plan of the region.

Agenda Item 2 Review of the activities carried out by other Meetings

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

Report on the Global and Regional developments in the modernization of air navigation systems

2.1.1 The Meeting was presented with an overview on global and regional developments in the modernization of air navigation systems as well as a number of updates on various issues. The Meeting among other things noted the following:

a) summary of work of ICAO's Planning and Implementation Regional Groups (PIRGs);

b) development status of Standards and Recommended Practices (SARPs) and guidance material detailed in **Appendix A** to this part of the Report;

c) work programmes of various panels and Study Groups engaged in CNS/ATM related activities detailed in **Appendix B** to this part of the Report; and

d) comparative analysis of regional developments in air navigation systems detailed in **Appendix C** to this part of the Report.

2.1.2 The Meeting was informed that the Commission made the following observations:

a) the general observations made in the previous annual report were still valid;

b) although good progress had been made with implementation of certain elements of CNS/ATM systems, the overall pace of implementation was understandably slower than originally expected; and

c) invited PIRGs and States to enhance their activities in the area of planning and implementation of CNS/ATM systems.

Activities of the Informal Coordination Group for the Improvement of Air Traffic Services over the South Atlantic (SAT)

2.1.3 The Meeting recalled that the Informal Coordination Group for the Improvement of Air Traffic Services over the South Atlantic has the task of coordinating and implementing CNS/ATM systems in the homogeneous areas of the Atlantic that serve as interface between the AFI and SAM Regions (AH 1/AH 8), and in the interface between the Iberian peninsula and the EUR/SAM corridor (AFI and EUR).

2.1.4 In this regard, the Meeting took note of activities and achievements in the implementation of ATM functions and CNS systems, and encouraged the States and International Organizations involved to continue working within the SAT Group, taking into account its positive contribution to inter-regional coordination among the EUR, AFI and SAM Regions.

2.2 Follow-up actions by GREPECAS on the outcome of the Eleventh Air Navigation Conference

2.2.1 The Meeting was presented with a report on the outcome of, and actions taken by, the Council of ICAO on the Eleventh Air Navigation Conference held in Montreal from 22 September to 3 October 2003. The Conference, while focusing its attention on Global ATM systems, developed sixty-one recommendations enveloping a wide range of issues and call for further follow-up by ICAO, States, International Organizations and Planning and Implementation Groups (PIRGs) as well as CNS/ATM partners.

2.2.2 The proposed actions on the recommendations, which are analysed in **Appendix D** to this part of the Report, were presented to the Meeting with a view to seeking confirmation from GREPECAS that it will make appropriate contributions to the follow-up.

2.2.3 Consequent to discussions and on the basis of analysis of the recommendations, the Meeting developed the following actions:

DECISION 12/1 IMPLEMENTATION OF AN-CONF/11 RECOMMENDATIONS BY GREPECAS

That the following recommendations of AN-Conf/11 be studied by the concerned subgroups, that action be taken to implement them and that the outcome be presented to GREPECAS:

Recommendations	1/1, 1/10,1/13, 4/1 and 4/2: AGA/AOP/SG
Recommendations	1/1, 1/10, 1/13, 4/1, 4/2, 4/4, 6/11, 7/1 and 7/3: ATM/CNS/SG
Recommendation	4/8: ASB

CONCLUSION 12/2 IMPLEMENTATION OF AN-CONF/11 RECOMMENDATIONS BY STATES

That States of the CAR/SAM regions take action to implement the following twenty five recommendations of AN-Conf/11:

1/1, 1/2, 1/7, 1/10,1/13, 1/15, 2/2, 2/3, 2/7, 2/8, 4/1, 4/2, 4/5, 4/6, 4/8, 4/9, 5/1, 6/1, 6/2, 6/9, 6/13, 6/14, 7/1, 7/2 and 7/3

CONCLUSION 12/3 IMPLEMENTATION OF AN-CONF/11 RECOMMENDATIONS BY INTERNATIONAL ORGANIZATIONS

That International Organizations take action to implement the following twelve recommendations of AN-Conf/11:

1/1, 1/7, 1/10, 1/13, 4/8, 5/1, 6/1, 6/2, 6/9, 6/13, 7/2 and 7/3

Agenda Item 3 Review of Reports of GREPECAS Contributory Bodies

3.1 Report of the Task Force on Institutional Aspects

3.1.1 The First Meeting of the Task Force was held in Rio de Janeiro, Brazil, on 12-14 May 2004, immediately following the Second Seminar on Institutional Aspects.

3.1.2 The discussion of this item started on the basis of the information provided regarding the work carried out by regional technical cooperation project RLA/98/003, highlighting the development of Chapter 16 – Institutional Aspects, as part of the Guidance Material for the evolution towards the Global ATM in the CAR/SAM Regions, and the tool for the planning and evaluation of CNS/ATM systems (PET).

3.1.3 The Meeting reviewed the analysis carried out by the task force on various multinational facilities established in the CAR/SAM Regions. It was agreed that, in the future, there might be a proliferation of individually-developed multinational facilities, which could create, in a given moment, a difficult situation that might not necessarily align with cost-benefit aspects conducive to the implementation, operation and management of CNS/ATM systems. The Meeting also noted that many multinational entities, such as COCESNA, have been functioning very efficiently for many years in the CAR and SAM Regions. It was felt that the institutionalisation of ATM should be based on multinational cooperation and integration, without excluding any systems. In this respect, it was agreed that, in the long run, these individual multinational facilities should be gradually consolidated by means of more general agreements for the provision of air navigation services. Therefore, the Meeting considered that multinational arrangements working at present in an efficient manner be considered as an example. Consequently, the Meeting formulated the following conclusion:

CONCLUSION 12/4 INSTITUTIONAL INTEGRATION IN THE LONG TERM FOR MULTINATIONAL FACILITIES/SERVICES

That, in reviewing the institutional and legal aspects for the implementation of CAR/SAM Multinational Regional Systems, and in order to:

a) cost/efficiently integrate resources that enable their functioning and management; and

b) as appropriate, consolidate the multinational facilities/services individually developed within systems of a general nature,

The States should consider orienting existing and future multinational facilities/services to solutions through mechanisms of a general nature for the provision of multi-regional, regional and sub-regional air navigation services.

3.1.4 Regarding the economic aspects of the transition and implementation of CNS/ATM systems in the CAR/SAM Regions and the Planning and Evaluation Tool (PET), the Meeting agreed that the guidance material developed by the RLA 98/003 Regional Project should be used to conduct economic and financial studies, as agreed upon by the task force.

3.1.5 With respect to the definition of systems capable of being implemented through institutional agreements and the selection of the most suitable institutional arrangement, the Meeting noted that the new ATM systems supported by CNS/ATM technology in certain cases could require centralised control, and that their operation under this scheme would not only be operationally, technically and financially beneficial, but also, in some cases, even necessary. With respect to the above, and considering the new ATM operational concept approved by the Eleventh Air Navigation Conference, it was agreed that it may be necessary that, in the CAR and SAM Regions, a number of functions of the future ATM systems could be provided on a regional or, at least, sub-regional basis, through multinational facilities to be established in accordance with the guidance material contained in the CAR/SAM Air Navigation Plan (FASID document).

3.1.6 In line with the above, the Meeting agreed that the systems listed in **Appendix A** to this part of the Report, could be taken into consideration within this concept. Consequently, it adopted the following decision:

DECISION 12/5 FACILITIES/SERVICES SUITABLE FOR MULTINATIONAL ARRANGEMENTS

GREPECAS approves the list presented in Appendix A to this part of the Report, as systems possibly suitable for implementation in a gradual and evolutionary manner, as multinational facilities/services in the CAR/SAM Regions; and

a) requests the Task Force on Institutional Aspects to:

1. analyze and, if necessary, carry out the modifications and validations of the comparative study of the options and combination of options presented in Appendix A;

2. carry out a study using the CAR/SAM FASID guidelines for the establishment of multinational facilities/services in order to:

i. develop and ratify regional/sub-regional scenarios for the implementation of the above mentioned systems;

ii. study the institutional aspects required for their implementation;

iii. develop proposals for the most appropriate organization regarding the corresponding cost-benefit studies, for their implementation, functioning and management; and

iv. develop principles leading to the establishment of an institutional framework under which multinational facilities/services could be managed as part of a regional/sub-regional system for the provision of air navigation services.

3. establish a strategy and methodology for the implementation of the identified multinational facilities/services.

b) provide GREPECAS with reports of the aforementioned studies for the approval and decision by the States involved.

3.1.7 Proceeding with the discussion of this item, the Meeting noted that the task force had not discarded the possibility of identifying, in the course of the studies to be conducted, other types of multinational systems which, without necessarily being identified as part of the Air Navigation Plan, could be subject to a similar treatment, with a view to their implementation in support of the operation of multinational facilities. As an example of the above, mention was made of the establishment of an agency for the joint collection of charges and of a regional training centre.

3.1.8 The Meeting also noted that, in order to incorporate other activities incumbent to multinational air navigation systems, the task force, through the RLA 98/003 Regional Project, would make the necessary adjustments to Chapter 16, on Institutional Aspects, of the Guidance Material for the Evolution towards the Global ATM in the CAR/SAM Regions, developed by experts of the project. Likewise, it was recommended that the list of systems contained in paragraph 16.9.3 of Chapter 16 be reviewed in order to show navigation systems separately from communication systems.

3.2 Report of the ATM/CNS/SG/3 Meeting

3.2.1 Report of the ATM/CNS/SG

3.2.1.1 The Meeting was presented with the report of the ATM/CNS Subgroup in three sections, covering the reports of the Subgroup as a whole and of the ATM and CNS Committees, as approved by the Subgroup itself. These were presented to the GREPECAS meeting in that order.

3.2.1.2 The Meeting took note of the information concerning Agenda Item 1 of the Subgroup meeting, dealing with actions taken by the Air Navigation Commission and the Council with regard to GREPECAS/11 and relating to the ATM/CNS/SG. It also noted that the Subgroup as a whole had been presented with a general description of recent initiatives of the Air Navigation Commission for modernising air navigation systems, showing the current status of ICAO provisions on CNS/ATM systems, the work carried out by relevant panels and study groups, as well as regional developments, which enabled Committee members to stay abreast of the work related to their respective areas.

3.2.1.3 Furthermore, the Meeting noted that the Subgroup had also received information on the topics addressed by the Eleventh Air Navigation Conference (22 September – 3 October 2003) so that the Committees could be made aware of CNS/ATM issues involving possible actions for the ATM/CNS Subgroup Committees, and introduce specific reference to them in the terms of reference and work programmes, which would need to be modified for presentation to GREPECAS/12. The Subgroup had also been duly advised that the actions of the Eleventh Air Navigation Conference had been divided into three groups related to the work of the ICAO panels, State letters and progress made by the Secretariat or incorporation into the regular work programme.

3.2.1.4 The Meeting noted that, under its agenda item 3, the ATM/CNS Subgroup had received detailed information on the Regional Technical Cooperation Projects that have been created and are underway in the CAR/SAM Regions, and which concern the work of the Subgroup:

a) Regional project RLA/98/003 – Transition to the CNS/ATM systems in the CAR/SAM Regions;

b) Regional project RLA/98/019 – Implementation of the South American digital network (REDDIG);

c) Regional project RLA/03/901 – Management of the REDDIG;

d) Regional project RLA/00/009 – Regional GNSS augmentation trial; and

e) Regional project RLA/03/902 – SBAS/EGNOS trials in the CAR/SAM Regions

3.2.1.5 When reporting on the progress made in the aforementioned projects, the Meeting noted that, in view of their importance, the Subgroup had submitted a draft conclusion to GREPECAS requesting the States participation in said projects to continue providing their support for the attainment of their objectives as well as of those new objectives which might be identified by GREPECAS.

3.2.1.6 In this regard, and in support of a proposal to incorporate those States/Territories/International Organizations that were not yet included, the Meeting developed the following conclusion:

CONCLUSION 12/6 SUPPORT FOR REGIONAL TECHNICAL COOPERATION PROJECTS

That,

a) States/Territories/International Organizations participating in regional technical cooperation projects continue their financial support; and

b) States/Territories/International Organizations not participating in regional technical cooperation projects consider their financial support of these projects.

3.2.1.7 The Meeting was advised that the ATM/CNS Subgroup had convened its Executive Committee to review its Terms of Reference and Work Programme, taking into account that its activities on institutional matters had been delegated to the new GREPECAS Institutional Aspects group. Regarding the operation and structure of the Subgroup, the Meeting noted that the Executive Committee had agreed to maintain the same composition and working method of the Subgroup as in its first two meetings, since they had borne good results.

3.2.1.8 With respect to the tentative meeting schedule, the Meeting noted that the ACG/4 had decided to schedule a meeting of the Subgroup for mid 2005.

3.2.1.9 The Meeting was informed that the work programme of the Subgroup had been modified and that it would be presented under Agenda Item 5.2.

3.2.2 Report of the ATM Committee

Strategy for Phase II implementation of RNAV routes in the CAR/SAM Regions

3.2.2.1 Taking into account that GREPECAS had requested CAR/SAM States to accommodate their route networks to the implementation of RNAV routes in the Region, the Meeting considered the need to prepare guidance material for starting the Second Phase (Phase II) of RNAV route implementation in the CAR/SAM Regions so that, besides serving as a tool for regional implementation, States may take it into consideration when adapting their respective domestic route networks.

3.2.2.2 This Guidance Material for the implementation of RNAV routes in the CAR/SAM Regions takes into account the experience obtained in Phase I, with a view to standardising criteria, concepts, and the RNAV route planning and implementation strategy, based on ICAO documentation on this matter, and minimising the impact of factors that are hindering implementation in the CAR/SAM Regions. In this connection, the Meeting adopted the following conclusions:

CONCLUSION 12/7 GUIDANCE MATERIAL FOR THE IMPLEMENTATION OF RNAV ROUTES IN THE CAR/SAM REGIONS

That States/Territories/International Organizations:

a) adopt the Guidance Material for the implementation of RNAV routes in the CAR/SAM Regions, as shown in **Appendix B** to this part of the Report; and

b) execute the implementation programme shown in Attachment B to the cited document

CONCLUSION 12/8 ANALYSIS PRIOR TO THE IMPLEMENTATION OF RNAV ROUTES IN THE CAR/SAM REGIONS

That States/Territories/International Organizations involved, taking into account the guidance material shown in Appendix B to this part of the Report:

a) analyse the impact that the RNAV route network would have on:

i. conventional and other RNAV routes;
ii. aircraft fleet operating on conventional ATS routes and which are not RNAV-enabled;
iii. prohibited, restricted and dangerous areas
iv. TMAs, mainly those where the proposed RNAV route starts/ends; and
v. the provision of air traffic services;

b) identify those routes that could be deleted from ATS Table –1 of the CAR/SAM ANP, Basic, Volume I, due to:

i. low level of utilisation and/or
ii. replacement with a new RNAV route; and

c) submit the result of the analysis to the ICAO NACC and SAM Regional Offices before **30 September 2004**.

Integration of the RNAV route network and TMA arrival and departure paths

3.2.2.3 The Meeting agreed that, in the initial RNAV route implementation planning stage, consideration should be given to the integration of the RNAV routes network and TMA arrival and departure paths, taking into account the need to reduce the workload of pilots and air traffic controllers, mainly through a more efficient use of flight management systems (FMS) and a reduction of ground/air/ground communications load. In view of the above, the Meeting approved the following conclusion:

CONCLUSION 12/9 IMPLEMENTATION OF SIDs AND STARs

That States/Territories/International Organizations implement standard arrivals and departures (SIDs and STARs) to link origin and destination aerodromes, as well as intermediate airports that make use of CAR/SAM RNAV routes.

Designators for the identification of reporting points and ATS routes

3.2.2.4 The Meeting noted that, with regard to five-letter designators, and in order to avoid multiple use of the same designator, ICAO had assigned a series of designators to each of its regional offices, for use in the different FIRs located within their areas of jurisdiction. The same criterion has been applied for managing designators to be used in the identification of ATS routes other than standard departure and arrival routes.

3.2.2.5 The Meeting deemed it necessary for States/Territories/International Organizations to coordinate with the corresponding Regional Office to avoid possible operational problems in the use of on-board air navigation computers or ATC automated equipment resulting from the duplication of reporting point and ATS route designators which might arise both at regional and worldwide level. In this connection, the Meeting adopted the following conclusion:

CONCLUSION 12/10 USE OF REPORTING POINT AND ATS ROUTE DESIGNATORS

That CAR/SAM Regions States/Territories/International Organizations:

a) use only those designators for the identification of reporting points and ATS routes that have been assigned by the corresponding ICAO Regional Office; and

b) when one or more designators for the identification of reporting points or ATS routes are deleted, the corresponding Regional Office should be informed, in order to re-incorporate them in the database, and be re-assigned in due time and fashion.

WGS-84 Implementation

3.2.2.6 When reviewing the implementation of RNAV routes and taking into account the importance of establishing reporting points with common WGS 84 geographical coordinates at FIR boundaries, the Meeting deemed it necessary to encourage States/Territories/International Organizations to apply the various recommendations issued by ICAO, especially GREPECAS Conclusion 10/55 – *Publication of WGS-84 based geographical coordinates.*

RNP-10 pre-operational implementation in parallel routes UL780 and UL302 between Santiago and Lima and proposed application of a 50NM longitudinal separation

3.2.2.7 The Meeting noted that, as of 22 January 2004 RNP-10 had been successfully implemented in RNAV routes UL780 and UL302 between Santiago, Chile and Lima, Peru on a pre-operational basis and that Chilean and Peruvian aeronautical administrations had complied with the implementation programme jointly developed with the International Air Transport Association (IATA) and ICAO NACC and SAM Regional Offices.

RNP implementation strategy in the CAR/SAM Regions

3.2.2.8 The Meeting examined this matter taking into account the discussions within the Separation and Airspace Safety Panel (SASP), ICAO standards contained in Annex 11 - Air Traffic Services, the Manual on Required Navigation Performance, Doc 9613, and the Minimum Aircraft Systems Performance Specifications – MASPS (RTCA DO-236A and EUROCAE ED-75A), mainly on RNP, RNAV and RNP RNAV concepts, as well as operational approval procedures.

3.2.2.9 Taking into the account the aforementioned, the various types of RNP currently available in Annex 11 and Doc 9613 were analyzed and, considering CAR/SAM airspace characteristics, the Meeting concluded that the only types of RNP currently applicable in both Regions were RNP 10 or RNP 4 for oceanic airspace and RNP 4 or RNP 5 for continental airspace.

3.2.2.10 It was also recalled that, through Conclusion AP/ATM/6/14 (AP/ATM/6, San José, Costa Rica, 29 September to 3 October 2003), it was requested that the RNAV/RNP/TF initiate studies for RNP implementation in the Brasilia, Curitiba, Montevideo, Ezeiza and Havana FIRs.

3.2.2.11 The Brasilia, Curitiba, Montevideo and Ezeiza FIRs have an adequate CNS infrastructure, and current air traffic movement figures available at CARSAMMA as well as air traffic forecasts by Regional Project RLA/98/003 anticipate that RNP implementation would be necessary around 2008. On the other hand, note was taken that, due to the position of the Ezeiza airport with regard to the Montevideo FIR, it would not be necessary to implement RNP in all of the Ezeiza FIR. For this reason, the Meeting was felt that, for the time being, RNP should only be implemented in the Brasilia, Curitiba and Montevideo FIRs, and thereby approved the following conclusion:

CONCLUSION 12/11 FEASIBILITY STUDY FOR THE IMPLEMENTATION OF RNP 5 IN THE BRASILIA, CURITIBA AND MONTEVIDEO FIRS

That Brazil and Uruguay conduct a feasibility study for the implementation of RNP 5 in the Brasilia, Curitiba and Montevideo FIRs, according to the Action Plan shown in **Appendix C** to this part of the Report.

RNP implementation in the Havana FIR

3.2.2.12 With regard to the Havana FIR, it was considered to be transition airspace between the CAR Region and the United States, and that RNP implementation in that FIR would have a domino effect, which would make it necessary to implement RNP, at least throughout the CAR Region. Therefore, it was deemed advisable to continue with the studies to implement RNP initially in CAR Region States.

RVSM (Task ATM-ASM/203)

3.2.2.13 The Meeting noted that RVSM implementation activities had been carried out by the RVSM Task Force (RVSM/TF) and its three working groups--the Safety and Airspace Monitoring Working Group (SAM/WG), the ATC Operations Working Group (ATC/WG), and the Aircraft Operations and Airworthiness Working Group (OPS/AIR/WG)--at the fourth, fifth, sixth and seventh meetings of ATM Authorities and Planners, within the framework of UNDP/ICAO Project RLA/98/003, having adopted a series of agreements at the third meeting of the ATM Committee. The main agreements were the following:

Safety and Airspace Monitoring Working Group (SAM/WG)

Cost-benefit analysis

3.2.2.14 The Meeting noted that the FAA had conducted a preliminary cost-benefit analysis based on a statistical analysis of a traffic sample from 16 to 22 September 2002 in the CAR/SAM Regions, in order to estimate possible cost savings to be derived by operators from RVSM implementation.

3.2.2.15 According to this study, the total cost for commercial operators in the CAR/SAM Regions of updating and monitoring their airframes was $137.8 million, or $127.7 million on a discounted basis. Fuel savings for the 15-year period as a result of this proposal was estimated at $538.0 million, or $312.1 million on a discounted basis. The cost-benefit ratio for commercial operators in the CAR/SAM Regions was almost 4.0:1, or 2.4:1 on a discounted basis. The Meeting noted with satisfaction that this value was comparable to cost-benefit ratio estimates for the DRVSM in the United States and the Pacific.

Monitoring Agency (CARSAMMA)

3.2.2.16 The Meeting noted that the Federal Aviation Administration (FAA) and the Airspace Control Department (DECEA) of Brazil had signed Annex 2 to the MOA NAT-I-0019, under the item entitled Establishment of the CAR/SAM Monitoring Agency, and that the FAA had trained a group of CARSAMMA experts with mathematical knowledge and from ATC.

3.2.2.17 This Agency also confirmed that the RVSM risk parameter assumption models were consistent with the CAR/SAM airspace.

Minimum monitoring requirements and Mode C data collection

3.2.2.18 In view of the need to start the monitoring process in the CAR/SAM Regions, and to harmonise Minimum Monitoring Requirements with other Regions, it was agreed, in coordination with the OPS/AIR Working Group, to use a new table for that purpose.

3.2.2.19 It was also noted that Mode C data were necessary for the aircraft approval process and for safety assessment purposes, although some Administrations would not be in a position to collect such data. In this connection, the FAA offered its support by providing the GPS monitoring units, with altitude recording devices (ARD). The Meeting acknowledged the support of the FAA to the Region and formulated the following conclusions:

CONCLUSION 12/12 MINIMUM MONITORING REQUIREMENTS

That, for purposes of the RVSM approval process, the States/Territories/International Organizations use the Minimum Monitoring Requirements table described in **Appendix D** to this part of the Report.

CONCLUSION 12/13 MODE C DATA COLLECTION

That the FAA provide to the Agency in charge of aircraft monitoring, the GPS monitoring unit with altitude recording devices (ARD), so that the States/Territories/International Organizations will not have the need to supply Mode C data. States/Territories/International Organizations should be prepared to collect Mode C data in the event of failure of the ARD.

Preliminary safety and readiness assessme nt

3.2.2.20 The Meeting reviewed the information presented by CARSAMMA on the preliminary safety and readiness assessment carried out based on the traffic sample provided by the States in December 2002.

3.2.2.21 Taking as the upper limit for collision risk the TLS of $5{,}0 \times 10\text{-}9$ accidents per flight hour and assuming that the limits for non-technical errors rates are satisfactory, the preliminary safety assessment demonstrated that the airspace would be safe once the RVSM was implemented in the CAR/SAM Regions. In reaching this Conclusion, the Meeting noted that the CARSAMMA analysis had been conservative, in the sense that values for collision risk model parameters were assumed to be at their maximum reasonable limits. The Meeting noted, therefore, that this conservative approach would allow accommodation of non-technical errors at an even higher rate than would the technical risk value presented in the analysis, while still meeting the TLS. However, for a better evaluation of the non-technical risk, the Meeting will require more complete information about large height deviations in the Region. The Meeting recalled that such information includes reports on those flights flying on a wrong flight level without ATC clearance.

3.2.2.22 The Meeting noted that, due to upcoming changes to the CAR/SAM airspace structure and considering the need for more representative traffic data closer to the implementation date, a new 30-day data collection had been agreed upon, starting 11 June to 10 July 2004, and such information would be sent to CARSAMMA to be used in the safety assessment to be definitively presented in November 2004 at the AP/ATM/9 Meeting,. This information would be of utmost importance to decide whether to continue with RVSM implementation or to postpone it until all required safety parameters are complied with.

3.2.2.23 Finally, the Meeting reviewed the information presented by CARSAMMA concerning LHD reports, and concluded that some States/Territories had still doubts on how to collect and report that data. Considering the importance of these data for the safety assessment process, the Meeting agreed on the following conclusion:

CONCLUSION 12/14 COLLECTION OF LARGE HEIGHT DEVIATIONS (LHD)

That the ICAO Secretariat take relevant action in order that:

a) States/Territories/International Organizations use the new form contained in **Appendix E** to this part of the Report for sending the LHD reports to CARSAMMA by the 10th of each month, even if no deviations occur; and

b) the form be included in the Latin American Aeronautical Regulations (LAR).

Aircraft Operations and Airworthiness Working Group (OPS/AIR/WG)

Requirements and procedures for approval of operations in RVSM designated airspace

3.2.2.24 The Meeting noted that the members of the OPS/AIR Working Group had reviewed the contents of Advisory Circular CA 6.425 – RVSM, developed by the Regional Cooperation System for Safety Oversight (SRVSOP), as part of the Latin American Aeronautical Regulations (LARs), which was available to CAR/SAM States/Territories/International Organizations as per a Decision of the General Board of the Regional System, in November 2003, on occasion of the eighth regular meeting of said body. The Meeting introduced the changes it deemed appropriate.

3.2.2.25 Regarding the need to request training on procedures for operating in RVSM airspace, particularly when special or contingency procedures must be applied, for the crews of non-RVSM aircraft capable of flying above flight level 280 (FL280), the Meeting deemed it advisable to highlight the need for States/Territories/International Organizations to establish special requirements to enhance compliance with training programmes so that these be made extensive to the crews of aircraft which might be incidentally accommodated in RVSM airspace.

AIR/OPS model programme for RVSM approval of aircraft and operators

3.2.2.26 The Meeting stressed and recognized the importance for aeronautical authorities to comply with RVSM operational and airworthiness approval requirements for aircraft and operators, before the date foreseen for RVSM implementation in the CAR/SAM Regions. In view of the above, it was deemed appropriate to develop a model programme for RVSM approval of aircraft and operators. In this regard, the following conclusion was formulated:

CONCLUSION 12/15 AIR/OPS MODEL PROGRAMME FOR RVSM APPROVAL OF AIRCRAFT AND OPERATORS

That:

a) CAR/SAM States/Territories/International Organizations include in their national RVSM implementation plans an operational and airworthiness approval programme for aircraft and operators, adopting the model included as **Appendix F** to this part of the Report, indicating the target dates for RVSM implementation by **20 January 2005**; and

b) those States/Territories/International Organizations that have difficulties to develop the programme in the dates foreseen, report it to the corresponding Regional Office before July 2004, in order to identify joint solutions that will allow them to assume their responsibilities in the RVSM implementation at a regional level.

ATC Operations Working Group (ATC/WG)

RVSM operational concept for the CAR/SAM Regions

3.2.2.27 The Meeting noted that the development of the RVSM operational concept for the CAR/SAM Regions had been completed, including the main operational concepts to be used by States/Territories/International Organizations for RVSM planning and implementation. This is a dynamic document subject to amendments and which is posted on the ICAO SAM Office web page: *www.lima.icao.int* . In view of the above, the following conclusion was formulated:

CONCLUSION 12/16 RVSM OPERATIONAL CONCEPT FOR THE CAR/SAM REGIONS

That the States/Territories/International Organizations adopt and apply for the CAR/SAM Regions the RVSM operational concept (CONOPS) shown in **Appendix G** to this part of the Report.

Guidance material for the implementation of a 300-m (1000-ft) vertical separation minimum between FL 290 and FL 410 (RVSM) for application in Caribbean and South American airspace (CAR/SAM RVSM Guidance Material)

3.2.2.28 The Meeting noted that the ATM Committee had prepared the guidance material for the implementation of a 300 m (1000 ft) vertical separation minimum between FL 290 and FL 410 (RVSM) for application in the Caribbean and South American airspace. GREPECAS, taking into account that it is a dynamic document and that amendments will need to be introduced in order to keep it duly updated, adopted the aforementioned document, and formulated the following conclusion. Also it was noted that the same was posted on the ICAO SAM Office web page: *www.lima.icao.int*

CONCLUSION 12/17 GUIDANCE MATERIAL FOR RVSM IMPLEMENTATION IN THE CAR/SAM REGIONS

That the States/Territories/International Organizations adopt and apply the Guidance Material for RVSM Implementation in the CAR/SAM Regions, as shown in **Appendix H** to this part of the Report.

Operational readiness target

3.2.2.29 The Meeting recognized the need to evaluate and update the operational readiness target values for operations in RVSM airspace after 20 January, 2005. The Meeting agreed that, since the CAR/SAM Regions will allow States/Territories/International Organizations to accommodate non-RVSM aircraft in their RVSM airspace, it was difficult to assign a target value that reflected the actual operational status. Therefore, the Meeting understood that two separate operational readiness target values should be established for RVSM implementation in the CAR/SAM Regions. A figure of 80 % could be used by those States/Territories/International Organizations that will accommodate non-approved aircraft in their domestic airspace. This figure carries the implication that at least 90 % of international operations would be conducted by RVSM-approved aircraft. Those States/Territories/International Organizations that will not accommodate non-approved aircraft would continue to use the 90 % value as agreed by previous meetings of the Task Force. In view of the above, the following conclusion was adopted:

CONCLUSION 12/18 OPERATIONAL READINESS TARGET

That the use of two different operational readiness target values be approved, one of 90% of international operations for States/Territories/International Organizations that will not accommodate non-approved aircraft in RVSM airspace, and another of 80 % of operations for States that will accommodate non-RVSM aircraft in domestic flights in their corresponding RVSM airspaces.

ATC Guidance Manual for RVSM Training in the CAR/SAM Regions

3.2.2.30 The Guidance Manual for RVSM Training in the CAR/SAM Regions was examined with the idea that States/Territories/International Organizations might use such material to train air traffic controllers. This document is posted on the ICAO SAM Office web page: *www.lima.icao.int*

3.2.2.31 Furthermore, the need was felt for CAR/SAM States/Territories/International Organizations that had not yet done so, to develop as soon as possible their RVSM training plans. Based on the above, the following conclusion was adopted:

CONCLUSION 12/19 RVSM TRAINING

That ICAO Secretariat inform the States/Territories/International Organizations that, when preparing their RVSM training programmes, they should take into account, among other documents, the ATC Guidance Manual for RVSM Training in the CAR/SAM Regions and, if appropriate, submit to the Secretariat, not later than **15 July 2004**, their comments on the Manual.

Note: *In view of its size, the ATC Guidance Manual for RVSM Training in the CAR/SAM Regions is posted in the ICAO South American Office website www.lima.icao.int .*

RVSM implementation date

3.2.2.32 The CAR/SAM and NAM implementation plans were analyzed and it was felt that an adjustment to the preliminary implementation date was necessary for operational convenience and harmonization purposes between adjacent Regions, pursuant to the GREPECAS mandate.

3.2.2.33 Based on the above, it was felt advisable to change the RVSM implementation date for the CAR/SAM and NAM Regions to **20 January 2005**. The States/Territories/International Organizations reaffirmed their commitment to implement RVSM on the date already agreed and formulated the following conclusion:

CONCLUSION 12/20 HARMONIZATION OF THE RVSM IMPLEMENTATION DATE FOR THE CAR/SAM AND NAM REGIONS

That, in order to harmonise air operations between the CAR/SAM and NAM Regions, the RVSM implementation was set for **20 January 2005**.

Joint operation of RVSM- and non-RVSM aircraft

3.2.2.34 On the other hand, the Meeting also discussed the issue of joint operation of RVSM- and non-RVSM aircraft in an RVSM non-exclusionary airspace. The Meeting deemed it necessary to conduct surveys and simulations to make sure that mixed operation in a non-exclusionary RVSM airspace would be carried out with the same or better safety limits than those currently required.

Indication of RVSM approval status in Repetitive Flight Plans (RPL)

3.2.2.35 The Meeting discussed this matter and noted that the indication of aircraft RVSM approval status in the RPL was not yet standardised and, taking into account that a State had used EUR procedures in its ATC RVSM simulations, the Meeting deemed it appropriate to apply such indication on a temporary basis, while ICAO establishes a procedure for global application.

3.2.2.36 The Meeting also considered that those States/Territories/International Organizations that applied the RPL system and which had Letters of Agreement concerning its use, should review them in order to see if they needed to be amended. In this connection, the Meeting formulated the following conclusion:

CONCLUSION 12/21 INDICATION OF RVSM APPROVAL STATUS IN REPETITIVE FLIGHT PLANS (RPL)

That, until ICAO defines a procedure for its global application, those States/Territories/International Organizations that use the Repetitive Flight Plan (RPL) system establish the procedure of including the term "EQPT/W" or "EQPT/-"in Box Q of the RPL to identify RVSM-approved or non-RVSM approved aircraft, respectively.

Inclusion of RVSM issues in the Letters of Agreement (LOAs)

3.2.2.37 In light of RVSM implementation tasks, the Meeting reviewed the need to update the Letters of Agreement between ATC units. Among the most relevant aspects, mention was made of RVSM coordination procedures that needed to be jointly defined by adjacent control centres. Consequently, it approved the following conclusion:

CONCLUSION 12/22 INCLUSION OF RVSM ISSUES IN OPERATIONAL LETTERS OF AGREEMENT

That the States/Territories/International Organizations that have not yet done so, review the Letters of Agreement (LOA) between ATC units involved, so as to include RVSM issues, taking into account out the model shown in **Appendix I** to this part of the report.

Mechanism for deciding whether to implement or postpone RVSM

3.2.2.38 The Meeting thanked all States/Territories/International Organizations for their efforts towards the implementation of RVSM on the date agreed, and considered that implementation should be carried out only after meeting the corresponding requirements, verifying the integrity of the system and fulfilling all RVSM implementation tasks assigned to States, users and International Organizations.

3.2.2.39 The Meeting recalled that, as established in ICAO Doc 9574 AN/934, GREPECAS has the global responsibility of deciding on the implementation and maintenance of RVSM. However, the experts of the States/Territories/International Organizations belonging to the RVSM Task Force shall analyse at the AP/ATM/9 Meeting (15 to 19 November 2004) if all the stages established in the RVSM implementation programme have been complied and shall issue their opinion in this respect.

3.2.2.40 In the light of the above, and in view that GREPECAS will not meet until 2006, it was expected that the Decision adopted by the RVSM Task Force would be submitted to the States/Territories/International Organizations that are part of the Regional Group through the GREPECAS Secretariat, and to the States that are not represented in GREPECAS, through the Regional Directors of the CAR and SAM Offices, for comments and approval of the Decision adopted. Consequently, the Meeting formulated the following conclusion:

CONCLUSION 12/23[1] STATES/TERRITORIES/INTERNATIONAL ORGANIZATIONS OFFICIAL APPROVAL FOR RVSM IMPLEMENTATION IN THE CAR/SAM REGIONS

Cognizant of the short period of time between the ATM Committee RVSM Task Force go-no go decision (November 2004) and full implementation (20 January 2005), and the requirement to obtain official authorization from States/Territories/International Organizations for RVSM implementation, it was agreed that,

a) the Secretary of GREPECAS, through the Administration Coordination Group fast-track mechanism, obtain official approval from the appropriate GREPECAS Member authorities for RVSM implementation;

b) the ICAO Regional Offices in Lima and Mexico obtain official approval for RVSM implementation from the appropriate authorities of non-GREPECAS Member States/Territories/International Organizations, and

c) approval is received by no later than 30 days after the go-no go decision is taken.

Aeronautical phraseology (Task ATM-ATS 300)

3.2.2.41 The Meeting took note on the status of implementation of Task ATM/ATS-300: "To carry out a review of the Spanish language phraseology in ICAO Doc 4444". It was noted that the electronic query, main element in the fulfilment of this task, had had a technical problem, that caused a delay in the implementation of the programme, but it had already been solved. The Meeting noted that the Aeronautical Phraseology Task Force decided to continue with its activities, incorporating the referred survey in the NACC Regional Office website.

3.2.2.42 The Meeting was concerned due to the low response obtained to date and encouraged States/Territories/International Organizations to make all efforts to contribute to the work being carried out by the Aeronautical Phraseology Task Force.

ATM Evolution Tables of the CAR/SAM Regional Plan for the Implementation of CNS/ATM Systems, Document II, Action Plan for en-route operations

3.2.2.43 In light of the studies carried out by Project RLA/98/003 and taking into consideration the RVSM, RNP and RNAV route implementation programmes currently underway, the Meeting analyzed the ATM evolution tables corresponding to the 18 air traffic flows defined for the CAR/SAM Regions.

3.2.2.44 In the revision and updating of the ATM Evolution Tables, new requirements and common dates had been considered for most air traffic flows, and ATM functions that would not be implemented were deleted. Thus, in addition to having a more realistic planning, it will be possible to begin the implementation process of ATM elements shown in the aforementioned Tables, if necessary.

[1] *ACG/4 Conclusion 4/05 – Pre-approved by GREPECAS Members on 19 April 2004*

3.2.2.45 The Meeting also considered that a review of the ATM evolution tables should be made every two years, in order to amend them, if applicable. In view of the above, and in compliance with GREPECAS/10 Decision 10/16, the Meeting approved the following Decision:

DECISION 12/24 UPDATING OF ATM EVOLUTION TABLES IN THE CAR/SAM REGIONAL PLAN FOR THE IMPLEMENTATION OF CNS/ATM – EN-ROUTE OPERATIONS

That ICAO take relevant action to amend ATM Evolution Tables in the CAR/SAM Regional Plan for the Implementation of CNS/ATM Systems, Document II, Action Plan, as shown in **Appendix J** to this part of the Report.

ATM Evolution Table of the CAR/SAM Regional Plan for the Implementation of CNS/ATM Systems, Document II, Action Plan. – *Terminal Area Operations (TMA)*

3.2.2.46 The Meeting analyzed the data link application aspects, especially those related to D-ATIS and PDC, and agreed that the Secretariat take relevant action to update the ATM Evolution Table for terminal areas (TMA), as contained in the *CAR/SAM Regional Plan (Document II – Action Plan) for the implementation of CNS/ATM systems*, and that it be applied in aerodromes with higher traffic density, not later than year 2007. In view of the above, it formulated the following Decision:

DECISION 12/25 UPDATING OF THE ATM EVOLUTION TABLE OF THE CAR/SAM REGIONAL PLAN FOR THE IMPLEMENTATION OF CNS/ATM SYSTEMS – TERMINAL AREA OPERATIONS (TMA)

That the ICAO Secretariat take relevant action to update the ATM Evolution Table - Terminal Area Operations (TMA), of the CAR/SAM Regional Plan for the Implementation of CNS/ATM Systems –– Document II – Action Plan, indicating that D-ATIS and PDC services via data link should be implemented in aerodromes with higher air traffic density, as per year 2007.

ATS Quality Assurance programmes

3.2.2.47 The Meeting recalled that as a follow-up of CAR/SAM/3 RAN Recommendation 5/38 – "Implementation of an ATS quality assurance programme", GREPECAS, in its Tenth Meeting (GREPECAS/10, Las Palmas, Spain, October 2001) approved the CAR/SAM Regional Guidance Material on Air Traffic Services Quality Assurance Programmes.

3.2.2.48 ATS Quality Assurance Programmes have proven to be an effective tool that foster implementation of several supplementary programmes, such as verification and training programmes for ATC competence, incident reporting and investigation, phraseology review and incident prevention, evaluation and continuous improvement of air traffic services.

3.2.2.49 On the other hand, the Meeting noted that the work programme of the CAR/SAM SAM ATS-QA Special Implementation Project (SIP) (2003), was aimed at providing regional guidance material for preparing and having available a Quality Manual and its respective management documents, all harmonised with the requirements established by ISO-9001:2000 Standard, in a way that it may be used as guidance material by States and users of ATS services in the CAR/SAM Regions, for the implementation of Quality Assurance Programmes.

3.2.2.50 The resulting documents, besides incorporating the content of the CAR/SAM Regional guidance material on Air Traffic Services Quality Assurance Programmes, present in a simple and objective manner a series of guides as a response to any doubts that might arise during the process of application of the documentation related to a quality management system and also as a tool-guide in the harmonization of the respective ATS quality management systems with ISO-9001:2000.

3.2.2.51 The Meeting considered that all the guidelines offered were of great value and would be very useful for the States/Territories/International Organizations in the preparation of the national documentation related with ATS quality assurance.

3.2.2.52 Finally, taking into account that with the active participation of the NACC and SAM Regional Offices within the regional environment, various seminars and workshops on Air Traffic Services Quality Assurance Programmes have been carried out, and that some States/Territories/International Organizations have already implemented or are in the process of implementing their respective ATS Quality Assurance Programmes, it would be opportune to set a deadline for the availability of said programmes. Consequently, it approved the following conclusions:

CONCLUSION 12/26 COMPLETION OF ATS QUALITY ASSURANCE PROGRAMMES

That States/Territories/International Organizations of the CAR/SAM Regions which have not complied with CAR/SAM/3 RAN Meeting Recommendation 5/38 – Implementation of an ATS Quality Assurance Programme, take relevant measures to implement an ATS Quality Assurance Programme, not later than **December 2006**.

CONCLUSION 12/27 ATS QUALITY MANAGEMENT SYSTEM GUIDANCE DOCUMENTS

That CAR/SAM States/Territories/International Organizations that decide to implement ISO methodology in the Quality Assurance Programmes, in order to improve ATS efficiency and operational safety, use the ATS Management System Guidance Documents for the management of their Quality Assurance Programmes, as shown in the corresponding ICAO NACC and SAM Regional Offices websites.

Note: *In view of the size of the above-mentioned documents, States/Territories/International Organizations are invited to obtain the information in the following websites:*
www.lima.icao.int and
www.icao.int/nacc

CONCLUSION 12/28 PARTICIPATION IN REGIONAL EVENTS RELATED TO ATS QUALITY ASSURANCE PROGRAMMES

That the States/Territories/International Organizations send their ATM safety experts to actively participate in seminars, workshops and meetings organized by ICAO on the Implementation of the Air Traffic Services Quality Assurance Programmes in the CAR/SAM Regions.

Implementation of ATS Quality Assurance Programmes in the CAR/SAM Regions

3.2.2.53 Note was taken that several States/Territories/International Organizations had implemented or were implementing ATS quality assurance programmes. In this connection, information was received regarding the programmes of Chile, Cuba Mexico and, Panama, indicating that they were well advanced and the results had been extremely positive.

ATM safety management

3.2.2.54 The Meeting took note of safety management provisions contained in the amendments to Annex 11 and to PANS-ATM, which required States to implement systematic and appropriate safety management programmes, including levels and objectives, by 27 November 2003, to ensure that air traffic services attain an appropriate level of safety.

3.2.2.55 The Meeting also recalled that the Eleventh Air Navigation Conference had recommended the publication of the ATM Operational Concept Manual, to contribute to a seamless and harmonised regional planning in line with the Global Plan for CNS/ATM Systems. The *Manual on Safety Management for Aerodromes and Air Traffic Service*.

3.2.2.56 This document covers the basic principles of safety management, and its objective is to help States in the implementation of the provisions of Annex 11, Section 2.26 and Chapter 2 of the PANS-ATM, providing guidance for the implementation of a safety management system and an introduction to the related duties and organizational support requirements, highlighting the application of ATS safety management techniques.

3.2.2.57 The Meeting recognized that, in spite of the activities carried out to improve safety in the CAR/SAM Regions, it was necessary for States/Territories/International Organizations to continue participating in activities organised by ICAO, in order to introduce improvements to the safety systems through the implementation of ATS safety management programmes, in coordination with the ICAO NACC and SAM Regional Offices. In view of all the foregoing, the Meeting formulated the following conclusion:

CONCLUSION 12/29 IMPLEMENTATION OF ATS SAFETY MANAGEMENT PROGRAMMES AND MINIMUM SAFETY LEVELS

That the States/Territories/International Organizations:

a) develop an action plan to implement ATS safety management programmes in keeping with the provisions of Annex 11, in coordination with the ICAO NACC and SAM Regional Offices, through systematic and suitable programmes with the aim of ensuring safety in the provision of ATS within the airspace and aerodromes under their jurisdiction;

b) define in those programmes the objectives and minimum acceptable levels; and

c) submit to the ICAO NACC and SAM Regional Offices the ATS safety management programmes applicable to their airspace and aerodromes.

NAM/CAR/SAM Regional Seminar on Runway Safety and Safety Management in Air Traffic Services

3.2.2.58 The Meeting also took note of the NAM/CAR/SAM Regional Seminar on Runway Safety and Safety Management in Air Traffic Services, to be carried out from 18 to 22 October 2004 in Santiago, Chile. This event is framed within the worldwide programme and is being organised and coordinated by ICAO Headquarters in Montreal, jointly with the NACC and SAM Regional Offices. Worldwide experts on both topics will participate in this seminar, and so will experts from the NAM/CAR/SAM Regions. The Meeting deemed it advisable to invite and encourage civil aviation administrations of the NAM, CAR and SAM Regions, to participate in this event, and adopted the following conclusion:

CONCLUSION 12/30 NAM/CAR/SAM REGIONAL SEMINAR ON RUNWAY INCURSION AND SAFETY MANAGEMENT IN AIR TRAFFIC SERVICES

That the States/Territories/International Organizations of the CAR/SAM Regions support the participation of their ATM safety management experts in the NAM/CAR/SAM Regional Seminar on Runway Incursion and Safety Management in Air Traffic Services, to be held in Santiago de Chile from 18 to 22 October 2004.

ATM Automation

3.2.2.59 The Meeting reviewed the issues related with ATM automation. On this respect, it was recognized that the same States, taking into account the regional harmonization, should determine the ATM automation level required.

3.2.2.60 It was recognized that there are already several States and ATS providers that have implemented or are going to implement these technologies, being necessary to provide guidance material in the application of a regional, safe, evolutionary and harmonious integration methodology, necessary, as per ICAO guidelines, and in accordance to the GREPECAS guidelines and its contributory bodies. Therefore, it agreed in recommend a regional integration strategy of ATM automated systems, formulating the following conclusion:

CONCLUSION 12/31 REGIONAL STRATEGY FOR THE INTEGRATION OF ATM AUTOMATED SYSTEMS

That,

a) in view of a Regional Strategy for the integration of ATM automated systems, the CAR/SAM States/Territories/International Organizations:

1. Define an action plan, in coordination with ICAO NACC and SAM Regional Offices for the integration of ATM automated systems using the strategy described in **Appendix K** to this part of the Report; and

2. Submit to the ICAO NACC and SAM Regional Offices their Action Plan for the integration of ATM automated systems; and

b) the RLA/98/003 Regional Project consider this strategy in the preparation of the guidance material as support to GREPECAS mechanism on this matter.

ADS-B utilization in the CAR/SAM Regions

3.2.2.61 The Meeting analyzed the aspects related with the ADS-B use and concluded that some States have made progress in the trials concerning this technology for its implementation, and agreed on the following conclusion:

CONCLUSION 12/32 ADS-B IMPLEMENTATION IN THE CAR/SAM REGIONS

That the States/Territories/International Organizations of the CAR/SAM Regions that plan to implement ADS-B, coordinate with the ICAO NACC and SAM Regional Offices so as to ensure a harmonized implementation of this technology in the CAR/SAM Regions.

3.2.2.62 Argentina presented an information paper informing the theory and practical systematic training in real time for ATC/ARO/AIS personnel, planned in accordance with ICAO guidelines for RVSM implementation. Likewise informed on their RVSM regulation project that will be included in the AIP and in the ATC Procedural Manual.

3.2.2.63 Chile presented an information paper on their experience in training to reach Level 5 of proficiency in English language as stated in ICAO Annex 1 scale for Controllers and Pilots that will be extensive to all aeronautical professionals in the country.

3.2.2.64 Venezuela presented its training plans for ATC personnel towards RVSM implementation, by simulations of 16 RVSM scenarios in the Maiquetia FIR en real time applying radar techniques, emergency procedures and practice of RVSM phraseology in Spanish and English, as ICAO guidelines.

3.2.3 Report of the CNS Committee

General matters

Status of the Regional Development of CNS Systems

3.2.3.1 The Meeting noted the summary of the CNS systems in the CAR/SAM Regions development and implementation current situation presented by the CNS Committee, which is shown in **Appendix L** to this part of the Report.

3.2.3.2 Cuba informed the Meeting the status of development of its CNS systems as part of its CNS/ATM systems implementation project in accordance with the CAR/SAM Air Navigation Plan and the implementation of a new Area Control Centre (ACC Habana), which is foreseen to be in operation by mid 2004. It specially informed on the development of its AFS communications systems, the transition of its AFTN national system towards ATN, the complete coverage of its VHF and HF/AMS communications systems, compliance with NAVAIDs requirements, implementation of GNSS, modernization of its radar system, which covers all Habana FIR; likewise, informed its willingness to share radar data with neighbouring States. This project also includes preparation of human resources, technology modernization and progressive introduction of automated systems and application of quality assurance systems in all its services.

Regional Actions to Protect the aeronautical Radio Frequency Spectrum

Regional action for the preparation and support of ICAO's position in the ITU WRC-07

3.2.3.3 According to Recommendation 5/1 of the AN-Conf/11, the Meeting agreed upon CAR/SAM regional measures to contribute to the preparation and defense of the civil aviation Radio-Frequency spectrum, through the support of ICAO's position in the ITU WRC-07. Therefore, the Meeting formulated the following conclusion:

CONCLUSION 12/33 CAR/SAM REGIONAL ACTION FOR THE PREPARATION AND SUPPORT OF ICAO'S POSITION FOR WRC-07

That the CAR/SAM States/International Organizations with the view at preparing and supporting ICAO's position for the ITU World Radio communication Conference – 2007 (WRC-07), should:

a) support and follow-up ICAO work on the preparation and updating of ICAO's position for the WRC-07;

b) designate a focal point or a contact person with ICAO and with the national authority of radio-frequency spectrum management for the coordination of matters related with the WRC-07;

c) participate in an active manner in the preparatory work for the WRC-07 in the CITEL meetings of the Organization of American States (OAS);

d) participate in an active manner in the meetings and workshops organized by ICAO to explain and analyze its position to the WRC-07;

e) participate in the WRC-07 in an active way supporting ICAO's position; and

f) recommend and apply other appropriate measures.

Improvement of the Radio-Frequency Spectrum Management

3.2.3.4 The Meeting recalled that an efficient management of the aeronautical radio-frequency spectrum is essential to guarantee the control and protection of this spectrum and to contribute to adequately satisfy the demand imposed by the development of the CNS/ATM systems resulting from the growth of civil aviation and the increment of its security, regularity and efficiency. In this regard, the improvement and appliance of regional and national coordination procedures is required in order that the national telecommunications authorities assign the most convenient frequencies for communications and air navigation stations, as well as other adequate measures. As a result of these considerations, the Meeting formulated the following conclusion:

CONCLUSION 12/34 PRIORITY AND IMPROVEMENT OF THE RADIO-FREQUENCY SPECTRUM MANAGEMENT

That, CAR/SAM States/Territories/International Organizations, aimed at improving the Radio-Frequency spectrum management, should:

a) assign high priority to the aeronautical spectrum management;

b) continue applying recommendations contained in the CAR/SAM ANP, Vol. I, Basic related to this purpose;

c) take into account orientations contained in the related Handbook regarding the needs of civil aviation on radio frequency spectrum issues, ICAO Doc 9718-AN/957, 2003 Edition; and

d) support the work of the ICAO NACC and SAM Regional Offices on the coordination, selection and registry of radio-frequency assignments for the aeronautical communications and navigation systems.

Regional measures for protection against electromagnetic harmful interference in the aeronautical communications, navigation and surveillance systems

3.2.3.5 The Meeting recommended CAR/SAM regional action in order to contribute improving the protection of the aeronautical radiofrequency spectrum against harmful interference. Therefore, the Meeting formulated the following conclusion:

CONCLUSION 12/35 CAR/SAM REGIONAL ACTION TO IMPROVE PROTECTION AGAINST ELECTROMAGNETIC INTERFERENCE IN THE CNS SYSTEMS

That, the CAR/SAM Region States/Territories/International Organizations, should adopt appropriate measures for protection against electromagnetic interference in the aeronautical communications, navigation and surveillance systems taking into account:

a) CAR/SAM/3 RAN Recommendation 9/17 and 9/18;

b) guidelines on mitigation of GNSS vulnerabilities issued by the AN-Conf/11 under its Recommendation 6/2;

c) SARPS and ICAO guidelines referred to this issue; and

d) recommend and apply other measures considered as appropriate.

Communication systems developments

Development of AFTN plan

3.2.3.6 The Meeting noted that, based on revision approved by GREPECAS/11, the CNS Committee revised and updated the status of the CAR/SAM Regions AFTN Plan, taking into account the improvements made lately in the circuits and in AFTN, both in the CAR and the SAM Region. In the SAM Region with the operation of the REDDIG, new AFTN circuits were implemented, which shall require the amendment to FASID Table CNS 1A. The new circuits implemented are as follows: Georgetown – Brazil, Bogotá – Brazil, La Paz –Brazil, Caracas - Georgetown, Caracas – Cayenne, Caracas – Paramaribo, and Caracas – Guayaquil.

3.2.3.7 The results of the revision and updating of the Table CNS 1 A - FASID AFTN Plan are shown in **Appendix M**. **Appendix N** shows the FASID Chart CNS 1 with the AFTN new circuits. **Appendix O** presents an recommended action plan for the AFTN circuits and the COM AFTN centres in which deficiencies have been detected. Consequently, the Meeting formulated the following conclusion:

CONCLUSION 12/36 UPDATING OF THE CAR/SAM REGIONS AFTN PLAN

That ICAO amend the AFTN Plan contained in the CAR/SAM ANP, Volume II FASID Table CNS 1A and Chart CNS 1, in accordance to the information contained in Appendices M and O to this part of the report.

3.2.3.8 Keeping in mind the updating made and introduction to the new AFTN circuits in the CAR and SAM Regions, the Meeting noted that it is required to review and update the AFTN routing lists of both regions. But the Meeting considered that this task, which required the application of the Manual on the Planning and Engineering of the Aeronautical Fixed Telecommunication Network, Doc 8259, should be carried out with the operational personnel serving AFTN COM centres; therefore, the Meeting formulated the following conclusion:

CONCLUSION 12/37 IMPROVEMENT OF THE AFTN OPERATION IN THE CAR/SAM REGIONS

That;

a) ICAO NACC and SAM Regional Offices, in coordination with the States/Territories/International Organizations, continue their tasks to update the AFTN routing lists according with the amendment to the AFTN Plan; and

b) States/Territories/International Organizations involved consider adopting the methods recommended in the Action Plan to improve the AFTN circuits and centres indicated in Appendix N of this part of the Report.

Migration of MET messages in BUFR code

3.2.3.9 The Meeting was informed on the plan of the World Meteorological Organization (Doc 7475), WMO is the organization which is responsible for the replacement of alphanumeric codes so-called table-driven to BUFR and CREX code forms for the exchange of meteorological messages (METAR/SPECI and TAF) in the BUFR code form and that for this purpose the CAR/SAM Regions should have a communications system compatible with binary codes. Therefore, the Meeting formulated the following Decision:

DECISION 12/38 INCLUSION OF A NEW TASK RELATED TO A COMMUNICATION SYSTEM TO SUPPORT THE MIGRATION TO THE EXCHANGE OF AERONAUTICAL METEOROLOGICAL MESSAGES USING THE WMO BUFR CODE FORMS

That, the CNS Committee,

a) includes the following task in its work programme: *"Develop a CAR/SAM plan to provide the communications system required for the migration toward the exchange of aeronautical meteorological messages (METAR/SPECI and TAF) in the BUFR code form"*, taking into account that the migration could start as of the year 2007 and that it should be completed around the year 2015;

b) using bit-oriented procedures capabilities of the current CAR/SAM digital networks, such as CAMSAT, E/CAR, MEVA, REDDIG, the International Satellite Communication System (ISCS), the public Internet (subject to the ICAO guidelines) and others, study the feasibility of implementing the above mentioned regional plan; and

c) coordinate the results of the work mentioned in the previous paragraphs with AERMET Subgroup.

Status of development and interconnection of regional/inter-regional digital networks

3.2.3.10 The Meeting noted the status of digital networks in the Central Atlantic, Central Caribbean, Eastern Caribbean, Central America and South America, the information on which is presented in **Appendix P**. The importance of continuing with efforts to achieve homogeneous inter-connection and inter-operability among regional and inter-regional digital communications networks in the CAR/SAM Regions and with neighbouring Regions, taking into account current and future voice plus data communications requirements. In view of the convenience of achieving an interconnected digital networks platform, the Meeting proposed the implementation of additional inter-connection points between networks; therefore, it formulated the following conclusion:

CONCLUSION 12/39 ADDITIONAL INTER-CONNECTION POINTS FOR REGIONAL AND INTER-REGIONAL DIGITAL NETWORKS

That, CAR/SAM States/Territories/International Organizations, with the aim of achieving a digital platform that provides homogeneous inter-operability in the CAR/SAM Regions among Regional and Inter-Regional digital communications network, consider implementing the following additional inter-connection points:

a) *Merida, Mexico*. Implementation of a MEVA II node at this site, which would interconnect the Mexican network with MEVA II, CAMSAT, and the NAM networks;

b) *Barranquilla or Bogotá, Colombia*. That a proposal be made to implement a MEVA II node, which would facilitate the interconnection and interoperability of the REDDIG and the Colombian network with MEVA II, CAMSAT and the NAM networks;

c) *Buenos Aires, Argentina.* Implementation of a CAFSAT node, meaning another REDDIG interconnection point with CAFSAT. In addition, a ground digital link would be implemented connecting the Buenos Aires and Recife CAFSAT nodes, to be a back-up to the aforementioned network interconnections; and

d) other points of interconnection that might be considered between the MEVA II and the REDDIG networks, and between these and other networks. Among these, there is a need to study the implementation of another interconnection point of the E-CAR network with neighbouring networks.

3.2.3.11 Also, the Meeting recommended that, based on GREPECAS Conclusion 9/1, the ICAO Regional Offices should continue organizing informal meetings to coordinate digital network interconnection solutions.

Use of public Internet services

3.2.3.12 Bearing in mind that the GREPECAS AIS/MAP Subgroup requested guidance on the use of public Internet services and, that ICAO Aviation Use Of The Public Internet Study Group (AUPISG) is studying this matter on an urgent basis, the Meeting formulated the following decision:

DECISION 12/40 AVIATION USE OF PUBLIC INTERNET IN THE CAR/SAM REGIONS

That the CNS Committee re-examine the aviation use of public internet in the CAR/SAM Regions taking into account, when available, ICAO guidelines issued in this respect.

Continue to guide the regional development of ATN and its applications

3.2.3.13 The Meeting that the CNS Committee is examining the *Initial transition Plan for the Evolutionary Development of the ATN in the CAR/SAM Regions*, with the aim of updating them, including criteria for the development of the network's architecture. This work would be the base for the development of CAR/SAM ATN, as well as for the review of the regional plan for the transition to ATN, updating the as well as for the formulation of the regional plan for the transition to ATN, updating the CAR/SAM FASID CNS 1B Chart and guide the States/Territories/International Organizations/Territories/International Organizations for the evolutionary implementation of ATN.

3.2.3.14 The Meeting also considered the new air traffic management operational concept approved by the Eleventh Air Navigation Conference, strategies to facilitate the implementation of future ATM systems. In this regard, the Meeting took note of the information services necessary to ensure cohesion and link between the various elements of this concept. In this respect, it was recognized that it was necessary to promote the development of ATN aeronautical Internet, which would be implemented on digital platforms such as those that had been implemented or were being implemented in the CAR/SAM regions.

3.2.3.15 With regard to ATN compatible ground applications, ATS message handling (AMHS) and ATS inter-facility data communications (AIDC), which would help developing ATM automation in support of Air Traffic Flow Management (ATFM). For all these, the need to rapidly act upon CAR/SAM digital network interconnection, with the aim of facilitating ATN implementation, which would also permit AMHS intra/inter-regional implementation and other ground applications.

3.2.3.16 The Meeting noted that the CNS Committee received valuable information on developments in the EUR Region, especially in Spain, regarding AMHS application. Nevertheless, with regard to inter-network protocol, note was taken that the EUR Region had for the time being decided in extending AMHS over TCP/IP, but that this implementation can co-exist and should inter-operate with AMHS systems implemented over ATN protocols. Also, the Meeting was informed that an ICAO Panel is studying the TCP/IP protocol for ATN ground-ground applications, therefore GREPECAS will be kept informed on the results of ICAO work thereupon. Moreover, in correspondence to the future implementation of AMHS message handling benefits, the Meeting noted the following:

a) the extended AMHS system makes possible the exchange of any type of information, which widely overcomes AFTN limitations in the aeronautical systems environment.

b) the AMHS system is compatible with the AFTN through the AFTN/AMHS gateway, which eases the transition plan between both systems.

c) the AMHS systems permit the use of COTS products for ATS messaging. In this respect, AMHS are X.400 application servers while PC user terminals run any type of e-mail application.

d) the AMHS system does not require a dedicated transport infrastructure; it can be set up on any type of networks.

3.2.3.17 Likewise, the Meeting noted that AMHS implementation should be done gradually and in an evolutionary manner for a smooth transition from the AFTN to this new messaging system, without affecting AFS communications services, and that AFTN and AMHS will co-exist for a reasonable time.

3.2.3.18 With regard to the AMHS implementation plans in CAR/SAM States/Territories/International Organizations, the Meeting noted that Argentina, following CAR/SAM FASID recommendation, is in process of implementing an AMHS system, expected to start operating by February 2005.

3.2.3.19 In accordance with the aforementioned, the Meeting recognized that, with the aim of obtaining early benefits from the available CNS/ATM technologies, emphasis should be given to ATN ground and its corresponding applications planning/implementation, recommending ICAO and States/Territories/International Organizations to hold a seminar during the first semester of 2005, which can provide practical and useful information to this end. In this respect, the Meeting formulated the following conclusion:

CONCLUSION 12/41 CAR/SAM SEMINAR ON DEVELOPMENT OF ATN AND ITS APPLICATIONS

That ICAO, with the support of States/Territories/International Organizations, organize a CAR/SAM Seminar during the first semester of 2005, with the aim of presenting information permitting development the ATN and its ground applications in support of the implementation of ATM systems, and that it contain, as a minimum, the following agenda:

a) interconnection of digital networks;

b) information services on the basis to the new air traffic management operational concept;

c) transition plan for ATN implementation; and

d) CAR/SAM AMHS, AIDS and other applications implementation.

3.2.3.20 The Meeting, upon examining inter-regional connections for aeronautical message traffic, took note of a recommendation from Spain to start studies in order that message exchange is carried out between CAR/SAM Regions and the Madrid Communications Centre, via AMHS.

Development of the Air-Ground communications by data links

3.2.3.21 The Meeting took note on the data link execution programmes in the CAR/SAM and adjacent regions for air-ground applications. **Appendix Q** to this part of the Report presents a summary of those programmes.

Data Link via ACARS implementation

3.2.3.22 The Meeting noted that although ACARS (Aircraft Communication Addressing and Reporting System) is not recognized as a standard ICAO for data link under the CNS/ATM systems concept. But since the majority of the aircraft operating in the CAR/SAM Regions are equipped with ARINC 622 for ACARS, some States/Territories/International Organizations have been using it for ATS applications, such as the Pre-departure Clearance (PDC) and ATIS using the ARINC 623 specification. Therefore, plans have been performed for ACARS operation with critical ATS applications, such as CPDLC and ADS-C, which were designed with procedurals-orientation to bits. In this regard, the Meeting considered continuing support of this application, named FANS – 1/A, considered within the transition period of the CAR/SAM Regional Plan for the CNS/ATM systems implementation. It was also noted that this item was sent to the States with a letter from ICAO, Ref.: AN 7/11.13-94/94, dated 13 December 1994, whose text is shown in **Appendix R** to this part of the Report. In this respect, the Meeting formulated the following conclusion:

CONCLUSION 12/42 REGIONAL USE OF ACARS AND FANS-1/A EQUIPMENT DURING THE TRANSITION PHASE

That CAR/SAM States/Territories/International Organizations, and users, based on the ICAO State Letter, Ref. AN7/11.13-94/94, dated 13 December 1994 and to the cost/benefit considerations and taking into account the existence of technology installed in ground and on board aircraft, continue with the implementation of the applications feasible to be used with the link of ACARS data and FANS-1A during the transition towards the implementation of the ATN bit oriented data links.

Implementation of the HF data link (HFDL)

3.2.3.23 The Meeting received information on the world-wide HF data link development. In addition, it was informed that Trinidad & Tobago was studying the possibility of implementing HFDL for ATC applications, and considered that States/Territories/International Organizations interested in this technology should be aware of the results of the mentioned HFDL activities.

Implementation of VDL Mode 2

3.2.3.24 The Meeting concurred that VDL implementation in the CAR/SAM Regions should be governed by criteria detailed in the CAR/SAM (Doc. 8733/15) Air Navigation Plan, as for the operational and planning criteria and likewise, by the principles developed under the Recommendation 9/19 formulated by the CAR/SAM/3 RAN Meeting, considering the evolutionary focus of the communications inter-functioning air ground established by Recommendation 7/3 of the AN-Conf/11, which recommended to continue the progressive data communications deployment with the VDL Mode 2. Therefore, the Meeting formulated the following conclusion:

CONCLUSION 12/43 IMPLEMENTATION OF AIR-GROUND DATA COMMUNICATIONS WITH VDL MODE 2 IN THE CAR/SAM REGIONS

That the States/Territories/International Organizations and users of the CAR/SAM Regions, based on the ICAO SARPs and Recommendation 7/3 of the Eleventh Air Navigation Conference (AN-Conf/11), continue the implementation of air-ground data communications with VDL Mode 2 as support infrastructure of the air-ground sub-networks to enable the ATN applications evolutionary implementation according to the operational requirements.

ADS-B data links Implementation

3.2.3.25 The Meeting, bearing in mind AN-Conf/11Recommendations 7/1 and 7/2 and the ADS-B data links execution programmes initiated in the CAR/SAM Regions, and with the purpose to guide the national and regional application to enable the inter-operation with the neighbouring regions, it formulated the following conclusion:

CONCLUSION 12/44 REGIONAL CAR/SAM GUIDANCE FOR THE ADS-B DATA LINKS INTRODUCTION

That the CAR/SAM States/Territories/International Organizations and users that undertake ADS-B implementation, according to national or regional requirements and with the purpose of enabling the intra and inter-regional interoperability:

a) use the short-term data links SSR Mode S extended squitter; and

b) follow-up the ICAO study results of the long-term ADS-B data links.

Implementation impact of the data links in the ATM Automation

3.2.3.26 The Meeting highlighted that, according to the operational needs and to satisfy the ATN applications, according to the operational needs is closely associated to the ATM automation, integrating the communications process and the local area network (LANS), which should be designed accordingly with the ICAO SARPs to be implemented as sub-networks in compliance with the ATN.

Navigation systems developments

Review and update of regional guidelines and strategy on implementation of GNSS

3.2.3.27 The Meeting, based on the pertinent results of the Eleventh Air Navigation Conference (AN-Conf/11), examined and proposed amendments to the regional guidelines and strategy on implementation of GNSS, as well as the non visual aids in approach, landing and departure. **Appendixes S and T**, respectively, present the new guidelines and regional strategies. In consequence, the Meeting formulated the following conclusion:

CONCLUSION 12/45 AMENDMENT TO THE *"REGIONAL GUIDELINES FOR THE TRANSITION TO THE GLOBAL NAVIGATION SATELLITE SYSTEMS (GNSS)"* AND THE *"REGIONAL STRATEGY FOR THE INTRODUCTION AND APPLICATION OF NON VISUAL AIDS TO APPROACH, LANDING AND DEPARTURE"*

That,

a) CAR/SAM States/Territories/International Organizations take into account the new "Regional guidelines for the transition to the global navigation satellite systems (GNSS)" and the "Regional strategy for the introduction and application of non visual aids to approach, landing and departure", presented in Appendices S and T, respectively; and

b) ICAO, amend Attachments H and I to Part IV of Volume I, Basic ANP (Doc. 8733) in conformity with the above indicated new guidelines and strategy.

SBAS augmentation trials and studies for the planning of a SBAS pre-operational system for the CAR/SAM Regions

3.2.3.28 The Meeting took note of the activities carried out in the execution of regional SBAS augmentation trials under RLA/00/009 – SBAS/WAS trials and RLA/03/902 – SBAS/EGNOS trials projects, as well as on the future activities of both projects. **Appendixes U** and **V**, respectively, show a summary of these projects activities.

3.2.3.29 Based on AN-Conf/11 Recommendation 6/1 – *Transition to satellite based air navigation*, as well as Recommendation 6/9 – *Support and participation in SBAS preoperational implementation activities*, the Meeting considered that, even though the aforementioned projects could carry out additional trials, the main activities should be routed towards the continuation of studies to mitigate the ionosphere effects in the Equatorial zone, as well as elaborate alternate proposals to define SBAS augmentation system's evolutionary architecture and the introduction of GBAS, on the basis of the regional strategy and guidance shown in **Appendix W** to this part of the Report. In consequence, the Meeting formulated the following conclusion:

CONCLUSION12/46 CAR/SAM REGIONAL ACTIVITIES FOR THE SBAS AND GBAS IMPLEMENTATION

That, with a view to continuing SBAS and GBAS activities:

a) CAR/SAM States/Territories/International Organizations participating in RLA/00/009 and RLA/03/902 projects continue their corresponding activities, mainly directed towards the continuation of ionosphere studies, elaboration of alternate proposals on a SBAS preoperational system, GBAS introduction and activities for personnel training;

b) to develop the activities mentioned in a) above, base them on the regional strategy and rules contained in Appendix W;

c) RLA/00/009 and RLA/03/902 projects study the feasibility of expanding the WAAS and EGNOS Systems in the CAR/SAM Regions, or consider other SBAS system alternatives; and

d) the ICAO Regional Offices send a communication to their respective accredited States/Territories/International Organizations, inviting them to participate in the future phases of both projects.

3.2.3.30 Regarding this Conclusion, the Meeting was advised on the completion of the first phase of Project RLA/03/902 - SBAS/EGNOS trials in the CAR/SAM Regions, whose results were considered to be very positive, reaching a level of aeronautical precision and integrity of APV-1. Colombia, Cuba, Spain, COCESNA and European Space Agency (ESA) participated in this first phase of the project. The Meeting was also informed that the second phase of the project included carrying out necessary studies for planning the implementation of an SBAS system for the CAR/SAM Regions. For the second phase of the project, the States/Territories/International Organizations were invited once again to actively participate in this project, who would have resource support offered by Spain and by the GALILEO joint undertaking.

3.2.3.31 Likewise, Spain reported that it would support carrying out the second phase of this project and that, through AENA, it had approved a direct contribution of US$360,000, which would cover approximately one third of the budget estimated for project activities and objectives.

3.2.3.32 On the other hand, the Secretariat indicated that the documentation provided at the Course/Workshop – Analysis of GNSS data, recently held in El Salvador, would be posted soon on the following ICAO web site: *www.icao.int/nacc.* It was also noted that, at that course/workshop, EUROCONTROL had offered to provide, free of cost, the PEGASUS tool software to all CAR/SAM States/Territories/International Organizations that so desired. To that end, they would have to submit a request, providing information on the applicant, so as to facilitate the subsequent delivery of updates to the aforementioned software.

3.2.3.33 Also, the Meeting on the basis of AN-Conf/11 Recommendation 6/3 – *Evaluation of ionospheric effects in the performance of SBAS in equatorial regions*, and the studies carried out by Brazil and the United States, formulated the following conclusion:

CONCLUSION 12/47 SUBMISSION TO ICAO OF THE RESULTS ON THE STUDY OF IONOSPHERIC EFFECTS IN THE EQUATORIAL ZONE OF THE CAR/SAM REGIONS

That, taking into account AN-Conf/11 Recommendation 6/3, Brazil and the United States send to ICAO the results of the studies on ionospheric effects in the Equatorial zone of the CAR/SAM Regions, to contribute to ICAO in the development of the corresponding guidance material to mitigate ionospheric effects.

3.2.3.34 Regarding the conclusion mentioned in the previous paragraph, Brazil informed that, at the meeting of that group held in St. Petersburg, Russia, from 25 May to 4 June 2004, the Brazilian member of the Navigation Systems Panel (NSP) had presented the results of recent studies on the effects of the ionosphere on the equatorial zone of the CAR/SAM Regions, so that they might be considered for the improvement of the corresponding SARPs.

GBAS data collection and analysis

3.2.3.35 The Meeting received information and supported Brazil's initiative on GBAS data collection and analysis regarding ionosphere conditions in the CAR/SAM Regions.

Surveillance systems developments

Regional guidance on the us of ASTERIX format for radar exchange

3.2.3.36 The Meeting when examining matters related with radar data exchange, noted that GREPECAS had recommended ASTERIX protocol, used by Eurocontrol, as the common regional protocol format for the data exchange. Likewise, information was presented to the Meeting on the progress made in this regard in the CAR/SAM Regions and the Meeting deemed it convenient to provide guidance on code allocation to define regional routing schemes, with the aim of identifying and locating radar facilities.

3.2.3.37 The Meeting took note that, to identify radar facilities using ASTERIX, SAC and SIC codes are being used. SAC was assigned to identify the State/Territory, and SIC to identify a particular radar facility in a determined State/Territory. In this regard, the Meeting observed that the SIC code had a local meaning, while the SAC code should be regionally planned, with the aim of establishing an effective addressing for data exchange. On the other hand, note was also taken that, in accordance with applications, for example civil and military, more than one SAC code could be assigned per State/Territory.

3.2.3.38 Regarding the subject, the Meeting adopted a SAC code ASTERIX routing list assigned to the States/Territories of the CAR/SAM Regions, shown in the Table contained in Appendix X to this part of the Report. Therefore, it formulated the following conclusion:

CONCLUSION 12/48 SAC-ASTERIX CODE ASSIGNMENT PLAN FOR THE CAR/SAM REGIONS

That States/Territories/International Organizations use the corresponding SAC-ASTERIX codes assigned in order to establish the identification of radar facilities to be used for radar data exchange as the plan shown in the Table to Appendix X to this part of the Report.

3.2.3.39 The Delegate of Colombia informed the Meeting that its State is already using the SAC code assigned to it in Carepas Mode S monopulse SSR station.

3.2.3.40 With regard to other aspects related to radar data exchange, the Meeting took note of the benefit for the planning of this exchange, if States/Territories/International Organizations could present information to be disseminated by ICAO with regard to SSR coverage at FL250 along its boundaries; in this respect the Meeting noted that Brazil provided information on its SSR coverage. On the other hand, the Meeting recognized that the facilities offered by inter/intra regional networks, such as REDDIG, MEVA, etc., should be preferably used for radar exchange. In addition, there was agreement that, once radar facilities to carry out data exchange are identified, States/Territories/International Organizations should coordinate pertinent technical and institutional aspects in a bilateral/multilateral meeting convened for that purpose. In regard with this subject, the Meeting formulated the following conclusion:

CONCLUSION 12/49 GENERAL CRITERIA FOR THE IMPLEMENTATION OF SSR DATA EXCHANGE

That States/Territories/International Organizations, upon planning SSR data exchange, take the following into consideration:

a) send the ICAO NACC and SAM Regional Offices boundary SSR coverage up to FL 250, for regional dissemination;

b) extensively use the communications facilities available in intra/inter regional networks; and

c) coordinate pertinent technical-institutional aspects at bilateral or multilateral meetings.

ADS/CPDLC trials in the EUR/SAM corridor

3.2.3.41 The Meeting was informed on the status of ADS/CPDLC trials made by Brazil in the EUR/SAM corridor, and on a document entitled *"Guidance material on the evaluation or ADS/CPDLC preoperational trials"*. Also, the Meeting noted that Spain presented information on the last stage of its preoperational trials carried out in the portion corresponding to Canary Islands of the EUR/SAM corridor and that this State is using another document for trials evaluation.

3.2.3.42 The Meeting also took note on the AD/CPDLC preoperational trials being carried out in various parts of the world's region, of the different manuals used and that for the benefit of airlines, it would be convenient to standardize this guidance material. In this respect, the Meeting was informed that this would be in process and that respective coordination would have already started.

Development of surveillance systems

3.2.3.43 The Meeting noted the review and update of the Surveillance Systems Plan contained in FASID Table CNS 4A. **Appendix Y** to this part of the Report presents the updated table and the Meeting recommended that the FASID be updated with this information. In this respect, it formulated the following conclusion:

CONCLUSION 12/50 AMENDMENT TO FASID TABLE CNS 4A – SURVEILLANCE SYSTEMS

That ICAO, taking into consideration the material in Appendix Y to this part of the report, proceed with the corresponding amendment proposal to CNS 4A Table of the CAR/SAM FASID.

3.2.3.44 The Meeting recalled that the CAR/SAM/3 RAN Meeting, formulated Conclusion 11/6 - *Application of procedures for 24-bit aircraft address assignment,* which urged the CAR/SAM States/Territories/International Organizations the application of the ICAO procedures for the assignment of 24-bit aircraft addresses (SSR Mode S address), assigned to the State aircraft registration by ICAO according to paragraph 3.1.2.4.1.2.3.1.1 and in Appendix of Chapter 9, Part I, Volume III, Annex 10 which is also associated with the functioning of the airborne collision avoidance system (ACAS). Regarding the ICAO SARPs, the airborne equipment in Mode S capacity should be implemented soon, to Level 2 or greater levels (Ref.: Annex 10, Vol. IV, paragraph 2.1.5). Also, the Meeting recognized that the SSR Mode S and ACAS were being required as obligatory in several world regions.

3.2.3.45 Bearing in mind that there are areas of high traffic density in the CAR/SAM Regions and that RVSM implementation requires improvement in the surveillance systems, and the functioning of ACAS as a result, the Meeting agreed that it was necessary to study the inclusion of the Table CNS 4A of the FASID ANP CAR/SAM of Mode S interrogators (SSR in Mode S ground systems), which should be consistent with the Mode S transponder requirement. Consequently, the Meeting agreed with the proposal to include requirements of Mode S in four SSR installations in Mexico and one in Colombia, which is shown in Appendix Y of this part of the paper.

3.2.3.46 The Meeting, noted that in CAR/SAM FASID (Table CNS 4A), there are still no requirements for ADS-C and ADS-B surveillance functions. In this respect, some points of view were exchanged regarding with the development of these technologies, and observation was made that there are plans in various CAR/SAM States/Territories/International Organizations for the future implementation of these surveillance functions. In this context, the Meeting took note of the need to include ADS requirements in the FASID, but that this required a definition of operational requirements, which could be formulated by the ATM Committee.

3.2.3.47 Also, the Meeting held discussed the matter related with the use of MSAW. In this respect, note was taken that ICAO has defined no additional guidance material needs to be developed by the Organization, and that the information in Doc. 4444 would be enough for these purposes. On the other hand, the Meeting considered that aspects related with the use and its difficulties should be solved by the own user States/Territories/International Organizations.

ATM Automation System developments

3.2.3.48 When reviewing this Agenda Item, the Meeting noted that, as a result of the work by ATM and CNS Committee, and formulated Conclusion 12/31 related with a *Regional strategy for the integration of automated systems*, included in Appendix K to this part of the Report.

3.2.3.49 The Meeting noted that the CNS Committee must contribute with the development of some tasks, among them, the elaboration of a regional interphase control document (ICD). In this respect, the CNS Committee was informed that Canada, United States and Mexico have elaborated and are currently using an inter phase document, based on ICAO Document 4444. In addition, the Meeting noted and thanked that the three author States of the mentioned document have offered it for the use of CAR/SAM States/Territories/International Organizations. Therefore, the mentioned document should be reviewed and adapted by the CNS Committee as part of its future work.

3.3 Report of the AERMET/SG/6 Meeting

Review of WAFS operation in the CAR/SAM Regions

3.3.1 The Meeting noted the progress made in the transition to the final phase of the WAFS in the CAR/SAM Regions and in the transfer of responsibilities for the preparation of medium-level significant weather charts (SWM). Since the establishment of the RAFCs had been based on Recommendation 3.2/1 of the COM/MET Divisional Meeting (1982), subsequently approved by the Council, the Meeting deemed it important for the Council to take due note of the closure of CAR/SAM RAFCs and agreed on the need to formulate the following conclusion:

CONCLUSION 12/51 CLOSURE OF THE RAFCs BRASILIA AND BUENOS AIRES

That due note be taken of the closure of the RAFCs Brasilia and Buenos Aires in July 2002.

3.3.2 In order to ensure the reception of WAFS forecasts in GRIB and BUFR codes, which would allow CAR/SAM States/Territories/International Organizations access to the global forecasts, the Meeting agreed to update the Plan for the transition to the final phase of the WAFS in the CAR/SAM Regions, and formulated the following conclusion:

CONCLUSION 12/52[2] PLAN FOR THE TRANSITION TO THE FINAL PHASE OF THE WAFS IN THE CAR/SAM REGIONS

That the Plan for the transition to the final phase of the WAFS in the CAR/SAM Regions be updated, as shown in **Appendix Z** to this part of the Report.

3.3.3 Within this same context, the Meeting agreed that, in case there were States/Territories/International Organizations with one-way workstations and which do not have an improved operational workstation by the date in which the X.25 Protocol will no longer be supported by the ISCS, they should evaluate and consider alternate methods for the acquisition of WAFS products and OPMET data, based on the information provided by the WAFC Washington. Consequently, it formulated the following conclusion:

[2] *AERMETSG/6 Conclusion 6/3 – Pre-approved by the ACG fast track on 23 January 2004*

CONCLUSION 12/53[3] INTERNET ACCESS TO WAFS FORECASTS AND OPMET DATA

That the States/Territories/International Organizations that cannot receive ISCS broadcasts due to lack of new workstations in line with the planned schedule, use the FTP service provided by the WAFCs Washington and London, which is available through the Internet to all authorized users of ISCS and SADIS.

3.3.4 The Meeting took note of the establishment of the WAFS Operations Group (WAFSOPSG) pursuant to Recommendation 1/6 of the MET Divisional Meeting (2002) which includes regional aspects in its terms of reference. It also took note of the *modus operandi* between GREPECAS and the WAFSOPSG, by virtue of which the WAFSOPSG would be responsible for WAFS global and regional planning, while GREPECAS would be in charge of its implementation. The Meeting agreed that Brazil and Peru, as members of the WAFSOPSG, should actively participate in the tasks of this new group in order to make sure that the specific interests of the CAR/SAM Regions are duly taken into account in the future planning of the WAFS. Consequently, it formulated the following conclusion:

CONCLUSION 12/54 ACTIVE PARTICIPATION OF PERU AND BRAZIL IN THE WAFSOPSG

That Brazil and Peru, as members of the WAFSOPSG, participate actively in the tasks of the Group in order to make sure that specific interests of the CAR/SAM Regions are duly taken into account in the future planning of the WAFS.

3.3.5 Likewise, based on the *modus operandi* between the WASFSOPSG and GREPECAS, the Meeting agreed that the WAFSOPSG should study the possibility of producing an ISCS User Guide for further distribution to system users, and thus formulated the following conclusion:

CONCLUSION 12/55 ISCS USER GUIDE

That the WAFSOPSG study the possibility of developing an ISCS User Guide for further distribution to system users.

Status of implementation of the international airways volcano watch (IAVW) in the CAR/SAM Regions

3.3.6 The Meeting noted the results of the COM/MET Special Implementation Project (COM/MET SIP), second phase, for the CAR Region, as well as the results of the SIGMET SIP aimed at overcoming the deficiencies in the preparation, dissemination and use of SIGMET messages in the SAM Region. In this regard, the Meeting deemed it necessary to extend to all CAR/SAM States/Territories/International Organizations one of the recommendations of the SIGMET SIP that was carried out in the SAM Region, in order that CAR/SAM States/Territories/International Organizations notify the Lima and Mexico Offices of any amendments to the international airways volcano watch contact list. Consequently, it agreed on the following conclusion:

[3] *AERMETSG/6 Conclusion 6/4 – Pre-approved by the ACG fast track on 23 January 2004*

CONCLUSION 12/56 UPDATING OF THE INTERNATIONAL AIRWAYS VOLCANO WATCH CONTACT LIST IN CAR/SAM STATES/TERRITORIES/INTERNATIONAL ORGANIZATIONS

That CAR/SAM States/Territories/International Organizations notify the Lima and Mexico Offices of any changes in the International Airways Volcano Watch (IAVW) contact list.

3.3.7 The Meeting took note of Recommendation 1/12 of the MET Divisional Meeting (2002), and agreed to the conduction of regional surveys on the issuance of SIGMET messages. Consequently, it formulated the following conclusion:

CONCLUSION 12/57 IMPLEMENTATION OF SIGMET REQUIREMENTS

That the Lima and Mexico Regional Offices:

a) conduct surveys in the CAR/SAM Regions on the issuance of SIGMET messages, particularly those for volcanic ash, in coordination with WMO, and issue a list of deficiencies for follow-up measures; and

b) starting in 2004 until 2007, conduct periodical tests on the issuance and reception of SIGMET messages for volcanic ash, during the first week of March and September.

3.3.8 The Meeting took note of the establishment of the IAVW Operations Group (IAVWOPSG), pursuant to Recommendation 1/22 of the MET Divisional Meeting (2002). Considering that Argentina, as the VAAC Buenos Aires Provider State had been invited to become a member of the Group on behalf of the CAR/SAM Regions, the Meeting agreed that Argentina should actively participate in the work of the Group to ensure that the specific interests of the CAR/SAM Regions were duly taken into account in the future planning of the IAVW and formulated the following conclusion:

CONCLUSION 12/58 ACTIVE PARTICIPATION OF ARGENTINA AS MEMBER OF THE IAVWOPSG

That Argentina, as Member of the IAVWOPSG, participate actively in the work of the group to ensure that the specific interests of the CAR/SAM Regions are taken into account in the future planning of the IAVW.

3.3.9 Based on the information provided by vulcanological organizations and the VAAC Buenos Aires, which, after a thorough analysis conducted together with other related organizations from Argentina, had developed a project to harmonize colour code tables used by ICAO and vulcanological organizations, the Meeting agreed that the harmonization should also be made with the colour code used by IFALPA. Likewise, the Meeting unanimously recognized the excellent work performed by the VAAC Buenos Aires and agreed that based on the IAVWOPSG terms of reference, this Group should study the possibility of harmonizing ICAO colour code that indicates the level of alert of the volcanic activity and the codes used by vulcanological organizations and IFALPA. In this regard, the Meeting formulated the following conclusion:

CONCLUSION 12/59 HARMONISING ICAO COLOUR CODE INDICATING LEVEL OF ALERT OF VOLCANIC ACTIVITY AND THE CODES USED BY VULCANOLOGICAL ORGANIZATIONS AND IFALPA

That the IAVWOPSG study the possibility of harmonising ICAO colour code indicating level of alert of volcanic activity with the codes used by vulcanological organizations and IFALPA, based on the draft shown in **Appendix AA** to this part of the Report.

3.3.10 The Meeting, aware that some volcanic ash advisories issued by the VAACs were not prepared as per Annex 3, agreed that the VAACs in the CAR/SAM Regions should implement the dissemination of volcanic ash advisories in accordance with the template given in Annex 3, Appendix 5. Consequently, it adopted the following conclusion:

CONCLUSION 12/60[4] IMPLEMENTATION OF VOLCANIC ASH ADVISORIES

That, as a matter of urgency, the VAACs of the CAR/SAM Regions implement the dissemination of volcanic ash advisories in the template indicated for this purpose in the template given in Annex 3, Appendix 5.

3.3.11 The Meeting received with interest the offer made by the Argentinean member to make available to all CAR/SAM States/Territories/International Organizations the training modules on the compliance with ICAO IAVW procedures addressed to ATS, AIS and MET personnel and agreed that the VAACs Buenos Aires and Washington should make relevant coordination to develop a series of distance learning modules. In this regard, the Meeting formulated the following conclusion:

CONCLUSION 12/61 MODULES FOR DISTANCE LEARNING IN SUPPORT OF THE IAVW

That the VAACs Buenos Aires and Washington carry out necessary coordination for developing training modules for ATS; AIS and MET personnel as regards ICAO IAVW procedures.

[4] *AERMETSG/6 Conclusion 6/11 – Pre-approved by the ACG fast track on 23 January 2004*

Review of OPMET information exchange in the CAR/SAM Regions

3.3.12 The Meeting reviewed the current operational requirements for the exchange of meteorological information shown in Table MET 2A of the CAR/SAM ANP FASID and updated it based on the requirements of Annex 1 of the SADIS User Guide, the OPMET requirements submitted to the Meeting by IATA and the requirements of alternate aerodromes of the CAR/SAM ANP FASID Table AOP 1. Consequently, the Meeting agreed on the following conclusion:

CONCLUSION 12/62 REQUIREMENTS FOR THE EXCHANGE OF OPMET INFORMATION

That the corresponding part of the CAR/SAM ANP, Volume I, Basic and Volume II, FASID, Part VI - Meteorology (MET), be amended as indicated in **Appendix AB** to this part of the Report.

Note: The distinction between regular and non-regular exchange is no longer necessary and, therefore, this concept has been eliminated from the CAR/SAM ANP/FASID.

3.3.13 Likewise, the Meeting agreed that, in order to expedite and standardise FASID Tables MET 2A and MET 2B procedures, standard formats should be used. As a result, the Meeting formulated the following conclusion:

CONCLUSION 12/63 FORMS TO PROPOSE AMENDMENTS TO TABLES MET 2A AND MET 2B OF THE CAR/SAM ANP FASID

That, in order to standardise and expedite amendments to FASID Tables MET 2A and MET 2B in the CAR/SAM Regions, the forms given in **Appendix AC** to this part of the Report be used.

3.3.14 When reviewing the results of the OPMET data control in the SAM Region, the Meeting noted with satisfaction the progress achieved. However, the Meeting was aware that, in some States/Territories/International Organizations, OPMET control was based on global OPMET information requirements, noting that OPMET information from States/Territories/International Organizations in other ICAO Regions was not received in an efficient manner. Therefore, the Meeting agreed that OPMET controls should be applied in all CAR/SAM States/Territories/International Organizations for all ICAO Regions, in accordance with FASID Table MET 2A and Table MET 2B and, to facilitate its analysis and follow-up, it should be made once a year, with the same duration. In this regard, the Meeting agreed on the following conclusion:

CONCLUSION 12/64[5] OPMET EXCHANGE CONTROLS FOR THE CAR/SAM REGIONS

That, until an optimum percentage of OPMET data reception is achieved in the CAR/SAM Regions, OPMET exchange controls be applied from 10 to 16 June annually, including OPMET requirements of States/Territories/International Organizations from all ICAO Regions, in accordance with FASID Tables MET 2A and MET 2B, and using the forms approved by GREPECAS/9.

3.3.15 Based on the IATA requirements, the Meeting agreed on the need to amend the CAR/SAM Basic ANP and FASID Table MET 1A in order that the TAFs may be valid for 24 hours. Consequently, it adopted the following conclusion:

CONCLUSION 12/65 METEOROLOGICAL SERVICES REQUIRED IN AERODROMES - FASID TABLE MET 1A

That, in order to meet the requirements for international flight operations in the CAR/SAM Regions, the CAR/SAM ANP, Basic and the FASID Table MET 1A be amended as shown in **Appendix AD** to this part of the Report.

MET services quality assurance in the CAR/SAM Regions

3.3.16 The Meeting, aware that the audits referred to in Annex 3 were of responsibility of the State/Territory and in view of Recommendation 4/3 adopted by the MET Divisional Meeting (2002) for ICAO and WMO to develop joint guidance material to assist States/Territories/International Organizations in the development of quality management systems for the provision of meteorological services for international air navigation, agreed that, while the referred material was being prepared, WMO, in coordination with ICAO, should organize training activities on this matter. Consequently, it adopted the following conclusion:

CONCLUSION 12/66 TRAINING ON QUALITY MANAGEMENT OF MET SERVICES IN THE CAR/SAM REGIONS

That WMO organize, in coordination with ICAO, a series of training activities on quality management of meteorological services provided to support international air navigation in the CAR/SAM Regions.

3.3.17 Likewise, considering that GREPECAS approved the CAR/SAM regional guidance manual, which had been used by some SAM States/Territories/International Organizations to advance in the implementation of quality assurance programmes in their ATS units, the Meeting felt the need for CAR/SAM States/Territories/International Organizations to make efforts to establish quality assurance systems for MET services. Consequently, it adopted the following conclusion:

[5] *AERMETSG/6 Conclusion 6/15 – Pre-approved by the ACG fast track on 23 January 2004*

CONCLUSION 12/67 QUALITY ASSURANCE SYSTEMS FOR METEOROLOGICAL SERVICES IN THE CAR/SAM REGIONS

That CAR/SAM States/Territories/International Organizations make utmost efforts to establish quality assurance systems for meteorological services provided in support of international air navigation in the CAR/SAM Regions.

Training of aeronautical MET personnel in the CAR/SAM States/Territories/International Organizations

3.3.18 The Meeting noted that the lack of adequate training of the aeronautical meteorological services personnel responsible for the provision of MET services to international civil aviation was one of the specific problems affecting this activity in many CAR/SAM States/Territories/International Organizations. It was also aware that the lack of training in data handling techniques, including the use and interpretation of the numerical forecasting methods, interpretation of meteorological satellite images and of the most recent applications (software), were aspects of the required training that would need to be resolved to ensure support to CNS/ATM systems. Another specific problem was the lack of human resources in most aeronautical meteorological services of the CAR/SAM States/Territories/International Organizations. Within this context, the Meeting acknowledged the offer made by COCESNA and deemed it necessary that ICAO and WMO give priority to the training aspects in the aeronautical meteorology field. Consequently, it adopted the following conclusion:

CONCLUSION 12/68 PRIORITY OF MET TRAINING IN THE CAR/SAM REGIONS

That WMO, in coordination with ICAO, be invited to give maximum priority to the training aspects in the specific field of aeronautical meteorology, according to the *Working Arrangements between ICAO and WMO (Doc 7475)* that exist between these two organizations.

3.3.19 Considering that the MET Divisional Meeting (2002) adopted recommendations to amend ICAO standards and recommended practices (SARPs), proposing important amendments to *Annex 3 - Meteorological service for international air navigation*, and the corresponding amendments to *Annex 2 – Rules of the Air; ICAO Abbreviations and Codes (PANS-ABC, Doc 8400)* and to *Air Traffic Management (PANS-ATM, Doc 4444)*, the Meeting considered that training of MET and ATM personnel on Amendment 73 to Annex 3 and Doc 4444 should be given priority. Consequently, it adopted the following conclusion:

CONCLUSION 12/69 TRAINING PROGRAMME IN THE CAR/SAM REGIONS FOR MET AND ATM PERSONNEL WITH REGARD TO AMENDMENT 73 TO ANNEX 3

That States/Territories/International Organizations establish training programmes for MET and ATM personnel concerning Amendment 73 to Annex 3, effective 25 November 2004, and amendment to Doc 4444.

3.3.20 Under this agenda item, Chile presented an Information Paper on the dissemination of WAFS products at national level. Likewise, Cuba presented an Information Paper on their experience in the development and improvement of the aeronautical meteorological service and another one on the joint aeronautical meteorological and aeronautical information services at the international aerodromes of that State. An Information Paper on the current situation of Dominican Republic aerodromes was also presented.

3.4 Report of the AGA/AOP/SG/3 Meeting

3.4.1 The Meeting reviewed the work carried out by the AGA/AOP Subgroup at its third meeting, and noted that the Subgroup had proposed amendments to its work programme which, together with the changes to its composition, appeared under Agenda Item 5.

AGA deficiencies

3.4.2 The Meeting noted that the AGA/AOP Subgroup had reviewed the status of air navigation deficiencies in the AGA field in the CAR/SAM Regions. The Meeting also noted that the Subgroup had discussed the critical aspects of aerodrome deficiencies and aerodrome maintenance programmes which had been addressed by GREPECAS/11. The Meeting adopted the following conclusions:

CONCLUSION 12/70[6] ACTION PLANS FOR THE RESOLUTION OF DEFICIENCIES IN AERODROMES

That States/Territories, in support of the preparation and implementation of Action Plans for the resolution of their respective air navigation deficiencies,

a) require airport operators to prepare and submit proposed Action Plans, based on the format reviewed by the ASB/5 and presented in Appendix E under Agenda Item 4 of this Report, for the resolution of aerodromes deficiencies in their respective airports by **30 November 2003**;

b) review, comment on and, where applicable, through a consultation process, request modification and re-submission of the Action Plans by the airport operator by **31 December 2003**;

c) accept the final agreed Action Plans and submit these to the ICAO Regional Office by **31 January 2004**; and

d) follow-up the implementation of the Action Plans and submit periodic updates on the resolution of aerodrome deficiencies to the ICAO Regional Office.

[6] *AGA/AOP/SG/3 Conclusion 3/1 – Pre-approved by the ACG fast track on 15 December 2003*

CONCLUSION 12/71[7] SPECIAL IMPLEMENTATION PROJECT TO FACILITATE AND IMPROVE THE MANAGEMENT OF THE DEFICIENCIES DATABASE

That ICAO prepare and submit to the Council a proposal for a Special Implementation Project (SIP) to develop a secure process for managing the ICAO air navigation deficiencies database for the CAR/SAM Regions on the Internet, permitting the controlled on-line introduction of updated information by States/Territories for their respective deficiencies and access to a frozen format of the information contained in the database by States/Territories, ACI, IATA and IFALPA.

Aerodrome certification

3.4.3 The Meeting was advised that the Subgroup had examined and updated the status of implementation of the aerodrome certification process in CAR/SAM States/Territories. The updated status report on the implementation of the aerodrome certification process in CAR/SAM States/Territories is shown in Appendix C to Agenda Item 3 of the Final Report of the AGA/AOP/SG/3. Also, regarding this issue, the United States presented information on the Airport Certification Inspectors Workshops and training courses held in the region and announced the possibility of conducting an additional workshop, in Spanish, in the Fall of 2004, pending coordination with ICAO and a State to host the event.

ICAO USOAP Annex 14 audits

3.4.4 The Meeting noted that the Subgroup had examined the latest developments in preparing for the start-up of Annex 14 audits, including the programme of preparatory activities, the pre-audit questionnaire, the sample memorandum of understanding and the criteria for the preparation of the audit schedule.

Results of the Runway Strips and Runway End Safety Areas Task Force

3.4.5 The Meeting noted that the Subgroup had examined the results of the task force meeting held on 29 September 2003, as presented by the task force, as well as the proposal for the clarification of RESA specifications contained in the Spanish version of Annex 14, Volume I, particularly concerning which runway ends require RESA for landing and take-off in each direction of operation. The Subgroup had agreed that there were inconsistencies between the definitions, the SARPs and the RESA guidance material in both the English and Spanish versions of Annex 14, Volume I, which required clarification. Therefore, the Meeting adopted the following conclusion:

[7] *AGA/AOP/SG/3 Conclusion 3/2 – Pre-approved by the ACG fast track on 15 December 2003 and already implemented*

CONCLUSION 12/72[8] RUNWAY END SAFETY AREAS (RESA)

That ICAO,

a) review and amend, if necessary, the specifications for RESAs, contained in Annex 14, Volume I, to ensure consistency between the definition, SARPs and Guidance Material in both the English and Spanish language versions; and

b) clarify the methodology for the provision of RESAs at aerodromes with physical land constraints, described in Section 9, of Attachment A, of Annex 14, Volume I, illustrating the options to be considered in common cases, through the possible introduction of figures.

Establishment and activities of ALACPA

3.4.6 The Meeting took note that the Subgroup had reviewed the statutes of the Latin American and Caribbean Association of Airfield Pavements (ALACPA), which appear in **Appendix AE** to this part of the Report.

3.4.7 The Meeting also noted that the Subgroup had been reminded that the basic function of ALACPA was to assist States/Territories in the compliance of ICAO standards and recommended practices (SARPs) aimed at eliminating and/or reducing airport pavement deficiencies in the CAR/SAM Regions. The Meeting adopted:

CONCLUSION 12/73[9] LATIN AMERICAN AND CARIBBEAN ASSOCIATION OF AIRFIELD PAVEMENTS (ALACPA)

That,

a) States/Territories/International Organizations support ALACPA, keeping in mind its main objective to assist States to comply with the ICAO SARPs and to contribute to the elimination and prevention of airfield pavement deficiencies in the CAR/SAM Regions;

b) States/Territories be aware of ALACPA's Statutes (Appendix AE to this part of the Report) and be informed that the Interim Chairman of ALACPA is Mr. José Enrique Cuadrado, from the *Organismo Regulador del Sistema Nacional de Aeropuertos de Argentina (ORSNA)* and the Technical Secretary is Mr. George Legarreta of the United States;

[8] *AGA/AOP/SG/3 Conclusion 3/4 – Pre-approved by the ACG fast track on 15 December 2003*
[9] *AGA/AOP/SG/3 Conclusion 3/5 – Pre-approved by the ACG fast track on 15 December 2003*

c) ALACPA's Academic Secretary and Treasurer, Dr. Osvaldo Albuquerque, from the *Directoría de Ingeniería de la Fuerza Aérea* of Brazil and Eng. Juan Carlos Quiroga, from SABSA, Bolivia were respectively elected during the first formal Meeting of ALACPA, held during the Seminar on Pavement Management Systems (PMS) and Short Course on Pavement Condition Index (PCI), held in Lima, Peru, from 19 to 25 November 2003; and

d) States/Territories, through ICAO, nominate a National Airport Pavements Coordinator, to be the liaison between States/Territories and ALACPA, no later than **30 January 2004**.

Translation of ICAO Regional Manual on Airport Maintenance

3.4.8 The Meeting noted that the Subgroup had been advised that the ICAO Regional Manual on Airport Maintenance was being translated from Spanish into English by ICAO, and that it would be available for review in the near future, prior to its publication and distribution to States/Territories. The Subgroup also reported that ALACPA had been designated to undertake the review of the English version of the Manual and provide its comments to ICAO for consideration in the preparation of the final version to be published. The Meeting adopted:

CONCLUSION 12/74 ICAO REGIONAL MANUAL ON AIRPORT MAINTENANCE

That,

a) ICAO send to ALACPA the ICAO Regional Manual on Airport Maintenance in both, English and Spanish, once the draft version of the English translation is available;

b) ALACPA review the English version and send its proposed amendments to ICAO within 3 months of receipt of the ICAO translation; and

c) ICAO prepare the final English version for publication and send to States/Territories within 3 months of receipt of the ALACPA comments.

Results of the Bird Hazard Task Force

3.4.9 The Meeting noted that the Rapporteur of the Task Force had informed the Subgroup that, in response to the invitation extended to all CAR/SAM States/Territories, IATA, IFALPA and ACI/LAC, only Aruba, Barbados, Chile, Cuba, Jamaica, Panama, Peru, Saint Kitts and Nevis, Trinidad and Tobago, United States, and the representatives of IATA, IFALPA and ACI/LAC had designated their coordinators on issues related to bird strike hazard prevention. The Meeting was also advised that the First Meeting of the CAR/SAM Regional Bird Hazard Prevention Committee had been held in Santiago, Chile, from 22 to 24 October 2003, during which the *"Aviation and Birds: A Century after the First Flight"* workshop had also been carried out.

3.4.10 The Meeting noted that the Subgroup had reviewed and discussed a set of recommendations on bird strike hazard in CAR/SAM airports which had been submitted and which required coordination with ATS services, which had already taken place.

3.4.11 The Meeting adopted the following conclusion:

CONCLUSION 12/75 SECOND MEETING OF THE CAR/SAM REGIONAL BIRD HAZARD PREVENTION COMMITTEE

That,

a) the Second Meeting of the CAR/SAM Regional Bird Hazard Prevention Committee be held in October/November 2004; and

b) States/Territories, which have not done so, through ICAO, nominate their national bird strike hazard coordinators.

Establishment of the Runway Incursion Prevention Task Force

3.4.12 The Meeting was advised of the establishment of a new Runway Incursion Prevention Task Force within the AGA/AOP/SG, to assist States/Territories in preventing runway incursions through the resolution of safety-related deficiencies and the implementation of prevention programmes at airports. The Meeting considered that the participation of States/Territories, airport operators, aircraft operators, air traffic service providers, ACI, IATA, IFALPA IFATCA, and ICAO was important. The Task Force would continuously review runway incursion incidents, develop guidance and assist States/Territories in reducing and preventing runway incursions through the development and implementation of runway incursion prevention programmes at aerodromes. The Meeting agreed to the establishment of a runway incursion prevention task force.

3.4.13 Likewise, the Meeting examined the Terms of Reference, Work Programme and Composition of the Runway Incursion Prevention Task Force, which are presented in **Appendix AF** to this part of the Report.

Results of the Airport Demand/Capacity Task Force

3.4.14 The Meeting noted that the Subgroup had been informed by the Rapporteur of the Task Force on the activities carried out since the last AGA/AOP/SG (AGA/AOP/SG/2) meeting. The Meeting recommended that the Task Force continue working on the case studies presented by States/Territories, and adopted:

CONCLUSION 12/76 AIRPORT DEMAND/CAPACITY TASK FORCE

That,

a) States/Territories that have airports, which suffer from congestion and delay problems at the surface, if desired, prepare and submit case studies to the Task Force requesting their analysis;

b) Case studies should include statistical information in the format presented in **Appendix AG** to this part of the Report; and

c) The Task Force analyse the case studies and provide States/Territories guidance for congestion relief.

AGA/AOP/SG traffic forecast requirements

3.4.15 The Meeting was advised that data received from only two States/Territories were insufficient for the AGA/AOP/SG to begin any meaningful work planning. The Meeting also considered that the methodology previously adopted for the collection of airport information was appropriate, but required a more active follow-up. In this regard, it was noted that Uruguay had agreed to carry out this follow-up in support of the work of the Subgroup. Consequently, the Meeting decided to retain and update the previous Conclusion 11/3 and adopted the following conclusion:

CONCLUSION 12/77[10] AGA/AOP/SG TRAFFIC FORECAST REQUIREMENTS

That,

a) States/Territories obtain from international aerodrome operators the following traffic forecast information for 2005 and 2010:

- the critical aircraft types for aerodrome reference code, runway length, airfield pavement strength and the rescue and fire-fighting category; and
- the busy hour aircraft movements/operations.

b) States/Territories provide the information referred to in a), above, to the ICAO Regional Offices by **31 December 2003**;

c) ACI provide the same information referred to in a), above, collected from its member airports in the Latin American and Caribbean (LAC) Region to the ICAO Regional Offices by **31 December 2003**; and

d) ICAO compile, consolidate, review and present the information received to the AGA/AOP/SG/4 Meeting.

[10] *AGA/AOP/SG/3 Conclusion 3/11 – Pre-approved by the ACG fast track on 15 December 2003*

En-route alternate aerodromes

3.4.16 The Meeting was advised that IATA had prepared a list of required en-route alternate aerodromes. The Meeting also noted that this list had been circulated to States/Territories for comments and only a few responses had been received, including information presented to the Subgroup by Brazil, Chile and Panama. All responses received from States/Territories had been submitted to IATA. It was commented that aerodromes in the United States, which were located in the CAR Region, should also be incorporated into the list. It was considered that States/Territories had not had enough time to analyse and provide the information. Consequently, the Meeting decided to retain and update the previous Conclusion 11/12 and adopted the following conclusion:

CONCLUSION 12/78[11] EN-ROUTE ALTERNATE AERODROMES

That,

a) ICAO re-circulate the list of requested en-route alternate aerodromes prepared by IATA to States/Territories which have not responded to the previous request for comments;

b) States/Territories review the requirements and prepare a list of en-route alternate aerodromes to be provided, identify those requested aerodromes which can not be provided, recommend potential alternatives, and submit this information to the ICAO Regional Offices by **31 December 2003**;

c) ICAO send to IATA the information received from States/Territories to facilitate consultation between IATA and the States/Territories that have potential alternatives;

d) IATA send to ICAO the final list agreed with States/Territories, including United States aerodromes, by **31 March 2004**; and

e) ICAO review and present the list to the AGA/AOP/SG/4 Meeting.

FASID Table AOP1

3.4.17 The Meeting considered the following requests presented by Brazil to the Subgroup:

a) elimination of the requirement to implement a VOR/DME in Corumba, Brazil, as of the necessary procedures to amend the CAR/SAM Regional Air Navigation Plan, Doc 8733;

b) proposal to include in the FASID Table AOP1the Maceió/Campo dos Palmares aerodrome as destination and alternate for international flights, as well as other updates, such as the use of GNSS (GPS) non-precision approach procedures.

[11] *AGA/AOP/SG/3 Conclusion 3/12 – Pre-approved by the ACG fast track on 15 December 2003*

3.4.18 The Meeting adopted the following conclusion:

CONCLUSION 12/79 PROPOSAL PRESENTED BY BRAZIL TO AMEND THE ANP FASID TABLE AOP1

That,

a) ICAO coordinate with the CNS Committee of the ATM/CNS Subgroup, to study the Brazilian proposal in regards of the elimination of the VOR/DME requirement in Corumbá, Brazil; and

b) the proposal to include the Maceió/Campo dos Palmares aerodrome in the FASID Table AOP1, as well as other updates, be followed up by the ICAO South American Regional Office for its analysis and, if applicable, a proposal for amendment to the FASID Table AOP1 be prepared.

ICAO Regional Manual on Airport Environment

3.4.19 The Meeting noted that the ICAO Regional Manual on Airport Environment had been translated by ICAO from Spanish into English and was due for review prior to its publication and delivery to States/Territories. Mexico offered to undertake the review of the English version of the Manual and provide its comments to ICAO for consideration in the preparation of the final version to be published. The Meeting adopted the following conclusion:

CONCLUSION 12/80[12] ICAO REGIONAL MANUAL ON AIRPORT ENVIRONMENT

That,

a) ICAO sends to Mexico the ICAO Regional Manual on Airport Environment in both, English and Spanish, by **31 October 2003**;

b) Mexico review the English version and send its proposed amendments to ICAO by **31 January 2004**; and

c) ICAO prepare the final English version for publication and send it to States/Territories by **30 April 2004**.

Amendments to Annex 14 Volume 1

3.4.20 The Meeting was informed that the Subgroup had been advised that the ICAO Council had adopted Amendment 5 to Annex 14, Volume I, on 7 March 2003, effective on 14 July 2003, with 27 November 2003 as the application date. The Meeting took note that a new proposal for amendment to Annex 14 related to runway turn pads and common reference systems for aerodrome information had been submitted to the Subgroup, with a foreseen application date of 25 November 2004.

[12] *AGA/AOP/SG/3 Conclusion 3/14 – Pre-approved by the ACG fast track on 15 December 2003*

3.4.21 The Meeting also noted that the Subgroup had been informed about Letter Ref: AN 4/1.1.48-03/56 from the Secretary General, dated 25 July 2003, requesting comments, no later than 24 October 2003, on the proposal for amendment to Annex 14, Volumes I and II, stemming from the recommendations of the fourteenth meeting of the Visual Aids Panel and the work of the Secretariat.

Land use in airports and adjacent areas

3.4.22 The Meeting reviewed the comments of the Subgroup on a working paper presented by Argentina and Colombia, concerning the need to incorporate in Annex 14 guidance on the limitations in land use around airports, especially below approach and take-off and climb surfaces, taking into account safety, the risk involved in the constructions, occupation density and impact on the public, with a view to minimising the severity of accidents during landing and take-off operations. In this regard, Brazil requested the Meeting to indicate the types of restrictions to be imposed concerning land use in areas adjacent to airports in Annex 14, in order to avoid misinterpretations. The Meeting adopted the following conclusion:

CONCLUSION 12/81 LAND USE IN AREAS ADJACENT TO AIRPORTS

That:

a) following-up Part c) of the Recommendation 4/14 of the RAN CAR/SAM/3 Meeting, held in Buenos Aires, Argentina, in 1999, ICAO study a proposal for amendment to Annex 14, Vol. I, to incorporate specifications related to land use restrictions in areas adjacent to airports, particularly under the approach and take-off and climb surfaces, taking into account safety, the hazards of developments, occupation density and impact to the public, in order to minimise the severity of an accident occurring during landing and take-off operations; and

b) the subject be included in Annex 14 indicating the types of restrictions to be imposed concerning land use in areas adjacent to airports, in order to avoid misinterpretations.

ICAO global and regional AGA activities

3.4.23 The Meeting took note that the Subgroup had been presented with a description of the activities of CAR/SAM Regional Offices in the field of aerodromes and ground aids between 1999 and 2004, including a summary of the activities already completed and the schedule of proposed activities.

3.4.24 The Meeting reviewed the information provided by the Subgroup on the natural evolution of the series of seminars conducted by ICAO on pavement maintenance in 2002, and on pavement management systems in 2003. The Meeting agreed that ICAO should convene the next seminar in 2004 on the outstanding subject related to airport pavement, namely pavement design. Consequently, the Meeting adopted the following conclusion:

CONCLUSION 12/82 SEMINAR ON AIRPORT PAVEMENT DESIGN

That ICAO consider convening a seminar on airport pavement design for the CAR/SAM Regions in 2004.

3.4.25 The Meeting welcomed the offer of Mexico to host the AGA/AOP/SG/4 Meeting on 15-19 November 2004.

3.4.26 The Delegate from Antigua and Barbuda (OECS) informed the Meeting that even though this State has not participated in recent Meetings of the AGA/AOP/SG, his Administration is still interested in being a Member State of the Aerodromes and Ground Aids Subgroup.

3.4.27 Also, the Delegate from Barbados informed the Meeting that his Administration was interested in being a Member of the Subgroup.

3.5 Report of the AIS/MAP/SG/8 Meeting

3.5.1 The Meeting noted, reviewed and adopted the following conclusions and decisions concerning the report of the Eighth Meeting of the AIS/MAP Subgroup (AIS/MAP/SG/8, Lima, Peru, March 2003).

3.5.2 Upon reviewing mapping issues related to the need to supplement the symbols of VFR Aeronautical Charts contained in ICAO Annex 4 and Doc 8697, and the specifications for the production of IFR charts and the digital production of aeronautical charts based on the WGS-84 System. The Meeting agreed that the mapping symbols shown in the document which are contained in **Appendix AH** to this part of the Report, be submitted to ICAO for its consideration.

3.5.3 When discussing the geodetic system, the Meeting made a special appeal to Aeronautical Authorities that had not yet done so, to renew their efforts for full implementation of the WGS-84 System in the CAR/SAM Regions, pursuant to the agreements reached by GREPECAS/10 and GREPECAS/11. **Appendix AI** to this part of the Report shows the status of implementation of the aforementioned system. It was also stressed that, in order to achieve full implementation, it was necessary to consider aspects related to vertical requirements, geoid models, the geodetic data precision and integrity quality system, and the need to complete the questionnaire contained in ICAO Doc 9674 to determine the surveys made as well as the quality of the data.

3.5.4 During the debate, the Delegation of France referred to the digital production of aeronautical charts based on the WGS-84 System, which required the availability of both static AIS data and topographic data.

3.5.5 In view of the above, the Meeting adopted the following conclusions:

CONCLUSION 12/83 ADOPTION OF THE GUIDE ON SYMBOLS FOR THE STANDARDISED PRODUCTION OF 1:1,000,000 AND 1:500,000 VFR AERONAUTICAL CHARTS IN THE CAR/SAM REGIONS

That, taking into account the need for a standardized production of 1:1,000,000 and 1:500,000 VFR aeronautical charts, as well as the study conducted by the GREPECAS Aeronautical Charts Task Force on the harmonization of ICAO and PAIGH symbols, the following actions be implemented:

a) the Guide on Cartographic Symbols attached as Appendix AH to this part of the report be adopted for its use by CAR/SAM States/Territories/International Organizations in the production of 1:1,000,000 and 1:500,000 VFR aeronautical charts; and

b) ICAO be requested to analyze the documentation referred to in item a) above, in order to study the possibility of updating and/or complementing the cartographic symbols contained in ICAO Annex 4 and Doc. 8697.

CONCLUSION 12/84 COMPLEMENT TO THE SPECIFICATIONS FOR THE PRODUCTION OF IFR CHARTS

That the CAR/SAM States/Territories/International Organizations that deem it necessary, adopt the recommendations presented in the Attachment of Appendix AH to this part of the Report for their use in the production of IFR charts.

CONCLUSION 12/85 DIGITAL PRODUCTION OF AERONAUTICAL CHARTS UNDER THE WGS-84 SYSTEM

That, with a view to promoting the digital production of aeronautical charts under the WGS-84 system, through the use of static aeronautical databases technology, Geographical Information Systems (GIS) and Terrain Digital Modelling Systems (TDMS), supported on digital topographical databases, it is suggested that the ICAO Regional Offices consider, within the scope of the regional technical co-operation projects, hiring GIS and TDMS experts with experience in digital aeronautical cartography, in order to promote and encourage under a Regional Plan the production of aeronautical charts through the application of these technologies by CAR/SAM States/Territories/International Organizations.

CONCLUSION 12/86 QUALITY ASSURANCE OF WGS-84 DATA

That the CAR/SAM States/Territories/International Organizations take the necessary measures to:

a) establish quality systems in their AIS/MAP systems, in order to ensure at all times the use of effective procedures to guarantee the precision and integrity of the WGS-84 geographical coordinates data used for civil aviation; and

b) adopt appropriate procedures for the validation and audits of WGS-84 data.

CONCLUSION 12/87 PROVISION OF DETAILED INFORMATION ON WGS-84 DATA

That the CAR/SAM States/Territories/International Organizations, in order to ensure the availability of information on WGS-84 data on a regional basis, take the necessary measures to:

a) keep the historical information resulting from the WGS-84 surveys carried out by the aeronautical authority or any other responsible State body updated, using a database information structure for the aerodrome, heliport and other geodetic surveys stipulated in the technical requirements of ICAO Annex 15 and Doc. 9674;

b) provide the ICAO NACC and SAM Regional Offices, no later than 31 January 2005, with all of the detailed and reliable information on the WGS-84 data published and/or to be published; and,

c) fill out and send the Model Questionnaire contained in Appendix G to ICAO Doc. 9674-AN/946 duly validated.

3.5.6 Regarding AIS/MAP training, the Meeting deemed it necessary to improve the level of personnel hired to work in these services, by including in their training, topics related to CNS/ATM systems, quality management and automation. To this end, the Meeting considered the need to update the CAR/SAM Regional AIS-021 Standard Training Programme by introducing the modifications shown in **Appendix AJ** to this part of the Report. Based on the above, the following conclusions were adopted:

CONCLUSION 12/88 STATUS OF AIS PERSONNEL

Those CAR/SAM Civil Aviation Administrations:

a) take the necessary action so that the personnel hired to work in the AIS receives the required training, in keeping with current technological trends, which require a high level of competence from AIS/MAP human resources;

b) take into account that, since the responsibility of AIS personnel to meet user quality requirements in a CNS/ATM setting has increased, its performance and status should be improved based on the AIS/MAP tasks to be carried out; and

c) take relevant action to ensure that the development of study guides, modules and curricula for AIS/MAP courses, as well as the responsibility for training, be taken on by AIS experts in each State.

CONCLUSION 12/89 ADOPTION OF THE CAR/SAM REGIONAL AIS 021 STANDARD TRAINING PROGRAMME

That:

a) the ICAO Regional Offices analyze the revised document of the CAR/SAM Regional AIS 021 Standard Training Programme, amendments of which are shown in Appendix AJ to this part of the report, together with all the supplementary material, for their adoption and subsequent delivery to CAR/SAM States/Territories/International Organizations and aeronautical training centres.

- CAR/SAM Regional AIS-021 Standard Training Programme
- CAR/SAM document of the Teaching Unit Manual
- Instructor Guidance Manuals
- Student Guidance Manuals; and

b) coordinate with States/T/IO periodical revision of the programme.

3.5.7 With regard to AIS/MAP databases and automation, the Meeting analyzed the importance of developing a "CAR/SAM AIS/MAP data structure model", like the one shown in **Appendix AK** to this part of the Report, so that CAR/SAM States/Territories/International Organizations could have a common tool for electronic exchange of aeronautical information/data. It was agreed that the model be submitted to ICAO for consideration. The Meeting noted that, since there was no ICAO documentation that defined the technical and operational requirements for an AIS database, a standard database system should be developed, and stressed the need that members of the Task Force dealing with this issue be AIS database experts.

3.5.8 Within this context, when reviewing the list contained in **Appendix AL** showing the States/Territories/International Organizations that had established NOTAM data banks, the Meeting deemed it advisable to postpone the date agreed by GREPECAS/10 for the application of the "Coordinated Plan for the Implementation of National Data Banks – NASC" and the "Common Operational Procedures Manual for the AIS Automated Integrated System in the CAR/SAM Regions – COPM". It also expressed the need to implement "common query protocols for CAR/SAM data banks" and to exchange information on the query protocols used in the NOTAM data banks existing in both Regions.

3.5.9 The Meeting also identified the need to apply procedures for verifying and controlling the processing of aeronautical information of the NOTAM data banks, through the development of quality systems. Likewise, the Meeting insisted on the need to establish the CAR/SAM AIS Integrated Database (CASADAB) and to consider the possibility of promoting it under Project RLA/98/003, and insisted also on the advisability of convening a regional meeting to deal with the first phase in the implementation of automated AIS systems in the CAR/SAM Regions.

3.5.10 The Meeting also considered the importance of furthering the use of modern electronic facilities, such as the Internet, for the exchange of aeronautical information/data. In this regard, it decided to refer this matter to the CNS Committee of the ATM/CNS Subgroup, for development of operational specifications and planning criteria. That Committee, in turn, is waiting for information on developments in this respect to be provided by ICAO.

3.5.11 In view of the foregoing, the Meeting agreed to formulate the following conclusions and decision:

CONCLUSION 12/90 PARTICIPATION OF EXPERTS AT THE MEETINGS OF THE AIS/MAP DATABASE AND AUTOMATION TASK FORCE

That Member States that participate in the Database and Automation Task Force designate AIS/MAP experts to attend the meetings, so as to expedite their work and make it more productive and objective.

CONCLUSION 12/91 ADOPTION OF A CAR/SAM AIS/MAP DATA STRUCTURE MODEL

That, in view of the advisability of having a common tool for CAR/SAM States/Territories/International Organizations for the standardized electronic exchange of AIS/MAP data,

a) the AIS/MAP data structure model presented in Appendix AK to this part of the report be adopted for experimental use by the respective States/Territories/International Organizations;

b) the States/Territories/International Organizations applying the model cited in item a) above be required to advise the relevant ICAO Regional Offices in a timely manner, no later than 30 November 2004, of any remarks, corrections and/or modifications that might be required in the aforementioned material; and

c) the respective material be sent to the ICAO Air Navigation Bureau in Montreal for its consideration, so that remarks on it may be provided.

CONCLUSION 12/92 IMPLEMENTATION OF A CAR/SAM INTEGRATED AUTOMATED AIS SYSTEM

That,

a) the CAR/SAM States/Territories/International Organizations that have not yet implemented NOTAM Data Banks proceed to do so by **March 2005**, at the latest;

b) in order to implement their Automated AIS Systems, the CAR/SAM States/Territories/International Organizations apply the contents of the Coordinated Plan for the Implementation of National Data Banks (NASC) and the Common Operational Procedures Manual (COPM) for the Integrated Automated AIS System in the CAR/SAM Regions, approved by GREPECAS; and

c) the ICAO Regional Offices, in co-ordination with the States/Territories/International Organizations, continue providing technical assistance for the effective implementation of the Automated AIS Systems in the CAR/SAM Regions and publish in their respective web sites the aforementioned manuals.

CONCLUSION 12/93 IMPLEMENTATION OF COMMON QUERY PROTOCOLS

That the CAR/SAM States/Territories/International Organizations that:

a) have NOTAM Data Banks and that do not comply with the common query protocol provided for in the GREPECAS COPM (Chapter 7), take the necessary measures to review and adjust their systems in order to fulfil this technical requirement no later than **March 2005**;

b) are in the process of acquiring and/or developing NOTAM Data Banks, proceed to design their systems in such a way as to effectively comply with the requirements of the common query protocol contained in the COPM (Chapter 7); and

c) have not yet published the technical requirements applicable to the common query protocols of their NOTAM Data Banks and/or have done so before the year 2002, proceed to do so no later than **August 2004** through an Aeronautical Information Circular (AIC).

CONCLUSION 12/94 QUALITY ASSURANCE OF THE AERONAUTICAL INFORMATION/DATA SUPPLIED BY NOTAM DATA BANKS

That the CAR/SAM States/Territories/International Organizations that:

a) possess NOTAM Data Banks in operation, take the necessary measures to implement quality systems and procedures to assure the quality in those facilities, in order to guarantee at all times the quality and integrity of the aeronautical information/data supplied by these data banks and, to that end, apply the ISO 9000, 9000-3 and 10003 standards that are applicable to computer programmes and automated systems, as well as any other applicable ISO standard; and

b) have not yet implemented NOTAM data banks, consider within the data bank implementation specification sheet all of the technical requirements for the implementation of quality systems in said facilities.

CONCLUSION 12/95 ESTABLISHMENT AND EFFECTIVE IMPLEMENTATION OF THE CAR/SAM INTEGRATED AIS DATABASE SYSTEM (CASADAB)

That, considering the need to have the necessary mechanisms and tools for the effective establishment of the CAR/SAM Integrated AIS Database (CASADAB), ICAO:

a) consider within the activities of Regional Project RLA/98/003 the hiring of experts to provide the necessary advice and support for the development of the technical specifications required for the effective implementation of the CAR/SAM Integrated AIS Database System (CASADAB); and

b) based on the results of a) above, co-ordinate with the CAR/SAM States/Territories/International Organizations the provision of regional technical co-operation for the implementation of the CASADAB by 2009, at the latest.

CONCLUSION 12/96 MEETING FOR THE IMPLEMENTATION OF AIS AUTOMATION IN THE CAR/SAM REGIONS

That GREPECAS, within its own mechanism, and in co-ordination with ICAO Regional Offices, take the necessary measures to convene, no later than 2005, a coordination and implementation meeting concerning the full implementation of the first phase of the CAR/SAM Integrated Automated AIS System.

3.5.12 In order to meet Annex 15 requirements in terms of AIS quality systems, the Meeting noted that the document contained in **Appendix AM** had been adopted as the basis for the production of guides to facilitate the development of a plan for a CAR/SAM AIS/MAP Quality System, and made an appeal to Aeronautical Authorities to support the establishment of AIS quality systems. In this regard, the Meeting adopted the following conclusion:

CONCLUSION 12/97 PLAN FOR THE IMPLEMENTATION OF THE AIS/MAP QUALITY MANAGEMENT SYSTEM IN THE CAR/SAM REGIONS

That the CAR/SAM States/Territories/International Organizations develop and/or complete the Plan for the Implementation of the AIS/MAP Quality Management System, based on the requirements contained in ICAO Annex 15 and taking into consideration the Guidelines for the Implementation of an AIS/MAP Quality System of the AIS/MAP/SG/8 included in the Appendix AM to this part of the report, and inform on the status of implementation to the NACC and SAM Regional Offices no later than **31 March 2005**.

3.5.13 The Meeting noted that States had been invited to make proposals for amendment to update the CAR/SAM Regional ANP – ICAO Doc 8733, in keeping with the recommendations of the CAR/SAM/3 RAN Meeting, when it was distributed in two volumes (Basic and FASID) to the States in 2002. The Meeting adopted the following conclusion to renew this request:

CONCLUSION 12/98 AMENDMENT TO PART VIII – AIS/MAP OF THE CAR/SAM BASIC ANP AND FASID TABLES

That CAR/SAM States/Territories/International Organizations review the AIS/MAP sections of the CAR/SAM Plan and FASID document and send no later than **30 November 2004** their comments to the corresponding Regional Offices for relevant action.

3.5.14 Also under this agenda item, the Meeting discussed the need for States/Territories/International Organizations to develop "NOTAM Contingency Plans" to support Air Traffic Services contingency plans, and thus ensure an effective exchange of NOTAM information both at national and international level. In this regard, the following conclusion was adopted:

CONCLUSION 12/99 AGREEMENT ON NOTAM CONTINGENCY PLANS FOR THE CAR/SAM REGIONS

That the States/Territories and International Organizations:

a) develop their NOTAM Contingency Plans for the Flight Information Regions (FIRs), and, inasmuch as possible, enter into bilateral and/or multilateral arrangements with the States/Territories and International Organizations responsible for neighbouring airspaces;

b) consider the basic elements of NOTAM Contingency Planning for Flight Information Regions (FIRs) mentioned in item a), duly coordinated with the air navigation areas concerned; and

c) send a copy of their NOTAM contingency plans to the ICAO NACC and SAM Regional Offices by **15 December 2004**.

3.5.15 The Meeting noted that the AIS Subgroup had received complaints from users regarding improper utilisation of the AIRAC system by some States, which made publications on the establishment, suspension or significant changes of common effectiveness dates, without respecting the times and series defined in the system, thus affecting safety. It was also noted that one of the main reasons of the problem was the lack of coordination between related air navigation services and AIS services. In this regard, the Meeting adopted the following conclusion, highlighting the relationship between AIRAC and FMS, and the resulting development of CNS/ATM systems.

3.5.16 The Meeting received information on the action taken by various States/Territories/International Organizations on this matter, with follow-up by Regional Offices.

3.5.17 In view of the above, the Meeting adopted the following conclusion:

CONCLUSION 12/100 EFFECTIVE IMPLEMENTATION OF THE AIRAC SYSTEM

That the CAR/SAM States/Territories/International Organizations,

a) take the relevant measures to enable an effective coordination between the AIS and similar aeronautical services, for an effective AIRAC System implementation;

b) develop a procedural manual, establishing the responsibilities and tasks involved in the preparation of the information to be distributed by the AIRAC system, as well as the responsibilities of the AIS regarding the publication of such information;

c) request their AIS departments to publish once a year a national AIC with the effective AIRAC dates and stressing the important impact of the system for air navigation safety;

d) inform the ICAO NACC and SAM Regional Offices of the measures adopted in relation to the implementation of the AIRAC system no later than **15 December 2004**, and

e) publish, to the extent possible, aeronautical information introducing changes of great impact to air navigation systems, over 56 days in advance of the date of application; and

f) take relevant measures in order to publish on an annual basis an AIC including the application details on the AIRAC system, using the sample provided in the **Appendix AN** to this part of the report, in support to the effective use of the system.

3.5.18 Finally, the Meeting reviewed and adopted the conclusion on the following topic:

CONCLUSION 12/101 MONITORING OF AIS/MAP DEVELOPMENTS WITHIN THE SCOPE OF THE CNS/ATM, GNSS AND FMS ENVIRONMENT

That the Secretary of the AIS/MAP/SG report to this GREPECAS contributory body on progress in the AIS/MAP field developed by ICAO Headquarters, especially those concerning developments in CNS/ATM, GNSS and FMS affecting the specific tasks under the responsibility of the AIS/MAP Subgroup.

3.5.19 Under this agenda item, the delegation from Chile made a presentation to the Meeting on the topic "AIS as facilitator of the global ATM system", highlighting the relationship between the global ATM operational concept, aeronautical information, and the use of Internet technology for digital exchange of information. Within this context, the Meeting noted the progress made by the Chilean Authority in the development of the electronic AIP and the IFIS System for the electronic flight plan, which shows, *inter alia*, the effectiveness of pilot licenses, aircraft airworthiness status, location indicators, and NOTAM, OPMET, AIP information.

3.5.20 Following the comments made by IATA in the sense that the example of Chile should be made extensive to those States/Territories/International Organizations that still used manual procedures in these services, and the verbal report by Colombia on the progress being made by its Authority, the Meeting took note of the offer made by Chile to provide advice on IFIS implementation to those States/Territories/International Organizations that so requested it, and of the availability of the system on the Chilean DCA web page at *www.dgac.cl* .

3.5.21 Likewise, the Meeting supported the initiative of Cuba concerning the need to assign a code for NOTAMs related to ATS contingencies, from those recently incorporated into ICAO Annex 15, since they did not exist in the current coding. In order to obtain ICAO comments on this matter, the Meeting adopted the following conclusion:

CONCLUSION 12/102 NEED FOR A SPECIFIC NOTAM CODE FOR ATS CONTINGENCIES

That CAR/SAM States/Territories/International Organizations agree to:

a) submit to the consideration of ICAO the need to code ATS contingency NOTAMs in order to distinguish these exceptional situations in air traffic services from the rest of NOTAMs that are published under the QXXXX code; and

b) entrust the GREPECAS Secretariat with a consultation based on the analysis made by the Group.

3.5.22 Under this agenda item, the Meeting also noted the progress made by Cuba concerning AIS/MAP quality assurance and automation systems, NOTAM databases, WGS-84 implementation and databases, and conversion of aeronautical charts to digital format. Cuba expressed its willingness to provide technical assistance on these matters to those States/Territories/International Organizations that so requested it. Likewise, the Delegation of Brazil offered assistance to those States that so require for the development of the NOTAM database.

3.5.23 Likewise, during the discussion of this item, with regard to NOTAM DB, Quality Management System, Integrated AIS database and AIS/MAP data structure model of the CAR/SAM Regions, the delegation of France informed the Meeting on the model developed in Europe, specifically on the European AIS Database (EAD) using AICM/AIXM model is operational since 6 June 2003. In addition France also informed of the tasks achieved by EUROCONTROL Member States in order to produce new common operational procedures for AIS dynamic data (NOTAM) and for the AIS static data (AIP data). This set of documents called OPADD (Operating Procedures for AIS Dynamic Data), ADP (AIS Data Process) and SDP (Static Data Procedures) will be forwarded to the Secretariat of GREPECAS for further study by the AIS/MAP/SG.

3.5.24 With regard to AIS quality systems, the Meeting took note of the work carried out by the AIS Quality Management Task Force of the AIS/MAP Subgroup, and acknowledged that the GREPECAS Secretariat had received from the Chair of the Subgroup the QA documentation, which will be submitted to the Ninth Meeting of the AIS/MAP Subgroup for consideration.

3.5.25 The Meeting was informed about the developing of a WGS-84 WEB site, containing guidance material and details of Annex provision and a database of status of WGS-84 implementation. This database could be updated on line by States/Territories/International Organizations and would be available for 2005. And regarding Internet use, the Meeting was as well informed that ICAO had established an ANC Study Group on the use of Internet for aeronautical safety messages applicable to AFTN, AIS and MET fields. The draft guidance material for use of Internet would be in the ICAO web site by the third quarter of 2004.

3.6 Report of the AVSEC/COMM/2 and AVSEC/COMM/3 Meetings

3.6.1 The Meeting reviewed the work of the Second and Third Meetings of the Aviation Security Committee (AVSEC/COMM) and took note that the AVSEC/COMM/2 Meeting Conclusions have all been completed or superseded by AVSEC/COMM/3 meeting conclusions. Accordingly, the Meeting focussed on the results of the Third Meeting.

Review of the AVSEC/COMM/2 Meeting Results

3.6.2 The Meeting observed that all the AVSEC/COMM/2 Conclusions had been completed, except those regarding Aviation Security Human Factors and Availability of Updated ICAO Aviation Security Training Packages in Spanish. The Meeting adopted the following conclusions:

CONCLUSION 12/103 AVIATION SECURITY HUMAN FACTORS WORKSHOP

That the ICAO Regional Offices coordinate workshops on AVSEC Human Factors.

CONCLUSION 12/104 AVAILABILITY OF UPDATED ICAO AVIATION SECURITY TRAINING PACKAGES IN SPANISH

That ICAO make additional efforts to expedite the availability of updated training material for AVSEC courses in the Spanish language.

Review of Global and Regional AVSEC Developments and Activities

3.6.3 The Meeting took note that an overview of ICAO's recent AVSEC global and regional activities and developments and the latest Progress Report on the ICAO Universal Security Audit Programme (USAP) was presented to the Committee.

3.6.4 The Meeting reviewed the aspects related to the availability to States of the updated ICAO AVSEC Training Packages. Although these are available for sale to States, the Meeting felt that ICAO could study the possibility of providing this material to States at no cost. The Meeting adopted the following conclusion:

CONCLUSION 12/105 PROVISION OF UPDATED ICAO AVIATION SECURITY TRAINING PACKAGES TO STATES

That ICAO study the possibility of offering, at least one copy, of all new and updated ASTPs free of charge to States/Territories, as they become available.

3.6.5 The Meeting analyzed the discussions carried out by the Committee on the appointment of an AVSEC Regional Officer for the NAM/CAR/SAM Regions in the ICAO NACC Regional Office. The Meeting expressed its concern on the significant and urgent needs for ICAO support in the States, particularly in relation to the USAP, which would justify the need for AVSEC Regional Officers in both Regional Offices, as had been concluded in GREPECAS Conclusion 11/17. The Meeting also took note of the Model Memorandum of Understanding (MoU) between ICAO and States regarding an Aviation Security Audit, which makes provision for active involvement of the ICAO Regional Office in the security audit process. The Meeting adopted therefore, the following conclusion:

CONCLUSION 12/106 ICAO AVSEC REGIONAL OFFICERS

That,

a) ICAO re-consider the need for an ICAO AVSEC specialist to be located in both the ICAO NACC and SAM Regional Offices at the earliest opportunity; and

b) ICAO AVSEC Regional Officers actively support States in the audit process including pre-audit evaluations, the development of post-audit Actions Plans and the follow-up of their implementation.

3.6.6 The Meeting took note of the many AVSEC related events organised by different entities, many of which are not associated with recognized organizations, sometimes making it difficult for States to select the most appropriate events to attend with the limited resources available. In this regard, the Meeting adopted the following conclusion:

CONCLUSION 12/107 ATTENDANCE AT AVSEC RELATED EVENTS

That:

a) ICAO publish a calendar of AVSEC-related events; and

b) States/Territories give consideration to AVSEC events organized by ICAO when planning their attendance at AVSEC-related events.

3.6.7 The Meeting considered a comparison table describing the differences between the GREPECAS AVSEC/COMM and LACAC AVSEC Group, included in **Appendix AO**. The Meeting also observed the avoidance of duplication in the Terms of Reference and Work Programmes of the two regional AVSEC bodies. The coordination procedures established between the GREPECAS AVSEC/COMM and the LACAC AVSEC Group is summarised as follows:

- ICAO is the Secretariat for both bodies;
- sharing of documentation between both bodies;
- attendance of meetings of both bodies by both Chairperson/Coordinator and Secretaries; and
- holding annual meetings of both bodies at the same venue during the same week.

3.6.8 The Meeting adopted, therefore, the following conclusion to encourage the continued cooperation and coordination between the GREPECAS AVSEC/COMM and the LACAC AVSEC Group:

CONCLUSION 12/108 GREPECAS AVSEC/COMM - LACAC AVSEC GROUP COORDINATION PROCEDURES

That the States and Territories encourage the active cooperation and coordination between the GREPECAS AVSEC/COMM and the LACAC AVSEC Group in order to avoid the duplication of activities and maximise the contribution of both bodies to the effective implementation of ICAO AVSEC provisions in the CAR/SAM States and Territories, adopting the following coordination procedures:

a) sharing of documentation between both bodies;

b) attendance of meetings of both bodies by both Chairperson/Coordinator and Secretaries; and

c) holding annual meetings of both bodies at the same venue during the same week.

Review and Analysis of State Responses to the AVSEC/COMM Questionnaire

3.6.9 The Meeting took note that Chile conducted a survey to assess the aviation security needs and interests of States in order to assist the GREPECAS AVSEC Committee (AVSEC/COMM) in developing its work programme. The following conclusions adopted by the Meeting reflect the region's most immediate needs:

CONCLUSION 12/109 INTERNATIONAL AVSEC CONVENTIONS

That States, which have not yet done so, ratify the Montreal Protocol (24 February 1988) and Convention on the Marking of Plastic Explosives for the Purpose of Detection (1 March 1991).

CONCLUSION 12/110 NATIONAL CIVIL AVIATION SECURITY PROGRAMME

That States, which have not yet done so, update their national civil aviation security programme to incorporate the latest provisions of the 7th Edition of Annex 17, and the corresponding Doc 8973.

CONCLUSION 12/111 OPERATOR AVIATION SECURITY PROGRAMMES

That States/Territories ensure that their operators, which have not yet done so, update their operator aviation security programmes to incorporate the latest provisions of the 7th Edition of Annex 17 and Amendment 27 to the 8th Edition of Annex 6 Part I, and the corresponding Docs 8973 and 9811.

CONCLUSION 12/112 NATIONAL AVSEC QUALITY CONTROL PROGRAMME

That ICAO expedite the availability of additional published guidance material for the implementation of a national AVSEC quality control programme.

CONCLUSION 12/113 NEW AVSEC TRAINING METHODS

That ICAO develop a new computer-based AVSEC training methodology to complement the existing ICAO AVSEC training programme of courses held at ASTCs to facilitate States to provide more AVSEC training to personnel without incurring additional travel costs.

Development of the AVSEC/COMM Work Programme

3.6.10 The Meeting reviewed the Work Programme of the Committee, as follows:

Identification and analysis of deficiencies in the implementation of ICAO AVSEC provisions

3.6.11 The Meeting reviewed a suggested AVSEC Framework for States, which model is included in **Appendix AP**.

3.6.12 The Meeting took note of the difficulties experienced by Peru, in terms of financial resources and timeframe for the implementation of the reinforced flight deck compartment doors by the operators and required by Amendment 27 to the 8th Edition of Annex 6, Part I. In this regard, the Committee informed to the Meeting the decision taken that States deal with the matter of delayed compliance with Annex 6 in their national regulations and bilaterally between those States affected, ensuring also notification to ICAO of any differences.

3.6.13 In relation to the difficulties experienced by some States to implement AVSEC systems to meet Annex 17 requirements due to financial constraints, the Meeting adopted the following conclusion:

CONCLUSION 12/114 BASIC LOW COST AVSEC SYSTEMS

That

a) States/Territories provide the required AVSEC protection through the application of systems appropriate to the requirements, in terms of equipment technological sophistication and human resources, and considering cost/benefit criteria in relation to the operational efficiency and facilitation; and

b) ICAO investigate the development and availability of new AVSEC systems which comply with Annex 17 requirements, particularly those with low implementation and operational costs, in order to provide further options to States.

National and sub-regional AVSEC education and awareness workshops

3.6.14 The Meeting was informed of the ICAO/Canada CAR/SAM Aviation Security Awareness Training Program and the agreement between ICAO and Canada to develop a project proposal to apply for funding to finance an AVSEC Training Program. In January 2004, funding for the project was approved by Canada and the project was launched by ICAO in February 2004. The first workshop was held in Jamaica from 16 to 18 March 2004.

3.6.15 The programme consists of 13 sub-regional and national AVSEC implementation workshops and 2 regional AVSEC audit seminars to be held in a period of one-year commencing in March 2004. States and Territories will host the workshops and seminars, Canada will provide the funding for the Instructors' travel and per diem expenses, and Instructors will be provided by States and ICAO at no cost in relation to their time. In this regard, Venezuela kindly offered to host one of these events at the first week of August or third week of October 2004. ICAO will manage the project, coordinate the workshops and seminars, and prepare the workshop and seminar material. The Meeting adopted the following conclusion to encourage States to support this regional project:

CONCLUSION 12/115 ICAO/CANADA AVSEC SUB-REGIONAL IMPLEMENTATION WORKSHOPS AND REGIONAL AUDIT SEMINARS

That the States and Territories commit to support the ICAO/Canada Aviation Security Awareness Training Programme in the Latin America and Caribbean Regions by:

a) offering to host the workshops and seminars;

b) offering Instructors for the workshops; and

c) participating in the workshops and seminars.

Identify potential financial sources to fund regional AVSEC training programmes

3.6.16 The Meeting took note that OAS informed the Committee of the AVSEC training activities funded and organised by the Inter-American Committee against Terrorism (CICTE). In addition, OAS confirmed that it was coordinating with ICAO the provision of an initial 20 fellowships to cover travel, per diem and course registration fees for AVSEC personnel in States to attend AVSEC courses held in the ICAO ASTCs in 2004. This offer would be sent to those States considered to have greater training needs and more severe financial limitations.

3.6.17 The Meeting observed also, that ACI suggested that IATA support be requested to provide travel for participants to attend the AVSEC courses at ICAO ASTCs, with possible course fee concessions to IATA participants in return. In this regard, the Meeting adopted the following conclusion:

CONCLUSION 12/116 IATA SUPPORT FOR AVSEC TRAINING

That ICAO Regional Offices coordinate a request to IATA for its support for States, on a case by case basis, to attend AVSEC courses in ICAO ASTCs through travel concessions.

3.6.18 The Meeting observed also, that the Chairman of the Committee reminded that the primary objective of the Group of Experts on Aviation Safety, Security and Assistance (GEASA) was to identify funding sources to support regional initiatives, as demonstrated with the ICAO/Canada CAR/SAM Aviation Security Awareness Training Programme.

Compile a directory of qualified AVSEC instructors available in States/Territories in the CAR/SAM Regions for use in regional training events

3.6.19 The Meeting noted with appreciation that Costa Rica was coordinating this task. In this regard, the Meeting agreed that it would be useful for States to send the necessary information and so adopted the following conclusion:

CONCLUSION 12/117 REGIONAL AVSEC INSTRUCTORS DATABASE

That States/Territories inform the Instructors Task coordinator (Costa Rica), through the ICAO Regional Office, of those personnel having completed the ICAO AVSEC Instructors course at an ICAO ASTC to be considered as regional AVSEC Instructors.

Prepare the AVSEC/COMM work programme using MS Project software adopting the ACG model format

3.6.20 The Secretariat presented the current version of the Terms of Reference, Work Programme and Composition of the Aviation Security Committee. The Meeting reviewed, commented on and revised the work programme, the results of which are presented in Appendix E. Tasks which had been completed were deleted from the work programme and new tasks on Amendment 11 to Annex 17, AVSEC personnel licensing and an AVSEC events database were added. In addition, the tasks on AVSEC training, equipment and threats were re-defined. The Meeting assigned also, responsibilities for each task.

3.6.21 The Meeting was informed, with great appreciation that Ecuador, Panama, Trinidad and Tobago and Venezuela expressed their intention to become members of the AVSEC/COMM, and that the official notification would be sent to the corresponding ICAO Regional Office and/or the GREPECAS Secretariat.

3.6.22 The Meeting reviewed and updated the Work Programme and Composition and adopted *Draft Decision 3/17 – AVSEC/COMM Terms of Reference, Work Programme and Composition* as presented in Appendix D to Agenda Item 5.

Develop methods of investigating prices/fees and availability of security equipment and advanced technology for regional application

3.6.23 The Meeting took note and appreciated that Mexico was coordinating this task. The Meeting was informed also that the LACAC AVSEC Group is undertaking similar work. The Meeting decided therefore that Mexico would continue to coordinate this task with reference to the work undertaken by the LACAC AVSEC Group.

Develop a regional mechanism for sharing sensitive information on threats to civil aviation

3.6.24 The Meeting noted that the composition of the Task Force on Threats, established at the AVSEC/COMM/2 Meeting, included only one State, Peru, and various international organizations; and this was considered inappropriate due to the confidential nature of the information to be dealt with. The LACAC AVSEC Group is undertaking similar work. In light of the foregoing, the Task Force was disbanded and Peru offered to coordinate this task with reference to the work undertaken by the LACAC AVSEC Group.

AVSEC Personnel Licensing

3.6.25 The Meeting discussed the AVSEC personnel licensing requirements and agreed that the AVSEC Committee should further review this matter.

In-flight Security Personnel

3.6.26 The Meeting took note that Peru presented on the need for guidance on the use of air marshals sometimes utilised due to special bilateral requests. In this regard, there is an ongoing work in ICAO to develop guidance material relating to sky marshals to ensure uniformity and harmonization in procedures. The Meeting observed that the Committee expressed the urgent need for such guidance material so that States can prepare to comply with bilateral agreements and facilitate such measures. It also took note of the upcoming "ICAO Seminar for the Americas on Managing Tomorrow's Aviation Security Challenges", scheduled to be held in Merida, Mexico, 26 to 28 October 2004, which includes sessions on in-flight security personnel, and adopted the following conclusion:

CONCLUSION 12/118 IN-FLIGHT SECURITY PERSONNEL

That ICAO expedite the availability of additional published guidance material for the use of in-flight security personnel.

Next Meeting

3.6.27 Jamaica offered to host the next AVSEC/COMM/4 Meeting to be held in conjunction with the 10th Meeting of the LACAC AVSEC Group.

Agenda Item 4 Air navigation planning and implementation deficiencies/problems in the CAR/SAM Regions

4.1 Report of the ASB/5 Meeting

4.1.1 The Chairman of GREPECAS presented the Report of Fifth Meeting of the Aviation Safety Board held on 6 June 2004 in Havana, Cuba. The Meeting recalled that the ASB had classified deficiencies in four Categories, as shown below:

Appendix A Deficiencies on which the ASB has taken specific action

Appendix B Deficiencies determined to be region-wide in nature

Appendix C Deficiencies requiring further research and action

Appendix D Corrected deficiencies.

4.1.2 The Secretariat presented the available updated information on the deficiencies classified as above. This information was reviewed by ASB/5, on the basis of the Uniform Methodology for the identification, assessment and reporting of air navigation deficiencies that was approved by the ICAO Council on 30 November 2001. Although there are a number of blank spaces in various columns of the Appendices, it should be noted that there is a continuous follow-up by the Regional Offices of Lima and Mexico through missions to the States, personalized letters, e-mails and even, in some cases, by telephone.

4.1.3 Furthermore, noting that Appendices A and C are similar in content, the meting agreed to merge them into one appendix for future ASB meetings. Consequently, it formulated the following conclusion:

CONCLUSION 12/119 MERGING OF THE INFORMATION CONTAINED IN APPENDICES A AND C INTO ONE APPENDIX IN THE DEFICIENCIES DATABASE

That the ICAO Regional office merge the information contained in Appendices A and C into one appendix.

4.1.4 The Meeting also reviewed the new deficiencies and recommended relevant actions for their resolution. They were included in Appendix A to this report on agenda item 4. The Meeting also noted the divergence of information provided on deficiencies in the CAR and SAM Regions and requested that the ASB closely review this issue at its next meeting.

4.1.5 In relation to Appendix B, the Meeting, as a result of its discussions, agreed to modify the title so as to provide more clarity. Consequently, it approved the following conclusion:

CONCLUSION 12/120 MODIFICATION OF THE TITLE OF APPENDIX B

That the ICAO Regional office modify the title of Appendix B to read *"Deficiencies upon which the ASB found requirement for region-wide action"*.

4.1.7 Consequently, **Appendixes A, B, C, D** to this part of the Report, as modified, present information as reviewed by the ASB/5 Meeting as follows:

Appendix A: Specific Deficiencies
Appendix B: Deficiencies upon which ASB found requirement for region-wide action
Appendix C: Corrected Deficiencies
Appendix D: Action Plan for resolving regional air navigation deficiencies

Report on action plans for resolution of deficiencies

4.1.8 The Meeting noted that response to the State letter dated 27 September 2002 on the resolution of air navigation deficiencies was not encouraging. As a follow-up, the Secretariat has finalized another personalized letter from the Secretary General to the Ministers of Civil Aviation, which is expected to be sent to the States by 15 July 2004.

4.1.9 In the follow-up to Conclusion 11/55 of GREPECAS/11 concerning a request to States to urgently develop and implement action plans for resolving deficiencies, the meeting noted that the Secretariat had included a revised format of an action plan in the CAR/SAM air navigation planning and implementation deficiencies database, which is available in **Appendix E** to this part of the Report.

4.1.10 The revised format is an improvement to an earlier format that was sent to the States/Territories/International Organizations for the collection of information on action plans, as it contains two new columns to reflect both the identification number of deficiency and the executing body.

4.1.11 The Meeting noted that the action plans received from the States/Territories/International Organizations showed incomplete or provided incorrect information. In this respect, the meeting agreed to the proposal of sending a letter to the States/Territories/International Organizations requesting submission of data in the revised format. Accordingly, it formulated the following conclusion:

CONCLUSION 12/121 REVISED FORMAT OF ACTION PLANS FOR THE RESOLUTION OF REGIONAL AIR NAVIGATION DEFICIENCIES

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

a) adopt the revised action plan format , as presented in the Appendix E hereto;

b) submit Action Plans providing correct and explicit information in each one of the fields defined in the revised format; and

c) include all the deficiencies in each of the air navigation fields.

4.1.12 The Meeting also agreed to update GREPECAS Conclusion 11/55 in terms of the date for submission of actions plans for the resolution of air navigation deficiencies, as follows:

CONCLUSION 12/122 ACTION PLANS FOR THE RESOLUTION OF AIR NAVIGATION DEFICIENCIES

That, with a view to resolving the air navigation deficiencies, especially those that might have a negative impact on safety, States/Territories/International Organizations that have not yet done so:

a) develop and implement an Action Plan, based on the format presented in the Appendix E hereto for each deficiency, and specifying the corrective measures, the completion date, as well as assigning the necessary resources;

b) submit the action plan to ICAO Regional Offices, no later than **30 December 2004**, including any difficulties encountered; and

c) consider establishing multinational agreements and international co-operation projects that would contribute to resolving the deficiencies in the air navigation fields.

Priority assessment of deficiencies. ASB working methods and tools

4.1.13 The Meeting recalled that the basic task of the ASB was to resolve "urgent" air navigation deficiencies in the CAR/SAM Regions. The ASB is a body created by GREPECAS in August 2000 that is focusing on the development of working methods and tools for eliminating the large number of deficiencies.

4.1.14 As an initial step, the meeting noted that it should first develop a more clear understanding of the safety impact of each deficiency and then resolve those deficiencies that had the highest impact. Consequently, the meeting agreed to use the MS project manager for this purpose, as well as the *"ASB Project Outline for the Commitment of Resources to the Correction of Deficiencies in Air Navigation Services"* format that was developed earlier. The meeting was presented with the results of the study of deficiencies conducted by the Secretariat and are shown in **Appendices F, G** and **H** to this part of the Report. This study has provided a more analytical description of the deficiencies that may involve a greater risk for aviation safety, which, in turn, helps the ASB to focus its efforts on such deficiencies and develop strategies for correcting them.

4.1.15 In view of the foregoing analysis, the Meeting deemed it necessary to request funding for resolving the runway maintenance deficiency, which is region-wide in nature and involves high risk. To that end, it developed the following conclusion:

CONCLUSION 12/123 SPECIAL IMPLEMENTATION PROJECT FOR RESOLVING RUNWAY MAINTENANCE DEFICIENCY

That ICAO approve a Special Implementation Project (SIP) for the CAR/SAM Regions in order to take region-wide action for the resolution of the runway maintenance deficiency."

4.1.16 Furthermore, and following an extensive debate, the meeting considered that additional action should be taken when all efforts to eliminate deficiencies prove unsuccessful. Consequently, it adopted the following decision:

DECISION 12/124 LAST RESORT ACTIONS TO RESOLVE DEFICIENCIES

That, when efforts to eliminate deficiencies prove unsuccessful after exhausting all alternatives, GREPECAS adopt the following last resort actions:

a) propose the inclusion of an alternate facility/procedure in the 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 deficiency.

Deficiencies database

4.1.17 The Meeting was informed about the progress made with regard to the SIP for the enhancement of the ICAO CAR/SAM air navigation deficiency database. The SIP, when completed, will facilitate the States, Territories and International Organizations to make and view changes to the aforementioned database more readily, without waiting for the update carried out by GREPECAS and its contributory bodies at their respective meetings, since these occur only once a year, at the least.

4.1.18 The Meeting was advised that the database contained the corresponding security mechanisms for keeping an effective control over updates and preserving its integrity. The meeting was presented with a Project Management format containing the tasks required for the implementation of SIP, as well as a flow chart that clearly explains the process of introducing changes to the database for updating and its dynamic display on the Internet.

4.1.19 The process and infrastructure details of SIP are shown in **Appendices I and J**, respectively to this part of the Report. The estimated duration of the project, including preparatory activities, is 3 months, starting in May 2004, with a foreseen completion in August 2004. The project programme is shown in **Appendix K** to this part of the Report.

4.2 Specific air navigation planning and implementation deficiencies/problems in the CAR/SAM Regions

4.2.1 The Meeting reviewed the status of implementation of "A" deficiencies, which affect air navigation safety, as well as "B" deficiencies, which affect the regularity and efficiency of air navigation, based on information collected by ICAO Regional Offices, and as revised and updated by GREPECAS contributory bodies.

4.2.2 Although the Group took note of the corrective actions adopted by various States of these Regions in keeping with the action plans developed pursuant to GREPECAS Conclusion 11/55, as well as of those deficiencies already corrected or eliminated, it deemed it necessary to urge States to use the format approved in Conclusion 12/129, and to send complete and updated information to the respective ICAO Regional Offices.

4.2.3 The Meeting also agreed that the ICAO Secretariat should present to the AIS/MAP Subgroup the results of the Eleventh Air Navigation Conference with regard to the AIS field. It also deemed it advisable to urge CAR/SAM States to complete the establishment of automated NOTAM data banks.

4.2.4 In order to support AIS with regard to the standards concerning aeronautical data quality requirements and the implementation of AIS/MAP quality management systems, the Meeting formulated the following conclusion:

CONCLUSON 12/125 SEMINAR/WORKSHOP ON AIS/MAP QUALITY MANAGEMENT SYSTEMS

That CAR/SAM States/Territories:

a) assist the ICAO NACC and SAM Offices in the coordination, organization and conduction of seminars/workshops dealing with the interpretation of standards on aeronautical data quality requirements and the implementation of AIS/MAP quality management systems, in support of an effective transition to CNS/ATM systems, and

b) secure the participation of AIS/MAP executive and technical personnel in the aforementioned seminars/workshops, as well as in other required quality management training activities.

4.2.5 The Meeting also took note of the need to develop and implement quality management systems in the AIS services of CAR/SAM States/Territories/International Organizations, in order to resolve the deficiencies existing in this area. This would require the development of technical cooperation projects, a matter to be addressed by the meetings of Civil Aviation Directors that are carried out by ICAO Regional Offices.

4.2.6 The United States presented to the Meeting and Information Paper on Terminal Instrument Procedures Assessment. This paper provided information on the importance of designing and maintaining accurate terminal instrument procedures and highlighted possible deficiencies in the CAR/SAM Regions in that regard.

Agenda Item 5 Management of the GREPECAS Mechanism

5.1 Report of the ACG/3 and ACG/4 Meetings

5.1.1 The Third Meeting of the Administration Coordination Group (ACG/3) was held in Lima, Peru, on 20-21 March 2003, and the Fourth Meeting, in Mexico City, Mexico, on 16-17 February 2004. The Meeting noted that both the ACG/3 and ACG/4 had reviewed the progress made in the work programmes of all of the GREPECAS contributories bodies.

5.1.2 It was noted that, in times of financial constraints within ICAO, which affected the GREPECAS budget, and of enhanced efforts to further increase efficiency and effectiveness, it was appropriate to reduce the number of tasks of the contributory bodies that could be carried out by Regional Offices. In this regard, it was felt that many of the tasks, particularly of the AERMET and AIS/MAP Subgroups, were well advanced and could be finalised by 2005. It would then be feasible for the remaining tasks of these two Subgroups to be addressed at implementation meetings.

5.1.3 The Meeting agreed to the holding of implementation meetings on specific issues affecting a sub-region or group of States, initially in the AIS and MET fields, supplementary to, and not replacing, contributory body meetings, which would continue to be held when so required. The AIS/MAP and AERMET Subgroups would be invited to identify issues that could be addressed in separate implementation meetings under the auspices of the GREPECAS mechanism. It was recalled that a decision to implement the proposal on a trial basis had been previously approved through the ACG fast track method:

DECISION 12/126[1] CONTRIBUTORY BODY IMPLEMENTATION MEETINGS

That:

a) GREPECAS hold contributory body implementation meetings to deal with specific implementation issues affecting a sub-region or group of States; and

b) the AERMET/SG and AIS/MAP/SG identify specific implementation issues so that by the ACG may consider possible implementation meetings, and submit these proposals to the ACG by **30 September 2003**.

5.1.4 The Meeting also recognised that all GREPECAS contributory bodies should adjust task priorities at the next review of their respective work programmes, favouring implementation over planning, as appropriate. The GREPECAS mechanism should identify also possible new and alternate measures to ensure that more emphasis is placed on facilitating implementation activities, recognising that, in many instances, lack of implementation obeys to a lack of financial resources in the States.

[1] *ACG/3 Conclusion 3/02 . Pre-approved by the ACG fast track on 16 June 2003*

5.1.5 Upon reviewing the work programmes, it was noted also that ICAO Headquarters, the Air Navigation Commission and the Council required periodical information on action taken to reduce air navigation deficiencies in the CAR/SAM Regions and that information provided in the GREPECAS reports was not adequate. Consequently, the following conclusion was adopted:

CONCLUSION 12/127[2] AIR NAVIGATION DEFICIENCIES ACTIVITY REPORT

That the Lima and Mexico Regional Offices update the Aviation Safety Board Air Navigation Deficiencies Database as often as necessary and provide a bi-annual report to ICAO Headquarters, for transmission to the Air Navigation Commission and Council, on outstanding and corrected deficiencies, highlighting those resolved during the last reporting period**.**

5.1.6 The Meeting noted that the ACG had decided that the GREPECAS Secretariat would periodical report to the Executive Committee meetings and the LACAC Assembly on the activities of the AVSEC Committee.

5.1.7 The Meeting noted that the decision concerning the implementation if RVSM on the established date of 20 January 2005 would be made by the RVSM Task Force of the ATM Committee in November 2004, that is, only two months prior to the implementation date. Therefore, the Meeting felt that all of the States/Territories/International Organizations involved had to express their conformity with the decision of the RVSM Task Force. To that end, the Meeting agreed unanimously to use the ACG fast-track method, and adopted a conclusion in this regard, which was transferred to the section of this report corresponding to the ATM Committee.

5.1.8 In response to the concerns expressed by one Member of GREPECAS as to the need to establish operational agreements between adjacent FIRs duly in advance, the Meeting agreed that the Regional Offices should invite the States to enter into such agreements at the next meeting of ATM Authorities and Planners to be held in Lima, Peru, next July. In this regard, it was requested that the note to be sent to States include a model of the aforementioned letter of operational agreement.

5.1.9 GREPECAS noted that contributory body meetings following GREPECAS/12 had been rescheduled for 2005, except for that of the AGA/AOP Subgroup, which was to be held next November in Mexico. GREPECAS/13 would take place in 2006. It was stated that the budget for GREPECAS meetings was known only at the beginning of each year and amendments would be made as required. The proposed programme is presented in **Appendix A**.

5.1.10 Upon analysing the causes that were precluding a more expeditious compliance with work programmes, it was apparent that the members of the contributory bodies required more support from their authorities in order to properly carry out their tasks. In this regard, it was deemed advisable to inform authorities of the responsibilities taken on by their personnel and request greater support from their part. Consequently, the Meeting adopted the following conclusion:

[2] *ACG/4 Conclusion 4/03 – Pre-approved by GREPECAS Members on 19 April 2004*

DECISION 12/128[3] SUPPORT FROM STATES/TERRITORIES/INTERNATIONAL ORGANIZATIONS FOR THE FULFILLMENT OF RESPONSIBILITIES ASSIGNED TO MEMBERS OF GREPECAS CONTRIBUTORY BODIES

That, in an effort to obtain additional support, in terms of funding and other resources, from States/Territories/International Organizations for the tasks assigned to their personnel within GREPECAS contributory bodies, the Secretariat:

a) prepare a list of tasks assigned by all contributory bodies and of the individual(s) responsible for completing these tasks; and

b) send this information to the appropriate authorities prior to **30 September 2004**, and periodically thereafter.

5.1.11 The Meeting took note that the actions taken by the AERMET and AGA/AOP Subgroups and the AVSEC Committee had been approved through the ACG fast-track method. These actions are included in the part of the report corresponding to each of the aforementioned Subgroups.

5.1.12 Finally, the Meeting felted appropriate for the ACG to look into the matter of obtaining from outside sources funds for GREPECAS activities.

5.2 Review of GREPECAS and its Contributory Bodies Terms of Reference and Work Programmes

Human Resources and Training Subgroup (HRT/SG)

5.2.1 The Meeting noted the concern expressed by some States regarding the fact that the Human Resources and Training Subgroup had not been activated, giving rise to a debate on the resources available for its operation. The Meeting considered that it was important to continue assigning high priority to the regional planning and development of human resources and training, and to raise funds to support the management and operation of the Subgroup. In view of the above, the following conclusion was developed:

CONCLUSION 12/129 MANAGEMENT AND OPERATION OF THE HUMAN RESOURCES AND TRAINING SUBGROUP

That:

a) a task force composed by Brazil, Colombia, Cuba, Jamaica, Venezuela, COCESNA and IFATCA, be created to determine the appropriateness of a human resources and training subgroup and support fund-raising efforts including a possible Regional Technical Co-operation Project aimed at the operation of the HRT/SG Subgroup, and that it submit its findings to the fifth meeting of the Administration Coordination Group (ACG/5), to be held in March 2005; and

b) GREPECAS Contributory Bodies place particular attention to Human Resources and Training issues.

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[3] *ACG/4 Conclusion 4/08 – Pre-approved by GREPECAS Members on 19 April 2004*

Work Programme and Terms of Reference of GREPECAS and its contributory bodies

5.2.2 After reviewing the work carried out by GREPECAS and its contributory bodies, as presented under Agenda Items 3, 4 and 5, the Meeting proceeded to examine their respective terms of reference and work programmes. As a result, the Meeting formulated the following decision:

DECISION 12/130 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.

Agenda Item 6 Review 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/11, the following conclusions had been completed or superseded:

Conclusions: 7/18, 8/5, 8/7, 8/8, 8/15, 8/32, 8/34, 8/35, 9/10, 9/15, 9/21, 10/7, 10/10, 10/11, 10/12, 10/13, 10/14, 10/19, 10/26, 10/27, 10/30, 10/31, 10/35, 10/39, 10/57, 11/1, 11/2, 11/3, 11/4, 11/5, 11/6, 11/7, 11/9, 11/11, 11/13, 11/14, 11/17, 11/19, 11/21, 11/26, 11/27, 11/29, 11/30, 11/31, 11/32, 11/33, 11/34, 11/36, 11/37, 11/39, 11/40, 11/53, 11/54, 11/55, 11/57, 11/59, 11/61, 11/64, 11/66, 11/67, 11/68, 11/69, 11/70, 11/73 and 11/75.

6.2 The Meeting agreed also that the following conclusions remain valid:

Conclusions: 6/45, 8/20, 9/1, 9/5, 9/11, 10/8, 10/20, 10/21, 10/22, 10/23, 10/24, 10/25, 10/29, 10/32, 10/49, 10/50, 10/51, 10/53, 10/54, 10/55, 11/8, 11/10, 11/12, 11/22, 11/23, 11/25, 11/28, 11/35, 11/38, 11/41, 11/42, 11/43, 11/44, 11/45, 11/46, 11/47, 11/48, 11/49, 11/50, 11/60, 11/63, 11/71, and 11/72.

Agenda Item 7 Other Business

The word "security" in the Spanish language

7.1 The Meeting discussed a proposal to adopt the terms "security" and "safety" for inclusion in the Spanish aeronautical lexicon. The proposal was as a result of the problems and difficulties faced by the aeronautical departments of Spanish-speaking States to determine the meaning of words dealing with "security" and "safety", while they were well defined in English. In this regard, the Meeting was advised that the ICAO Language Section at Headquarters had no difficulty since ICAO had decided to differentiate them in Spanish by using the terms "*seguridad operacional*" when referring to "safety" and "*seguridad de la aviación*".

7.2 Nevertheless, the Meeting did not consider satisfactory the response given by ICAO in the **Appendix** to this part of the Report**.**, since it did not solve the problem faced on a daily basis, and it considered that other solutions should be discussed as well.

7.3 On this subject, the Meeting also agreed with the concern expressed on the use of the word "seamless" which also presents difficulties when translated into Spanish.

Expansion and continuation of the ICAO Universal Safety Oversight Audit Programme

7.4 The meeting was provided with a report on continuation and expansion of the ICAO Universal Safety Oversight Audit Programme (USOAP) for 2004 and beyond through the concept of a comprehensive systems approach. The meeting was reminded that ICAO Universal Safety Oversight Audit Programme (USOAP) was established in 1999, with the objective of promoting global aviation safety through the conduct of regular and mandatory safety oversight audits of all Contracting States.

7.5 Safety oversight audits performed thus far have been planned and conducted on an Annex by Annex basis, starting with Annex 1 — Personnel licensing, Annex 6 — Operation of aircraft and Annex 8 —Airworthiness and with a view to progressively introducing other Annexes. While this approach served its purpose and proved effective for the establishment of the Programme and the initial audits, it has become clear that continuing along the same line to assess the capabilities of Contracting States for safety oversight and the implementation of safety-related provisions would be both lengthy and expensive. On the basis of the experience gained so far, it is time for USOAP to evolve from an Annex-by-Annex to a comprehensive systems approach, which would focus on the States' overall safety oversight capabilities. The comprehensive systems approach would cover all safety-related Annexes and would provide an improved and cost-effective approach to auditing. This proposal for further expansion of USOAP to include safety-related provisions in all safety-related Annexes effective 2005 would be presented to the 35th Session of the Assembly (Montreal, 28 September – 8 October 2004). With the foreseen expansion of USOAP to cover sixteen of the eighteen Annexes to the Convention on International Civil Aviation (Doc 7300), it is inevitable that the workload placed on ICAO and on States will increase significantly.

7.6 Under the comprehensive systems approach, and given the wide range of subjects to be covered in every audit, it is envisaged that, in many States, ICAO will have to deal with several entities responsible for safety oversight tasks, in addition to the Civil Aviation Authority. To facilitate the task, the States have been requested through the SAAQ, to appoint a National Safety Oversight Coordinator, whose responsibility will be to coordinate among the various authorities or departments responsible for safety oversight within the State.

7.7 Because of the invaluable support that an appropriately informed National Safety Oversight Coordinator would be to the management of an effective State's safety oversight system, ICAO intends to conduct a one-and-a half-day seminar/workshop for national safety oversight coordinators on 26 and 27 September 2004, prior to the opening of the 35th Session of the Assembly.

7.8 Noting the above, the meeting agreed that States should include the National Safety Oversight Coordinator in their respective delegation to the 35th Assembly. However, as all States may not find it economically feasible to send their National Safety Oversight Coordinator to Montreal, the meeting called upon ICAO, in addition, to conduct such seminars in the regions.

Training Activities

7.9 The Meeting was informed by the Delegation of Spain of two important ICAO-AENA training workshops on Aerodromes and AIS, planned to be held during the second half of 2004.

Information on Venezuela's air navigation developments

7.10 Venezuela informed the Meeting on the strategies for a master plan for developing Venezuelan civil aviation, which includes a project for the modernization of the infrastructure of equipments and systems supporting air navigation.

"*Segunda Feria Aeronáutica Internacional*" (FARNG)

7.11 The Meeting was informed and invited by the delegate of Colombia to participate at the "*Segunda Feria Aeronáutica Internacional de Río Negro*"(FARNG) to be held in Rio Negro, Antioquia on 24-27 June 2004. The aeronautical industry will participate at this fair, with demonstrations of aircraft and ATS systems.

Seventh Meeting of Directors of CIAC's

7.12 An Information Paper from Cuba was presented to the Meeting with a summary of how Cuba has been fulfilling the Conclusions adopted by the Seventh Meeting of Directors of CIAC's held in Lima, Peru from 20 to 24 October 2003.

Venue for GREPECAS/13

7.13 The Meeting welcomed and acknowledged the offer made by the delegation of Chile to host GREPECAS/13 in late 2005 or early 2006.

Election of the Chairperson and Vice Chairperson of GREPECAS

7.14 Under this item, the Chairperson and Vice Chairperson of the Group were elected. As to the Chair, Argentina, seconded by several delegates, proposed the name of Normando Araujo de Medeiros, of Brazil, who was unanimously elected as Chairperson. Likewise, Raúl Madrigal Muñoz, of Cuba, was elected as Vice Chairperson, as proposed by United States and unanimously seconded by the Meeting.

7.15 The Meeting also expressed its deep recognition to the excellent work carried out by Pedro Sánchez Dañino, Mexico, who was Chairman of the Group for several years.