FINAL VERSION
NACC/DCA/2 REPORT

INTERNATIONAL CIVIL AVIATION ORGANIZATION

REPORT OF THE

SECOND MEETING OF NORTH AMERICAN, CENTRAL AMERICAN AND CARIBBEAN DIRECTORS OF CIVIL AVIATION

(NACC/DCA/2)

Tegucigalpa, Honduras

11-14 October 2005

INTERNATIONAL CIVIL AVIATION ORGANIZATION
NORTH AMERICAN, CENTRAL AMERICAN AND CARIBBEAN OFFICE

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The designations employed and the presentation of material in this publication do not imply the expression of any opinion whatsoever on the part of ICAO concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries.

Prepared by the Secretariat October 2005

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History of the Meeting

ii.1 Place and Duration of the Meeting

The Second Meeting of North American, Central American and Caribbean Directors of Civil Aviation (NACC/DCA/2) was held at the Clarion Hotel, Tegucigalpa, Honduras, under the auspices of Corporación Centroamericana de Servicios de Navegación Aérea - COCESNA. The Meeting commenced on 11 October and ended on 14 October 2005.

ii.2 Opening Ceremony and other matters

Dr. Assad Kotaite, President of the Council of ICAO greeted the participants to this historic meeting and highlighted the most important tasks to be performed as they related to the NAM/CAR Regions. His speech is included in this part of the report. Thence, Eng. Jorge Carranza, Minister for Public Works, Transportation and Housing, SOPTRAVI, of Honduras, welcomed the Meeting to Honduras and officially inaugurated the Meeting. His speech is also included in this part of the report.

COCESNA and its Member States, Belize, Costa Rica, El Salvador, Guatemala, Honduras and Nicaragua: presented Dr. Assad Kotaite, President of ICAO Council with a Recognition in appreciation of his dedication and extraordinary contribution to international civil aviation throughout his career, especially as President of the Council of ICAO. The ceremony was carried out in the presence of.

Belize
Hon. Jose Coye, Minister for Works, Transport and, Communications
Ms. Margaret Ventura, Chief Executive Officer, Ministry of Works, Transportation and Communications
Mr. José A. Contreras, Director of Civil Aviation

Costa Rica
Mr. Eduardo Montero, Viceminister of Transportation
Capt. Rodolfo Cruz, Director General of Civil Aviation

El Salvador
Mr. Roberto Hérodier, President of the Executive Council of the Civil Aviation Authority
Eng. Renzo Zaghini, Executive Director of the Civil Aviation Authority

Honduras
Eng. Jorge Carranza, Minister for Public Works, Transportation and Housing
Eng. Eduardo Pavón Cámbar, Viceminister of Transportation
Mr. Wilfredo Lobo, Director General of Civil Aviation

Nicaragua
Capt. Orrín Watson, Director General of Civil Aviation
Mr. Eduardo Marín, Executive President

COCESNA
Lic. Eduardo Marín, Presidente Ejecutivo
Eng. José Ramón Oyuela, Director of ACNA
Mr. Jorge Vargas, Director of ACSA
Mr. Mario Martínez, Director of ICCAE

ii.3 Organization, Officers and Secretariat

Dr. Assad Kotaite, President of the Council of ICAO chaired the first session of the Meeting during the approval of the agenda and work programme, as well as during the election of the Chairperson. The Meeting unanimously elected Mr. Wilfredo Lobo, Director General of Civil Aviation of Honduras, as Chairman and Mr. Anthony Archer of Barbados, as Vice-Chairman. Mr. Raymond Ybarra, Regional Director of the ICAO NACC Office and Secretary of the Meeting, informed on the history leading to this Meeting and its scope and focus emphasizing regional co-operation. He was assisted, as Secretary of the Meeting, by Messrs. Aldo Martínez, Regional Officer Communications, Navigation and Surveillance, David Flores, Regional Officer, Aviation Security, and Víctor Hernández, Regional Officer Air Traffic Management /Search and Rescue, all from the ICAO NACC Office.

ii.4 Working Languages

The working languages of the Meeting were English and Spanish. The documentation and the Report of the Meeting were issued in both languages.

ii.5 **Agenda**

The following agenda was adopted:

Agenda Item 1: Review of NACC/DCA/1, GREPECAS, CA/DCA, E/CAR/DCA, C/CAR/DCA and Working Group Meetings

Agenda Item 2: Safety Oversight

2.1 USOAP
2.2 Regional Safety Oversight Developments
2.3 Unified Strategy to resolve Safety related Deficiencies
2.4 Safety Data Exchange
2.5 Safety – related topics

Agenda Item 3: **Air Navigation Services**

3.1 CNS/ATM
3.2 Air Navigation Deficiencies

Agenda Item 4: **AVSEC**

4.1 ICAO Universal Security Audit Programme
4.2 Regional AVSEC Activities

Agenda Item 5: Other Business

ii.6 **Schedule and Working Methods**

The Meeting held its sessions as a Whole from 0900 to 1600 hours, with two breaks.

ii.7 **Attendance**

The Meeting was attended by 90 delegates from 18 States/Territories of North America, Central America and the Caribbean, and 8 International Organizations. The Meeting regretted the absence of Bahamas, Guatemala, Netherlands Antilles, Trinidad and Tobago, Turks and Caicos Islands, CARICOM, IFATCA and PAHO.

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Address by the President of the Council of the International Civil Aviation Organization (ICAO), Dr. Assad Kotaite, to the Second Meeting of the Directors of Civil Aviation of North America, Central America and the Caribbean

(Tegucigalpa, Honduras – 11 October 2005)

It is an honour for me to address the opening of this Second Meeting of the Directors of Civil Aviation of North America, Central America and the Caribbean. On behalf of the Council and the Secretary General of the International Civil Aviation Organization (ICAO), I would like to thank the Government of Honduras and the Central American Corporation for Air Navigation Services (COCESNA) for hosting this meeting.

Among the issues that must be high on our list of priorities is certainly aviation safety. Although the years 2003 and 2004 were the safest since 1945, the unusually high number of fatal accidents we experienced this summer have again focused public attention on the safety of air transport. The reality is also that more lives were lost in those recent accidents than in all of 2004.

I hasten to emphasize that the global aviation system remains fundamentally safe. The latest series of accidents, however, have placed added pressure on regulators and the industry to act quickly and decisively in preventing accidents.

We all know that standards and procedures alone will not prevent accidents. They must be implemented and they must be enforced, systematically, consistently and continually. Since 1999, the ICAO Universal Safety Oversight Audit Programme (USOAP) has been quite effective in assessing the level of implementation of safety-related Standards and Recommend Practices (SARPs) by Contracting States. It has also revealed serious safety oversight weaknesses in some States. The expansion of USOAP under a comprehensive systems approach earlier this year will undoubtedly increase awareness of the areas of concern that must be dealt with on a priority basis.

And yet, for all the knowledge that we have acquired, correcting deficiencies remains a serious challenge for many States. The 35th Session of the ICAO Assembly underscored the pressing need for the Organization to provide ways and means of helping States find appropriate solutions. Specifically, Resolution A35-7 concerning a *Unified Strategy to resolve safety-related deficiencies* stresses the concept of regional strategies to resolve difficulties encountered by States.

The Unified Strategy actually represents a significant shift in focus towards the implementation of SARPs, rather than the development of new ones. It creates a mechanism to integrate efforts in the analysis of safety-related data and to establish partnerships so as to resolve deficiencies and increase transparency and disclosure of safety-related information. It also strongly promotes the establishment of regional or sub-regional safety oversight organizations. Such regional safety oversight organizations can provide an excellent framework to optimize resources and to recruit, train and retain qualified personnel.

I take this opportunity to salute this kind of cooperative initiative in your Region. One is the establishment of the COCESNA/Central American Agency for Aviation Safety (ACSA) designed to help States comply with SARPs. Another is the Regional Aviation Safety Oversight System (RASOS) set up in the Caribbean for the same purpose. In the case of ACSA, all Central American States are pooling resources and achieving significant improvements in meeting their safety oversight obligations, as indicated by the results of the follow up missions of USOAP. By your actions, you have inspired others in the implementation of Resolution A-35-7 on the Unified Strategy when it encourages States to foster the creation of regional or sub-regional partnerships. You have thereby demonstrated how the right combination of technical knowledge and political support can bring about remarkable results.

Cooperation with the industry is also promising, with projects like the Pan American Aviation Safety Team (PAAST), a cooperative effort of most of the international organizations involved with aviation safety, including ICAO, as well as the three major manufacturers – Airbus, Boeing and Embraer. Finally, I commend the cooperative efforts of the North American, Central American and Caribbean Region, under the auspices of GREPECAS, on the implementation on 20 January 2005 of the Reduced Vertical Separation Minimum (RVSM).

The evolving commercial and operating environment around the world makes this collaborative effort more pressing than ever, as confirmed by a comprehensive study prepared by ICAO following the 2003 Worldwide Air Transport Conference. The objective was to establish which parties were responsible for safety and security oversight under a regime of increasing liberalization. The findings were sent to States this past August and, not surprisingly, they stress the need for all parties — governments, service providers and airlines alike — to fully understand and fulfill their respective obligations for safety and security compliance and oversight. The study reaffirmed that the ultimate responsibility for safety and security remains with States, irrespective of changes in economic regulatory arrangements.

The message is clear. It is essential that ICAO, national civil aviation authorities, industry and funding institutions cooperate in the provision of aviation technical assistance and guidance around the world. I encourage all stakeholders to forge stronger relationships with their counterparts and thereby better support countries in complying with international standards.

Optimum cooperation also suggests that the idea of unobstructed flow of safety-related information be embraced by everyone involved in air transport, at every level and across every safety discipline. In real terms, this means that all components of the industry and regulators must put in place safety management systems that can make use of this information in order to take the prevention action to avoid an accident. Safety management systems are also the most effective way of responding to the increasing need for supervision with a relatively small workforce. In the Fall of 2005, ICAO will consider standards for establishing safety management systems and the preparation of guidance material for States on the subject is well under way.

I believe that the expanded USOAP, the Unified Strategy and safety management systems will have a considerable impact on aviation safety around the world. Nevertheless, some States may still have serious shortcomings with respect to ICAO safety-related standards. Last August, ICAO issued a State letter outlining a procedure under Article 54 j) of the Chicago Convention by which the Council can deal with such situations. For example, if the Council recommends that a State take action to correct safety oversight problems, and that State fails to carry out the recommendation, then the Council would be in a position to communicate the shortcoming to all other Contracting States. This level of transparency can prove to be an effective incentive for States to act on safety oversight shortfalls and take corrective action.

On 3 October, the Council decided that a two-day Conference of Directors General of Civil Aviation on a Global Strategy for Aviation Safety should be convened in Montreal in early 2006. This conference is a follow up to the one held in 1997 which established the actual USOAP. The Conference will review the status of aviation safety today, identify ways to further improve safety, and it will serve to consider enhancement of the safety framework to meet the evolving needs of international civil aviation. I strongly encourage you to participate actively in this Conference.

Dealing with aviation security is another tall challenge. While there have been very few hijackings since the events of 11 September 2001, it is because the focus seems to have shifted to other elements of the air transport system. For sure, the threat certainly has not subsided. The bombings of the Madrid and London transport systems were a deadly reminder that transportation, whether air, land or sea, is still a preferred target of terrorists. Together, we must be resolute in our determination to ensure total security in air transport. Our security audit programme is progressing very well. As of today, ICAO has audited a total of 97 States, which includes 11 States from this Region.

Our main focus now, in addition to the Universal Security Audit Programme (USAP), is strengthening the ICAO Aviation Security (AVSEC) Mechanism and addressing new and emerging threats to aviation security. One I have often expressed concerns about is the potential use of man-portable air defense systems - MANPADS. Dealing effectively with this issue will require international coordination at all levels and the application of international agreements.

In this Region, there have been sustained efforts by the ICAO Regional Office to assist States, territories and international organizations in obtaining the needed AVSEC training. I particularly wish to recognize and thank the Government of Canada for funding the ICAO/Transport Canada AVSEC Awareness Training Programme which trained 401 CAR/SAM participants. I am delighted to hear that the programme may be extended, possibly by this meeting.

In security as well, information is the basis of progress. A Memorandum of Understanding between ICAO and the Organization of American States (OAS) will provide fellowship funding for participants from Member States to attend ICAO AVSEC events. One important event is the Hold Baggage Screening Seminar to be held from 28 November to 2 December 2005 in Monterrey, Mexico. One last initiative I would like to highlight is the establishment, by COCESNA/ACSA, of a group of AVSEC experts to address security issues in Central America.

A great effort has been made in this Region with the collective cooperation of States, the ICAO Regional Office in Mexico, and the ICAO Technical Co-operation Programme to further enhance safety and security. You have an ambitious agenda ahead of you within a very short time frame. I am confident that the outcome of this Second Meeting of Directors of Civil Aviation will be a landmark in making air transport safer.

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Opening Speech by Eng. Jorge Carranza, Minister for Public Works, Transportation and Housing, SOPTRAVI, of Honduras

(Available in Spanish only)

10 de octubre de 2005

EXCELENTÍSIMO DOCTOR ASSAD KOTAITE, PRESIDENTE DEL CONSEJO DE LA ORGANIZACIÓN DE AVIACIÓN CIVIL INTERNACIONAL
HONORABLES MIEMBROS DEL CONSEJO DIRECTIVO DE COCESNA
DISTINGUIDO LIC. EDUARDO MARÍN, PRESIDENTE EJECUTIVO DE COCESNA
DISTINGUIDO LIC. WILFREDO LOBO, DIRECTOR GENERAL DE AERONÁUTICA CIVIL DE HONDURAS
DISTINGUIDOS SEÑORES MINISTROS Y DIRECTORES GENERALES
SEÑORES REPRESENTANTES DE ORGANISMOS INTERNACIONALES
INVITADOS ESPECIALES
DAMAS Y CABALLEROS:

EN NOMBRE DEL GOBIERNO DE LA REPÚBLICA DE HONDURAS ME HONRO EN DARLES LA MAS CORDIAL BIENVENIDA A LA SEGUNDA REUNIÓN DE DIRECTORES DE AVIACIÓN CIVIL DE NORTEAMÉRICA, CENTROAMÉRICA Y EL CARIBE NACC/DCA/2.

NUESTRO PAÍS SE SIENTE PRIVILEGIADO AL HABER SIDO SELECCIONADO COMO ESCENARIO PARA ESTA ACTIVIDAD Y ESPERAMOS QUE ESTA EXPERIENCIA SEA COADYUVANTE AL CUMPLIMIENTO DE LOS OBJETIVOS DE SEGURIDAD EN EL MARCO DE LOS COMPROMISOS INTERNACIONALES.

PARA EL GOBIERNO DE LA REPÚBLICA LA ACTIVIDAD AERONÁUTICA HA SIDO TRATADA HISTÓRICAMENTE CON ESPECIAL IMPORTANCIA POR EL POTENCIAL ECONÓMICO QUE REPRESENTA.

DESDE EL 1 DE MAYO DE 1953 HONDURAS RATIFICÓ SU ADHESIÓN AL CONVENIO DE CHICAGO SOBRE AVIACIÓN CIVIL INTERNACIONAL. DESDE ESE MOMENTO HA ESTADO COMPROMETIDA CON EL DESARROLLO DE LA AVIACIÓN CIVIL INTERNACIONAL Y DEL PAPEL QUE LA OACI DESEMPEÑA EN LA HARMONIZACIÓN DE LA VOLUNTAD POLÍTICA DE LOS ESTADOS PARA QUE PREVALEZCA EL INTERÉS INTERNACIONAL SOBRE EL PARTICULAR.

El TRANSPORTE AÉREO REPRESENTA UNA FUERZA DINÁMICA PARA El DESARROLLO ECONÓMICO Y PRODUCE UN EFECTO MULTIPLICADOR SOBRE LOS NEGOCIOS, COMERCIO Y, PARTICULARMENTE El TURISMO. ASIMISMO TIENE UN IMPACTO POSITIVO EN EL CONSUMO.

ALGUNOS DATOS ESTADÍSTICOS INTERNACIONALES SOBRE EL APORTE DE LA ACTIVIDAD AERONÁUTICA EN LA ECONOMÍA MUNDIAL PERMITEN ADVERTIR QUE, CADA 100 DÓLARES DE PRODUCCIÓN FINANCIERA ATRIBUIDOS AL TRANSPORTE AÉREO, PRODUCEN UNA DEMANDA ADICIONAL DE CERCA DE 325 DÓLARES, Y POR CADA 100 EMPLEOS GENERADOS POR EL TRANSPORTE AÉREO, CERCA DE 610 EMPLEOS SON ESTIMULADOS EN OTRAS INDUSTRIAS.

POR ELLO ES IMPORTANTE QUE EN ESTAS REUNIONES SE ANALICE ENTRE OTRAS COSAS, EL CUMPLIMIENTO EN MATERIA DE SEGURIDAD OPERACIONAL DE CONFORMIDAD CON LOS NIVELES RECOMENDADOS, PARA QUE ELLO SE TRADUZCA EN DISMINUCIONES EN EL RIESGO TOTAL PARA LOS USUARIOS DEL TRANSPORTE AÉREO, LAS MERCADERÍAS Y LA INDUSTRIA EN GENERAL Y A SU VEZ SE PROPICIE EL CONTINUO CRECIMIENTO DE ESTA ACTIVIDAD.

LA ULTIMA ASAMBLEA DE LA OACI BRINDO UNA RELEVANTE IMPORTANCIA A LA EXPANSIÓN DEL PROGRAMA USOAP YA QUE LA SEGURIDAD OPERACIONAL DE LOS VUELOS INTERNACIONALES DEPENDE DE TODOS LOS FACTORES INVOLUCRADOS EN LA MISMA.

ES INNEGABLE PUES QUE CADA DÍA LA COMUNIDAD INTERNACIONAL VIGILA MÁS DE CERCA LOS ESTADOS EN EL CUMPLIMIENTO DE SUS OBLIGACIONES Y ES POR ELLO QUE HONDURAS RATIFICA SU COMPROMISO EN EL CUMPLIMIENTO A CABALIDAD CON TODOS LOS REQUERIMIENTOS ESTABLECIDOS POR LAS LEYES Y REGLAMENTOS NACIONALES E INTERNACIONALES.

NUESTRO PAÍS SE PREPARA CON LA ASISTENCIA DE LA AGENCIA CENTROAMERICANA PARA LA SEGURIDAD AERONÁUTICA ACSA, A ENCARAR ESTE NUEVO ENFOQUE SISTÉMICO DEL PROGRAMA UNIVERSAL DE AUDITORIA DE LA VIGILANCIA DE LA SEGURIDAD OPERACIONAL DE LA OACI. EN EFECTO, HEMOS DADO PASOS FIRMES HACIA EL DESARROLLO E IMPLANTACIÓN DE NORMAS Y PROCEDIMIENTOS, REGLAMENTACIONES, SEGURIDAD E INSPECCIÓN DE LAS OPERACIONES DE VUELO, REGISTRO DE AERONAVES Y NORMAS DE AERONAVEGABILIDAD, MAS RECIENTEMENTE LA PROMULGACIÓN DE UNA NUEVA LEY PRIMARIA DE AVIACIÓN CIVIL

ASÍ MISMO SE ESTÁN REALIZANDO LAS INVERSIONES PARA REFORZAR EL MEJORAMIENTO DE LA SEGURIDAD Y PROTECCIÓN DE LA AVIACIÓN Y BUSCAR SOLUCIONES RELATIVAS AL MEJORAMIENTO DE LA PROTECCIÓN DEL MEDIO AMBIENTE EN ESTE SECTOR, TOMANDO EN CUENTA LAS DISTINTAS NECESIDADES Y REALIDADES EN LA APLICACIÓN DE LAS MISMAS.

PARA FINALIZAR DESEO REAFIRMAR EL PLACER DE TENERLOS EN NUESTRO PAÍS, ESPERANDO QUE ESTE EVENTO NOS HA DE PERMITIR A LOS RESPONSABLES DE LA ACTIVIDAD AERONÁUTICA EN LAS TRES REGIONES, CREAR LA PLATAFORMA NECESARIA PARA ANALIZAR Y REPLANTEAR NUESTROS OBJETIVOS EN MATERIA DE SEGURIDAD OPERACIONAL Y DE LA PROTECCIÓN EN LA AVIACIÓN.

A ESTOS INMENSOS DESAFÍOS SE LES UNE EL IMPERATIVO DE IMPULSAR LA UNIFICACIÓN DE ESFUERZOS Y PROPÓSITOS QUE PERMITAN CONTINUAR FORJANDO IMPORTANTES OBJETIVOS DE SEGURIDAD AÉREA PARA QUE SE LOGREN NIVELES ESENCIALES EN PRO DEL BIENESTAR DE LAS PERSONAS Y LA INDUSTRIA.

MUCHAS GRACIAS Y FELIZ ESTADÍA EN TEGUCIGALPA.

- - - - - - - - -

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List of Documentation

LIST OF WORKING PAPERS

Number	Agenda Item	Title	Date	Prepared and Presented by
WP/01	--	Draft Agenda and Explanatory Notes	08/08/05	Secretariat
WP/02	--	Proposed Work Schedule	06/09/05	Secretariat
WP/03	1	Review of NACC/DCA/1 Conclusions	06/09/05	Secretariat
WP/04	2.1	Progress report on the Implementation of the ICAO Universal Safety Oversight Audit Programme (USOAP)	31/08/05	Secretariat
WP/05	2.2	Pan American Aviation Safety Team (PAAST)	31/08/05	PAAST Team Member
WP/06	2.3	Progress Report on the Unified Strategy Implementation Plan	27/06/05	Secretariat
WP/07	2.4	International Aviation Safety Data Exchange (IASDEX) Programme	18/08/05	United States of America
WP/08	2.5	ICAO Language Proficiency	06/09/05	Secretariat
WP/09	3.1	Planning and Implementation of the CNS/ATM Systems in the NAM/CAR Regions	05/09/05	Secretariat
WP/10	3.1	ATM Performance	20/09/05	Secretariat
WP/11	3.1	Safety Management Systems	14/09/05	Secretariat
WP/12	3.1	ATM Developments	12/09/05	Secretariat
WP/13	3.1	ATM Automation and ADS/ADS-B Implementation	19/09/05	Secretariat
WP/14	3.1	Enhanced cooperation for the provision of Aeronautical Meteorological Service to International Air Navigation	02/08/05	Secretariat
WP/15	2.2	The WHTI/GEASA Initiative	14/09/05	Secretariat
WP/16	3.2	GREPECAS Air Navigation Deficiencies Database	05/08/05	Secretariat
WP/17	3.2	Specific Air Navigation Planning and Implementation Deficiencies in North America, Central America and Caribbean	20/09/05	Secretariat
WP/18	4.1	Universal Security Audit Programme	08/09/05 ***Restricted***	Secretariat
WP/19	4.2	ICAO Aviation Security Developments	08/09/05 ***Restricted***	Secretariat

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WP/20	5	Evaluation of the Economic Contribution of Civil Aviation	05/09/05	Secretariat
WP/21	3.1	Overview of the Federal Aviation Administration's international activities to further Awareness and Implementation of Performance-Based Navigation	25/08/05	United States of America
WP/22	3.1	Future spectrum needs and proposed WRC-2007 actions	15/08/05	United States of America
WP/23	2.5	Oversight of foreign air operators: the U.S. System	18/08/05	United States of America
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WP/26	3.1	Human Resources and Training Planning	23/09/05	Secretariat
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WP/28	3.1	Support of ICAO'S Position for WRC-07 for the protection of Radio-frequency spectrum for the Aeronautical Systems	07/09/05	Secretariat
WP/29	2.5	Enhancement of the Aviation Safety Culture	20/09/05	Secretariat
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WP/31	3.1	AIS/MAP issues on the 11th Air Navigation Conference	22/09/05	Secretariat
WP/32	3.1	ICAO/PAIGH Regional Cooperation Project for the Production of 1:1000,000 and 1:500,000 VFR aeronautical charts	26/09/05	Secretariat
WP/33	1	Proposition of a Rapporteur for the Human Resources and Training Planning Task Force for the Central Caribbean	22/09/05	Cuba
WP/34	2.3	The Primary of the two main elements for the Unified Strategy Implementation Plan	22/09/05	Cuba
WP/35	3.1	ATIS-DATIS System	13/09/05	COCESNA
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WP/40	3.1	AIS Systems and COCESNA AIS/MET	13/09/05	COCESNA

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WP/42	2.5	ATS Personnel English Language Proficiency	30/09/05	COCESNA
WP/43	3.1	ATM Contingency Plans	30/09/05	COCESNA
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IP/06	3.1	Status of the global positioning system (GPS) and its wide and local area augmentation systems for civil aviation	22/09/05	United States
IP/07	4.2	Meeting the 100 percent Hold Baggage Screening Requirement in January 2006	22/09/05	United States
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IP/16	2.1	The Universal Safety Oversight Audit Program (USOAP): Lessons learned	23/09/05	United States of America
IP/17	2.5	Research activities for managing wildlife hazards to aircraft	23/09/05	United States of America
IP/18	2.5	Runway safety areas/engineered materials arresting systems	23/09/05	United States of America
NI/19	1	Avances den el Proceso de Certificación de Aeródromos en la República de Cuba (***Spanish only)***	22/09/05	Cuba
NI/20	3.1	Programas de Gestión de la Calidad ATS y acciones para disminuir los Incidentes ATS (***Spanish only)***	22/09/05	Cuba
NI/21	3.1	Planes de Contingencia ATM (***Spanish only)***	22/09/05	Cuba
NI/22	3.1	Armonización de Coordenadas Limítrofes WGS.84 con las FIRs Adyacentes a la FIR Habana (***Spanish only)***	22/09/05	Cuba
NI/23	3.1	Acciones de Colaboración llevadas a cabo por Cuba para el avance en los Aspectos AIS/MAP a niveles regionales (***Spanish only)***	22/09/05	Cuba
NI/24	2.1	Experiencias de Cuba en su trabajo preparatorio para las Auditorías del Enfoque Ampliado (***Spanish only)***	22/09/05	Cuba
IP/25	3.1	MEVA II Network Update	23/09/05	United States of America
NI/26	1	Estado de cumplimiento por Cuba de las Conclusiones y Decisiones válidas y los Proyectos acordados en la C/CAR/WG/5 (***Spanish only)***	26/09/05	Cuba
NI/27	3.1	Sistema de Gestión de Mantenimiento “SGM” (***Spanish only)***	19/09/05	COCESNA
NI/28	3.1	Sistema Enrutador PREATN (***Spanish only)***	13/09/05	COCESNA
NI/29	3.1	Procesamiento de datos ADS y Comunicaciones CPDLC (***Spanish only)***	13/09/05	COCESNA
NI/30	3.1	Informe de Avance en AIS (***Spanish only)***	26/09/05	COCESNA
NI/31	3.1	Participación y logros de COCESNA en GNSS (***Spanish only)***	13/09/05	COCESNA
NI/32	3.1	Red de comunicaciones aeronáuticas de COCESNA (***Spanish only)***	18/08/05	COCESNA
NI/33	3.1	Implementación del Sistema ETMS en COCESNA (***Spanish only)***	13/09/05	COCESNA
NI/34	5	Plan Maestro Estratégico de COCESNA (PMEC 2005-2009) (***Spanish only)***	13/09/05	COCESNA

Number	Agenda Item	Title	Date	Prepared and Presented by
NI/35	3.1	Implantación de un Sistema Integrado de Gestión de Calidad en COCESNA ***(Spanish only)***	26/09/05	COCESNA
NI/36	3.1	Proyecto Substitución de Radioayudas a Nivel Centroamericano (***Spanish only)***	26/09/05	COCESNA

Agenda Item 1: Review of NACC/DCA/1, GREPECAS, CA/DCA, E/CAR/DCA, C/CAR/DCA and Working Group Meetings

Review of the status of Conclusions of the NACC/DCA/1 Meeting

1.1 The Meeting based on WP/03 reviewed the status of the 29 Conclusions agreed by the First Meeting of the Directors of Civil Aviation of North America, Central America and Caribbean (NACC/1), held in Grand Cayman, Cayman Islands, 8-11 October 2002. As a result of this review, the Meeting agreed that the following Conclusions be considered as **finalized or superseded:** 1/1, 1/2, 1/3, 1/4, 1/5, 1/6, 1/7, 1/9, 1/11, 1/13, 1/14, 1/15, 1/16, 1/17, 1/18, 1/19, 1/23, 1/24, 1/25, 1/26, 1/27 and 1/29.

1.2 Likewise, the Meeting formulated the following comments on some of the conclusions considered as finalized or superseded.

- 1/4: ACSA and RASOS are operational.
- 1/5: United Kingdom has taken action. ASSI is functional.
- 1/6: Conclusion superseded by systemic USOAP.
- 1/7: Saint Lucia represents the Caribbean Islands States on the ICAO Council.
- 1/9: The event held with over 200 participants from the three regions.
- 1/11: RVSM was successfully implemented in the NAM/CAR Regions on 20 January 2005.
- 1/18: The CAR Region COM/MET SIP recommendations are being followed-up by the sub-regional working groups.
- 1/23: Due to the fact that the NACC Officer in charge of this action was transferred, no action is anticipated.
- 1/26: Follow-up action has been taken by the sub-regional working groups. Haiti has presented action plan, and Trinidad and Tobago is taking action on this matter.
- 1/29: With reference to the war risk insurance, ICAO Headquarters provided information on the status of the global aviation war risk insurance scheme developed by ICAO: "Globaltime". A condition for setting up and operation of Globaltime is that Contracting States representing 51% of ICAO contribution rates declare their intention to participate in Globaltime[*]. So far, the 51% threshold of intentions to participate has not been reached. The Council decided on 9 June 2003 on a further condition: that there should be a failure of the commercial insurance market, as determined by the ICAO Council (States letter LE 4/64-03/65 dated 30 June 2003 refers). Upon fulfillment of these two conditions the Insurance Entity would be set up and commence its operations. Meanwhile, therefore, the global scheme is held in contingency mode.

[*] Contracting States of the NAM/CAR regions which replied affirmatively or favourably with conditions are: Canada, Costa Rica, Cuba, El Salvador, France, Guatemala, Jamaica, Mexico, Netherlands, and United Kingdom. Barbados replied negatively and Trinidad and Tobago informed that they would advise later about their position.

1.3 The Meeting also considered that the following conclusions continue **valid**: 1/8, 1/10, 1/12, 1/20, 1/21, 1/22 and 1/28.

Follow-up to the execution of Recommendations/Conclusions of Global, Regional and Sub-regional Meetings

1.4 The Meeting agreed on the need for developing air navigation systems, meeting civil aviation needs with regard to the increase in air traffic, as well as to enhance aeronautical safety, and took note of the need to comply with Recommendations/Conclusions of regional planning and implementation bodies through the attention, coordination and cooperation of States/Territories/International Organizations. Likewise, the Meeting reviewed an executive matrix of the Recommendations/Conclusions of Global and NACC Regional and Sub-regional meetings organized to deal with air navigation areas, AGA, AIS/MAP, ATM, CNS, MET and MCI/SAR, shown in the **Appendix** to this part of the Report. It also agreed that items contained in the abovementioned executive summary constitute main guidelines for the NAM/CAR Region. Additionally, the Meeting also noted that other conclusions/recommendations of the aforementioned bodies that are not referred to in the Appendix also need attention and implementation.

1.5 Based on the above considerations, the following Conclusion was agreed:

CONCLUSION 2/1 SUPPORT FOR THE EXECUTION OF RECOMMENDATIONS / CONCLUSIONS OF GLOBAL, REGIONAL AND SUB-REGIONAL MEETINGS

That NACC States/Territories/International Organizations, with a view to continuing the development of air navigation systems meeting civil aviation needs and increasing the efficiency and safety of air navigation:

a) optimize the support and attention to the implementation of Recommendations/ Conclusions of the Global, Regional and Sub-regional Meetings regarding AGA, AIS/MAP, ATM, CNS, MET and MCI/SAR fields;

b) consider the issues included in the Appendix to this part of the report as the main working guidelines; and

c) establish the appropriate coordination and bilateral or multilateral cooperation agreements for the purposes expressed in the items above.

1.6 Additionally, Dr. Assad Kotaite, President of the ICAO Council, indicated the importance of completely concluding the implementation of WGS-84 in the CAR Region. In this regard, he expressed that the Council could help the completion of this task by seeking a special implementation project (SIP) on WGS-84 for the CAR Region. In this respect, the Meeting agreed on the following conclusion:

CONCLUSION 2/2 PROPOSAL FOR THE EXECUTION OF A WGS-84 SPECIAL IMPLEMENTATION PROJECT (SIP) FOR THE CAR REGION

That the ICAO NACC Office submits to the ICAO Council a proposal for the development of a WGS-84 SIP in the CAR Region.

Follow-up and implementation mechanism of Recommendations / Conclusions of Global, Regional and Sub-regional Meetings

1.7 The Meeting took note that in the NAM/CAR Regions' execution of the established work mechanism continues through sub-regional air navigation system implementation meetings. The mechanism is the following:

a) North America (NAM)

- Canada, Mexico and United States Meetings.
- ATFM/ATM Meetings.

b) Central Caribbean (C/CAR

- Working Group (WG) Meetings;
- Directors of Civil Aviation (DCA)Meetings; and
- MEVA digital network Meetings.

c) Eastern Caribbean (E/CAR)

- Working Group (WG) Meetings; and
- Directors of Civil Aviation Meetings (DCA).

d) Central America and Panama (CAP)

- COCESNA ATS experts Meetings;
- COCESNA AIS/MAP Meetings;
- COCESNA COBUSA Meetings;
- Central American Air Navigation Experts Working Group Meetings (CA/ANE/WG); and
- Directors General of Civil Aviation Meetings (DGAC).

1.8 Moreover, the Meeting recalled that the work of GREPECAS includes the CAR Region; taking this and other aspects into account, the Meeting pointed out that the basis for the guidelines of the abovementioned mechanism's work and for States/Territories/International Organizations of the NACC Regions to develop air navigation systems and services, including the CNS/ATM systems, and improvement of aeronautical safety, must essentially follow: the Air Navigation Plan (ANP) in its two volumes, Vol. I – *Basic Plan* and Volume II – *FASID* (Doc 8933), the Recommendations/Conclusions of the CAR/SAM/3 RAN Meeting, the GREPECAS and the Eleventh Air Navigation Conference (AN-Conf/11), the Air Navigation Global Plan for the CNS/ATM systems, (Doc 9750 – AN/963), ICAO SARPs and PANS, as well as other ICAO guidelines.

1.9 Cuba through NI/26 presented the Meeting with detailed information on its completion of Conclusions of the Directors of Civil Aviation of the Central Caribbean and its Working Groups. Also Cuba informed that it keeps a high commitment with the ICAO NACC Office to fulfill Conclusions of these meetings, as well as to support, within its possibilities, the rest of the States with its experiences.

1.10 Additionally, Cuba in its NI/19 expressed that as follow-up of one of the conclusions regarding aerodrome certification, during the last 5 years the Cuban Civil Aviation has been able to control and arrange standards and practices specified in the Aerodrome National Regulation of the Cuban Civil Aviation Institute (IACC), that is in agreement with the Standards and Recommended Practices of Annex 14, Vol. I of the Chicago Convention, which has gradually allowed the raising of planning budget for equipment of aerodromes, forcing operators to guarantee air operations safety and efficiency in their airport facilities.

EXECUTIVE SUMMARY OF THE RECOMMENDATIONS/CONCLUSIONS OF Global, REGIONAL AND SUBREGIONAL MEETINGS

ITEM	AREA	MATTER/STATUS AND OBJECTIVE	REFERENCE RECOMMENDATIONS/CONCLUSIONS/DECISIONS												
			M	NAM/CAR		CAR/SAM		CAR							
								C/CAR			E/CAR		CA	
			AN-Conf/11	ATFM/1	NACC/2	CAR/SAM/3 RAN	GREPECAS	C/CAR/WG	C/CAR/DCA	MEVA	E/CAR/IWG	E/CAR/DCA	CA/ANE/WG	DGAC CAP
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1	**GEN**													
1.1		**Solution to air navigation services deficiencies** The review and update of existing deficiencies in the AGA, AIS/MAP, ATM, CNS, MET and SAR fields is kept, urging the States/International Organizations to make every effort in order to solve them.			1/20	4/1 13/19	11/38 12/70 12/71 12/121 12/122 12/123 12/124	1/4 1/9 1/20 1/30 2/8 2/19 5/1	7/10		24/21 25/21 25/32	16/14 17/7 18/15 19/25	4/1 4/16	89/2 91/6
1.2		**Implementation of the requirements established in the CAR/SAM ANP FASID** The follow-up to the implementation of the requirements established in the FASID on the air navigation fields AGA, AIS/MAP, ATM, CNS, MET and SAR, as well as the relevant amendment, is required.				7/9 7/8 8/1 8/2 8/4 9/2 9/13 9/21 10/2 11/3	10/21 10/31	1/18 1/19 1/29 2/7 3/9 3/12	5/16b 5/21					88/12
2	**AGA**													
2.1		**Aerodrome Certification** States were urged to implement aerodrome certification in order to comply with the new SARPs no later than 27 November 2003.						1/5				16/16		88/2
2.2		**Aerodrome Maintenance Programmes** States were urged to ensure that the aerodromes operators implement and keep aerodrome maintenance programmes in order to contribute with aircraft operations safety in runways, taxiways and aprons.				4/13	12/74							

ITEM	AREA	MATTER/STATUS AND OBJECTIVE	REFERENCE RECOMMENDATIONS/CONCLUSIONS/DECISIONS												
			M	NAM/CAR		CAR/SAM		CAR							
								C/CAR			E/CAR		CA		
			AN-Conf/11	ATFM/1	NACC/2	CAR/SAM/3 RAN	GREPECAS	C/CAR/WG	C/CAR/DCA	MEVA	E/CAR/IWG	E/CAR/DCA	CA/ANE/WG	DGAC CAP	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	
2.3		**Bird Hazard National and Regional Committees** States were urged to establish and keep Bird Hazard National Committees. It is also intended to establish a CAR/SAM Regional Bird Hazard Prevention Committee to deal with the relevant regional problems.				4/10	12/75		4/7					85/7	
2.4		**Runway Incursions.** States were urged to gather and compile reports on aerodromes operators, air traffic services and aircraft operators runway incursions incidents in order to analyze and prevent their negative impact on operational safety.					11/8					16/17			
3	**AIS/MAP**														
3.1		**Aeronautical Information Services and Aeronautical Charts Automation** States/International Organizations of the CAR Region have been urged to implement an Integrated AIS/MAP Automated System in order to meet the operational requirements of the CNS/ATM Systems through the transition of the current AIS manual systems towards a totally automated and integrated AIS/MAP environment, which design is based on common procedures and standardized formats, especially AIS/MAP Data Bases Systems.			1/16	12/7	10/51 10/54 12/90 12/91 12/92 12/95 12/96 12/97	1/8 2/16	5/7 6/4		22/5 23/11 28/2			88/6 91/1	
3.2		**Implementation of AIS/MAP Quality System** States/International Organizations of the CAR Region were urged to implement as soon as possible an AIS/MAP Quality System, so that the system allows quality assurance of the Aeronautical Information/Data for Global Air Navigation in order to provide AIS/MAP services with a high quality level of its products.			1/16	12/1	12/94 12/125	1/8 2/16	5/7					85/16 89/11 91/4	
3.3		**Total implementation of WGS-84** In the CAR Region, the lack of total implementation of WGS-84, as a Common Geodetic Reference for Global Air Navigation, affects the development of strategies for the progressive introduction of requirements concerning the implementation of Area Navigation (RNAV) as part of the future implementation of the Global Navigation Satellite System (GNSS) and the Regional CNS/ATM Transition Plan among others.			1/16	12/6	10/49 10/55 10/57 11/63 12/85 12/86 12/87	1/7 2/17 5/3	4/16 5/6 7/9		22/7 24/24 28/3	16/9	4/6	85/17 86/1 86/2 86/4 87/3 88/5 89/8 89/10 90/4	

ITEM	AREA	MATTER/STATUS AND OBJECTIVE	REFERENCE RECOMMENDATIONS/CONCLUSIONS/DECISIONS												
			M	NAM/CAR		CAR/SAM		CAR							
								C/CAR			E/CAR		CA		
			AN-Conf/11	ATFM/1	NACC/2	CAR/SAM/3 RAN	GREPECAS	C/CAR/WG	C/CAR/DCA	MEVA	E/CAR/IWG	E/CAR/DCA	CA/ANE/WG	DGAC CAP	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	
4	**ATM**														
4.1		**Implementation of RNAV Routes** States/International Organizations have been urged to continue the implementation of RNAV routes affecting the CAR Region. This implementation would require an amendment to the CAR/SAM ANP Volume I, Basic (Doc 8733), which has been suggested through GREPECAS.			1/10	5/15 5/16 5/22 5/23	12/7 12/8 12/9		7/5		24/27 24/28 25/1 27/15 28/7			90/4 91/8	
4.2		**Implementation of Required Navigation Performance (RNP)** States/International Organizations have also been urged to implement RNP.			1/10	5/23 10/17	11/22 12/11		7/6		28/7			89/4	
4.3		**Implementation of Reduced Vertical Separation Minimum of 300 mts (1000ft) between** GREPECAS has urged the States/Territories and COCESNA to follow the evaluation process of the implemented RVSM in the respective Flight Information Regions through an implementation programme by steps.	4/9		1/11	5/27 5/28 5/29 5/31	11/23 11/28 12/12 12/15 12/16 12/17 12/18 12/19 12/21 12/22 12/23	2/2 4/2			25/6				
4.4		**ATS Contingency Plans** GREPECAS has urged the States/Territories/International Organizations to review the contingency plans among adjacent ATS units developed for the Y2K rollover and to adopt them for any event that might affect the provision of ATS and related services.			1/19		10/8	2/4 4/3	4/8 7/8		20/2 20/3 25/3 26/4	19/6	3/13 3/14	85/8	
4.5		**ATS Quality Assurance Programmes / Safety Management System** It is required to evolve of the ATS quality assurance programs towards the implementation of the Safety Management System. .				5/37 5/38	12/26 12/27 12/28 12/29	2/5	6/6 7/7		25/6 26/5			84/6 88/3	

ITEM	AREA	MATTER/STATUS AND OBJECTIVE	REFERENCE RECOMMENDATIONS/CONCLUSIONS/DECISIONS												
			M	NAM/CAR		CAR/SAM		CAR							
								C/CAR			E/CAR		CA		
			AN-Conf/11	ATFM/1	NACC/2	CAR/SAM/3 RAN	GREPECAS	C/CAR/WG	C/CAR/DCA	MEVA	E/CAR/IWG	E/CAR/DCA	CA/ANE/WG	DGAC CAP	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	
4.6		**Civil/Military coordination and interception of civil aircraft** The CAR/SAM/3 RAN urged the States to establish appropriate civil/military coordination bodies to ensure the coordination of the decisions regarding civil and military problems on airspace management, air traffic control and measures to prevent the unnecessary interception of civil aircraft.	1/2			5/6 5/7 5/8 5/11 5/12		1/17							
4.7		**Air Traffic Flow Management (ATFM)** The need to develop a strategy and to implement the system of organization of the Air Traffic Flow Management (ATFM) through the establishment of units of flow management in order that the users of the airspace can fulfill the optimal profiles of flight and the schedule of departure and arrival, reducing the delays of the flights in ground and air.		1/1 1/2 1/3 1/4 1/5				5/24					4/11		
4.8		**Planning and implementation of global ATM system** It is required that the ICAO, States and PIRGs guide the planning for the implementation of global ATM system of the Global Plan of Air Navigation for CNS/ATM systems (Doc. 9750). .	1/1												
4.9		**Operational Implementation of ADS / ADS-B** It is required to continue the execution of plans, as well as the studies to implement ADS / ADS-B in these regions.	1/7				11/50 12/32								
5	**CNS**														
5.1		**Support to ICAO position at the ITU's WRC-2007.** Support ICAO position at the ITU's WRC-2007 to defend the interests and needs of radio frequency spectrum for civil aviation.					12/33	5/6		10/5 10/4			4/4	88/11	
5.2		**Development and interconnectivity of regional digital networks.** It is intended to complete the implementation and management of regional networks CAMSAT, E/CAR and MEVA of the CAR Region, to attain the interoperability with South American REDDIG network in order to achieve the complete implementation and improvement of the required AFS circuits and to facilitate the backbone support for the implementation of ATN.				9/1 13/29 13/30	10/25 12/39	5/15		10/3 10/4 10/5 10/6 10/7	23/19 23/20 24/11 26/12 29/4 29/6 29/7	16/12 17/4 18/13 19/9			

ITEM	AREA	MATTER/STATUS AND OBJECTIVE	REFERENCE RECOMMENDATIONS/CONCLUSIONS/DECISIONS												
			M	NAM/CAR		CAR/SAM		CAR							
								C/CAR			E/CAR		CA		
			AN-Conf/11	ATFM/1	NACC/2	CAR/SAM/3 RAN	GREPECAS	C/CAR/WG	C/CAR/DCA	MEVA	E/CAR/IWG	E/CAR/DCA	CA/ANE/WG	DGAC CAP	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	
5.3		**Improvement of and compliance with the required VHF/HF AMS coverage.** It is required to complete and improve VHF and HF air-ground communications coverage, especially by continuing the implementation and improvement of VHF and HF stations to serve Curacao, Kingston, Piarco and CENAMER FIRs.				9/21 10/2 10/6	10/29	2/9 2/10	5/10		27/21 27/22			88/15 89/16	
5.4		**Implementation of air-ground data link** Based on the technology available it is intended to maximize the use of air-to-ground data link to provide benefits to the air navigation service providers and to the users of the airspace increasing the safety.					12/42 12/43					19/23			
5.5		**Transition from AFTN to ATN. Implementation of ATN ground portion.** Most circuits and AFTN Centres have been implemented in accordance with the requirements established in the CAR/SAM ANP. It is necessary to improve the circuits and AFTN centres pending and to continue the transition and the development for the implementation of the ground portion of ATN.				9/2 9/3 9/4 9/5 9/6 9/13	10/20 10/21 10/22 10/23 10/24 12/41						4/15	88/16 89/17	
5.6		**GNSS Implementation.** States/International Organizations pretend to continue actions towards GNSS planning and implementation in the Region. Among these actions, it is necessary to update and publish national legislations/regulations authorizing the use of GNSS.	6/1 6/2 6/9 6/13			10/1 10/2 10/6	10/32 11/44 11/45 11/46 12/45 12/46	2/12				19/24		88/17 88/18 89/18 89/19 91/2	
5.7		**Radar data exchange.** It is intended to develop radar data sharing among ATC units in order to improve radar service. States/International Organizations are urged to consider the initial regional guidelines on radar data sharing developed by GREPECAS.				11/4 11/5	11/47 12/48 12/49	2/13 2/14 5/17 5/19 5/21	5/20		24/13 24/14 25/16 28/13	19/13 19/14 19/15 19/17 19/18	4/20 4/21	84/5 85/14 88/19 89/22	

ITEM	AREA	MATTER/STATUS AND OBJECTIVE	REFERENCE RECOMMENDATIONS/CONCLUSIONS/DECISIONS												
			M	NAM/CAR		CAR/SAM		CAR							
								C/CAR			E/CAR		CA		
			AN-Conf/11	ATFM/1	NACC/2	CAR/SAM/3 RAN	GREPECAS	C/CAR/WG	C/CAR/DCA	MEVA	E/CAR/IWG	E/CAR/DCA	CA/ANE/WG	DGAC CAP	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	
5.8		**Strategy for introduction of ADS/ADS-B**. To guide the strategy and the ADS/ADS-B implementation where it is feasible and operationally advantageous.	7/1 7/2				11/49 11/50 12/44	5/12 5/22					4/23		
6	**MET**														
6.1		**Significant Weather Charts (medium level) (SWM) for the CAR/SAM Regions** In view that there are no significant weather charts medium level requirements, Washington WAFC will not produce SWM maps for limited zones of the CAR/SAM Regions.													
6.2		**Maintenance of WAFS equipment and systems** That States acquire a new workstation considering the technical functional specifications in accordance with the information provided by Washington WAFC. That a maintenance service contract be obtained in order to support the operation of the workstation of the WAFS.					11/71 11/72 12/52				27/10				
6.3		**Communication problems regarding OPMET information exchange** The COM/MET SIP Phase I (Central America and Mexico) detected communication problems, there are also some problems affecting OPMET information exchange in the rest of the CAR Region. In order to solve these problems, the adoption of relevant actions by States/Territories/International Organizations is required.				8/3	9/5 10/36 12/62 12/63 12/64		5/25						
6.4		**COM/MET Special Implementation Project (SIP)** As a result of the actions carried out by the NACC Regional Office and the Air Navigation Commission, ICAO Council also approved the communications/aeronautical meteorology special implementation project (COM/MET SIP) for the CAR Region, comprising Central and Eastern Caribbean, which will be held as at end September 2002.			1/18									89/13	
7	**MCI/SAR**														
7.1		**Regional Response Plan to Mass Casualty Civil Aviation Incidents.** States have agreed upon actions to develop a Response Plan for Mass Casualties Incidents in the Caribbean.			1/27				4/12 7/14			16/18 17/3 18/9 19/26	3/18		

ITEM	AREA	MATTER/STATUS AND OBJECTIVE	REFERENCE RECOMMENDATIONS/CONCLUSIONS/DECISIONS												
			M	NAM/CAR		CAR/SAM		CAR							
								C/CAR			E/CAR		CA		
			AN-Conf/11	ATFM/1	NACC/2	CAR/SAM/3 RAN	GREPECAS	C/CAR/WG	C/CAR/DCA	MEVA	E/CAR/IWG	E/CAR/DCA	CA/ANE/WG	DGAC CAP	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	
7.2		**Search and Rescue (SAR) Agreements among States** States/Territories/International Organizations have been requested to develop a SAR Plan for the CAR Region including the necessary procedures and resources for effective SAR services provision.			1/26	6/3 6/4 6/5 6/7 6/8 6/11 6/12			3/14 5/30			16/3 17/1 17/2 18/8 19/4	4/25 4/26 4/27		

Agenda Item 2: Safety Oversight

2.1 USOAP

2.1.1 The Secretariat provided information extracted from the Audits Findings and Differences Database (AFDD) of the Universal Safety Oversight Audit Programme (USOAP), the results of the audit follow-up missions and on the progress made by States on the implementation of critical elements of a safety oversight system and the resolution of safety concerns identified during the initial audits. Likewise, information was also provided on the actions taken and/or planned to ensure the effective transition towards a comprehensive system approach for the conduct of audits, as requested by the 35th session of the ICAO Assembly.

Follow-up missions on the validation of the implementation of States' corrective action plans and reports thereof

2.1.2 Follow-ups audits conducted as of as of 31 December 2004 included the following States: **Antigua and Barbuda, Bahamas, Barbados, Costa Rica, Cuba, El Salvador, Grenada, Guatemala, Haiti, Honduras, Jamaica, Mexico, Nicaragua, Panama, Saint Kitts and Nevis, Saint Lucia, Saint Vincent and the Grenadines, Trinidad and Tobago, United States** and Territories: **Netherlands Antilles, Bermuda and Turks and Caicos Islands**.

2.1.3 As of 31 October 2004, 152 audits follow-up summary reports were sent to the States/Territories concerned for final comments prior to their publication. One hundred and thirty six of these reports had already been published and distributed to all Contracting States.

Results from the Audit Findings and Difference Database (AFDD)

2.1.4 The analysis of the 162 audit follow-up missions, presented in **Appendix A** to this part of the report, shows that Contracting States have made progress in the implementation of their corrective Action Plans and the resolution of safety concerns; nevertheless the average lack of effective implementation of the eight critical elements of a safety oversight system identified during the initial audits for the group of the 162 States declined from 29.8 per cent to 13.64 per cent. These results indicate that the percentage diminished from 32.62 percent to 17.46 per cent.

2.1.5 While these results show progress, the audit follow-up missions also reveal that thirty-six States, or approximately 24 per cent of the 152 Contracting States analyzed so far, have not made much progress in resolving the deficiencies identified during the initial audits.

Activities undertaken during the 35th Session of the Assembly

2.1.6 During the 35th Session of the Assembly a selection was made of the first Contracting States to be audited in 2005: twelve Contracting States agreed to undergo the audits during 2005, among which Canada, Panama and Trinidad and Tobago, and two International Organizations, which conduct safety oversight activities on behalf of their Member States, have also agreed to be audited by ICAO as part of the USOAP: EUROCONTROL and European Aviation Safety Agency (EASA).

2.1.7 In the CAR Region, in an effort to assist States with their Safety Oversight responsibilities, two agencies have been established, Agencia Centroamericana para la Seguridad Aeronáutica (ACSA) in Central America and the Regional Aviation Safety Oversight System (RASOS) in the Caribbean. Audits of member States of the agencies will initially include an audit of ACSA and RASOS.

Development of audit tools

2.1.8 Successful implementation of the comprehensive system approach will depend on the effective application of a series of audit tools designed to assist both Contracting States and ICAO in the preparation for, and conduct of safety oversight audits. These tools include the State Aviation Activity Questionnaire (SAAQ), the compliance checklist for each Annex concerned and Audit Protocols for each area of audit. This information was distributed to all the contracting States and may be accessed through the ICAO-Net under SOA page: www.icao.int/icaonet/index_ie.html**.**

2.1.9 SAAQ addresses all the areas to be audited under the comprehensive system approach. The questionnaire is designed to enable ICAO to collect information on the organization and the system established by the State to meet its safety oversight obligations. SAAQ have an up-to-date database of States' aeronautical activities and will assist ICAO in the scheduling of audits and in determining the duration of the audits as well as the expertise required.

2.1.10 The objective of the Compliance Checklist is to assist States in ascertaining the status of implementation of Standards and Recommended Practices (SARPs) and in identifying any difference that may exist between national regulations and the corresponding ICAO Annex provisions. Compliance Checklist will enable ICAO to maintain an up-to-date database on the level of compliance by States with ICAO SARPs and to facilitate the preparation for, and conduct of standardized audits of all Contracting States. As with SAAQ, the Completed Compliance Checklist should have been received by 31 May 2005.

2.1.11 Audit protocols for all the areas have been developed with the cooperation of the relevant sections of the Air Navigation Bureau. Protocols constitute the primary tools for the conduct of on-site safety oversight audits, and they enable auditing against the critical elements of a safety oversight system, and can also be used by Contracting States both in preparation for an ICAO audit as well as in the conduct of internal audits.

Auditor Training Courses and Theoretical/Practical Seminars/Workshops for Safety Oversight Coordinators

2.1.12 In preparation for the launching of safety oversight audits under the comprehensive system approach, ICAO has scheduled to conduct a series of National Safety Oversight Coordinator training courses, both at ICAO Headquarters and in the Regional Offices. The objective of these courses is to train a sufficient number of auditors, both from ICAO Headquarters and seconded by States. In the NACC Regional Office in Mexico City an initial course took place during 10 to 11 of March 2005 with an attendance of 50 participants from the NACC States, and additionally, whole training of Safety Oversight Coordinators is scheduled to be held in Mexico City in early 2006.

ICAO GASP Unified Strategy- Safety Concerns

2.1.13 The ICAO Assembly, at its 35 Session recognized the challenges faced by some Contracting States in implementing their safety oversight systems and corrective measures emanating from their action plans.

2.1.14 In adopting Resolution A35-7, the Assembly strongly supported a unified strategy to resolve safety-related deficiencies, and requested the Council to implement strategy based on the principles of increased transparency, co-operation and assistance and to foster, where appropriate partnership among the States, users and air navigation service providers, aeronautical sector companies, industry financial institutions and other stakeholders in order to assist States in resolving safety-related deficiencies. The strategic collaboration includes the assistance of the ICAO Technical Co-operation Bureau to the States that so require (Refer to paragraph 2.3 to this part of the report).

2.1.15 United States presented information on an amendment to Annex 6, initially proposed by this State to ICAO in 2003, on the obligations of States regarding safety oversight by operators, which was sent in State Letter Ref. AN 11/44-05/61, dated 12 August 2005, for review and comments.

2.1.16 Likewise, United States shared information on its experience of concluding the first phase of the pre-audit activity of the 16 Annexes regarding the fulfillment of the State Aviation Activity Questionnaire (SAAQ) and the compliance checklist for each one of the Annexes concerning safety.

2.1.17 Cuba presented information of the results of its work developed in accordance with Resolution A35-6 of the 35th Session of ICAO Assembly to comply with the objectives proposed by the USOAP. The development of the Action Plans of former audits and of the related documentation has also been useful as a mechanism to raise the collective knowledge and awareness of the personnel involved in the preparatory activities for the new audits with the extended approach.

2.1.18 The response to the State Aviation Activity Questionnaire (SAAQ) and to the compliance checklist of the Annexes has allowed Cuba in the first 4 months of 2005 to review and develop the relevant corrections to the Rules and Procedures, and at the same time to conclude the determination of the existing difference with regard to ICAO SARPs.

2.2 Regional Safety Oversight Developments

2.2.1 WP/05 was presented by Pan American Aviation Safety Team (PAAST) by a team member from IATA. The PAAST was established under a under a joint effort by IATA, IFALPA and ICAO in 2000 to bring together various safety related programmes and to channel them into one effort. The paper provided information on the objectives, structure, and activities of this programme.

2.2.2 IATA outlined challenges within the Americas Region and two safety initiatives, the First Project Flight Safety Foundation Approach and Landing Accident Reduction Tool Kit (ALAR) and the Second Project Runway Incursion Prevention Programme (RIPP).

2.2.3 The Meeting concluded that the PAAST Programme is a proactive approach and an excellent example of an achievement with partnership among organizations to make important contributions to improve safety record in the CAR/SAM Regions.

2.2.4 The United States delegate supported the PAAST position for their stance of this initiative to improve safety and encouraged States to adopt it.

2.2.5 The Secretariat stated that the initial PAAST meeting did not include States, however, that has changed since August 2005, it was also noted that Mexico has adopted the ALAR Tool Kit for issuing pilots licenses. It was explained that in other parts of the world similar efforts were being taken that included States. The Secretariat stated that CAR/SAM States/Territories/International Organizations will be invited to a Safety Management System seminar in March 2006, in Mexico City which will include a PAAST meeting. The three-day seminar will cover these three points ATS, Airports and Operations. The Meeting formulated the following Conclusion:

CONCLUSION 2/3 PAN AMERICAN AVIATION SAFETY TEAM (PAAST)

That States, Territories and International Organizations:

a) encourage safety personnel, air carrier, general aviation, and military pilots, airport operators, and air traffic controllers to actively participate in the PAAST programme; and

b) consider incorporating safety programmes, such as ALAR and RIPP, as regulatory elements for pilot and controller licensing.

Association of Civil Aviation Authorities of the Caribbean-Regional Aviation Safety Oversight System (RASOS) Activities

2.2.6 Jamaica presented IP/39 on behalf of Barbados, Guyana, Haiti, Jamaica, the Organization of Eastern Caribbean States (Antigua and Barbuda, Dominica, Grenada, St. Lucia, St. Kitts and Nevis, and St. Vincent and the Grenadines), Suriname, and Trinidad and Tobago. The paper provided a description of the development, activities, achievements and future plans for the Regional Aviation Safety Oversight System (RASOS) developed by the Association of Civil Aviation Authorities of the Caribbean, which is a cooperative approach to enhance sub-regional safety oversight capability for small States.

2.2.7 It was explained that this programme was created due to the lack of organizational capacity and lack of technical skills by smaller States. The implementation of RASOS reduced the cost of providing airworthiness and flight operations oversight services. As a result of the programme, some States like Trinidad and Tobago and Suriname achieved Category 1 status in the FAA's International Aviation Safety Assessment Program.

The Information System of Aeronautical Regulations "SIAR"

2.2.8 WP/46 was presented by COCESNA/ACSA (Agencia Centroamericana de Seguridad Aeronáutica – Central American Safety Agency), with a summary of the different activities and the work that has been done by COCESNA in the implementation of computerized solutions that allow improvement in the quality and automated safety management by States, in accordance with the International Civil Aviation Convention and its Annexes concerning safety issues.

2.2.9 It described the design of the Information of Aeronautical Regulations System "SIAR" that supports the surveillance institutions and the air transport operators in their compliance of international safety standards. The presentation included the Regional Working Groups, RNP/RNAV Roadmap, SMS Implementation Master Plan, Safety Strategic Plan (2006 – 2010), RAC System and Accident and Incident Module.

2.2.10 COCESNA/ACSA thanked Mexico for inviting them to their annual NAAT Meeting in Ixtapa, Mexico and exchanging information regarding its strategic plan and development of the SIAR programme. ACSA also provided a demonstration on the use of the accident database derived from the NAAT system.

2.2.11 The Secretariat recognized the contributions being made by COCESNA/ACSA and RASOS for the exchange of this sort of information to prevent further accidents in the future. The Meeting noted that COCESNA was taking it a bit further by using this information during accident investigations.

The WHTI/GEASA Initiative

2.2.12 Canada presented WP/15 to explain the programme and encouraged States to use the Western Hemisphere Transport Initiative/Group of Experts on Aviation Safety, Security, and Assistance (WHTI/GEASA), as an international cooperation tool to foster aviation projects. Their primary goal was to enhance safety and security within the Americas.

2.2.13 Since its creation, GEASA has carried out 4 meetings. The following projects and activities for the CAR/SAM Regions have been developed within its framework: ATS Quality Assurance Programme, Aeronautical Phraseology Deficiencies within the ATS Quality Assurance Programme, AVSEC Awareness Training to prepare personnel for the ICAO audits, PAAST Runway Incursion Prevention Programme Seminar, and ATS QA Programme Workshop.

2.2.14 During the GEASA/4 meeting, Cartagena de Indias, Colombia, May 2005, the Safety Management System Workshop and ICAO/PAIGH Project for production of VFR Aeronautical Charts were embraced by the Group and considered important to the Region. The Meeting further reviewed this matter under Agenda Item 3.

2.2.15 Canada encouraged the participation of States on the upcoming meeting of GEASA in Cartagena de Indias, Colombia during the first week of December 2005. The FAA recognized the importance of this programme by Transport Canada and solicited more attendance to this meeting.

2.2.16 The Secretariat thanked Transport Canada for the success of the ICAO/Canada Awareness Training Programme agreed upon and supported by GEASA, which trained 401 AVSEC Specialists throughout the Americas in 2004-2005. The Meeting also noted that an extension of the programme was expected in 2006.

CONCLUSION 2/4 WHTI/GEASA ACTIVITIES

That States/Territories/International Organizations:

a) consider the GEASA group as an important means to provide support for regional technical cooperation; and

b) participate in GEASA activities as deemed appropriate.

2.3 Unified Strategy to resolve Safety related Deficiencies

2.3.1 Under this section of Agenda Item2, the Directors dealt with the Unified Strategy for the Implementation of Safety-related Deficiencies and the procedure for transparency and disclosure of information regarding a State having significant compliance shortcomings, including failure to act in accordance with its safety oversight obligations.

2.3.2 The Meeting was informed of the action taken by the 35th Assembly regarding the adoption of a unified strategy for the resolution of safety-related deficiencies. (**Appendix B** to this part of the report).

2.3.3 The Directors noted the key elements of a unified strategy implementation plan for the provision of assistance to States in resolving safety-related deficiencies including tools and mechanisms to be used for data collection and analysis, promoting partnerships, and establishing regional and sub-regional safety oversight organizations. The Meeting noted that that the information presented was available on the ICAO-net.

2.3.4 It was explained that the findings of the USAOP revealed that many States were still experiencing difficulties in implementing SARPs or correcting identified safety-related deficiencies, thus creating potential safety gaps and sources of risk to aviation safety. Primary reasons included inadequate staff and financial resources and lack of political commitment.

2.3.5 Additionally, the Directors noted that the unfired strategy comprised two main elements, firstly, provision of assistance to States or groups of States in resolving safety-related deficiencies and secondly, the assurance of increased transparency and sharing of safety information for use by States when performing their safety oversight functions, including inspections.

2.3.6 The unified strategy reflected a shift in focus for ICAO towards the implementation of safety-related provisions and remedial action rather than the development of new SARPs. The Meeting noted that considering that the availability of safety information was of critical importance to States when performing their safety oversight functions, an additional means to facilitate the sharing of safety information was to provide access to all relevant information derived from the Audit Findings and Differences Database (AFDD) and use of accident data from the ICAO Accident/Incident Data Reporting (ADREP) database.

2.3.7 It was also explained that another key element of the unified strategy is fostering partnerships among States, industry, financial institutions and other international organizations, such as ACSA in Central America and RASOS in the Caribbean as well as the Pan American Aviation Safety Team (PAAST) and the Western Hemisphere Transport Initiative generated Group on Aviation Safety, Security and Assistance (GEASA).

2.3.8 The Meeting noted that ICAO considers the unified strategy as being of high priority and is willing to support States through the International Financial Facility for Aviation Safety (IFFAS) as well as supporting States in their efforts to obtain assistance from other financing sources.

Transparency and Disclosure

2.3.9 The Directors noted the proposal for a procedure for transparency and disclosure of information regarding a State having significant compliance issues with safety related shortcomings. The proposal was submitted in the context of USOAP results and forms part of the unified strategy. It includes data sources and analysis for use in determining scenarios for action under the unified strategy. They also noted that safeguards are included to ensure that the procedure would be applied in accordance with established principles and would be used for safety-related purposes only, to ensure that there would be no discrimination between States and not to disadvantage States that lack the resources for proper safety oversight.

2.3.10 The Meeting also noted the scenarios for action under the unified strategy (**Appendix C** to this part of the report), a flow chart depicting Secretariat preparation, confidential Council deliberation and disclosure to States (**Appendix D** to this part of the report) including the action to be taken when a State completes action in the procedure. In this regard the Delegate from St. Lucia and Representative on the Council of ICAO from the Caribbean Island States, noting that the discussion on transparency and disclosure had been the most difficult in the history of ICAO, added that the Council had noted with concern activity from States engaging in aviation activities that seem implausible, given their safety oversight capability, specifically regarding the request of a disproportionate number of three-letter designators from ICAO to support airline operators for which it had issued an Air Operators Certificate or the States that had an excessive number of large-transport aircraft on its registry well beyond its capability for safety oversight. He noted that no CAR Region States had been included.

2.3.11 It was again highlighted that the proposed procedure was a tool to identify those States that have significant compliance shortcomings and do not fulfill their international safety oversight obligations. It encourages their appropriate compliance and is intended to be used as a last resort. In case unsafe conditions persist, i.e. conditions which may be beyond the control of a State and the responsible authorities may not be able to overcome even with outside assistance, the procedure provides for all Contracting States to be so informed.

2.3.12 The procedure could help resolve unsafe conditions caused y States and operators that disregard safety-related SARPs. The Directors noted that under no circumstances should the procedure be misused for political or economic gains, and proper safeguards to this end are provided in the procedure and its associated principles and safety risk indicators.

2.3.13 The Meeting also noted that the Delegate from Cuba supported the implementation of the unified strategy for the resolution of safety-related deficiencies. Of particular importance was Article 11 of the USOAP Memorandum of Understanding which states that the safety oversight audit team will review:

a) Compliance with the safety-related SARPs in all safety-related Annexes as well as the related Procedures for Air Navigation Services,

b) Adherence to guidance material and relevant safety-related practices in general use in the aviation industry, and

c) The ability to effectively implement the critical elements of a safety oversight system

2.3.14 The Delegate from Cuba also noted that in the CAR region, the weakest element was the lack of qualified technical personnel which in turn affected many of the elements considered by the USOAP audits.

2.3.15 The Representative on the Council for the Caribbean Island States mentioned that the CAR Region was headed in the right direction, especially with the establishment of ACSA and RASOS, and it should even consider assisting States outside of the Region.

2.3.16 As a result of the discussion the Meeting agreed to the following Conclusion:

CONCLUSION 2/5 UNIFIED STRATEGY TO RESOLVE SAFETY-RELATED DEFICIENCIES

That the Directors of Civil Aviation of States and Territories as well as International Organizations from the CAR Region agree to:

a) fully participate in the unified strategy implementation plan for the resolution of safety-related deficiencies, and

b) provide, as requested, assistance to States outside of the CAR Region.

2.4 Safety Data Exchange

International Aviation Safety Data Exchange (IASDEX)

2.4.1 United States presented WP/07, on the International Aviation Safety Data Exchange (IASDEX) programme. It is expected to become an effective tool for participating civil aviation authorities to aid them in providing oversight of the foreign aircraft that operate in their airspace. This programme involves, under terms established in bilateral agreements between the FAA and a CAA, the collection and exchange of aircraft ramp inspection findings associated with foreign operators who provide service to their countries. The delegate from United States described the key features of the IASDEX programme and solicited feedback.

2.4.2 The FAA did not have safety inspectors assigned abroad and through this programme, they could monitor ramp activity of the U.S. and foreign flight operators using real time information through the Internet. A draft copy of the agreement is presented in **Appendix E** to this part of the report for those States interested in participating in this programme. The FAA explained that the programme included ramp inspection only and the data was password protected.

2.4.3 Mexico supported the United States initiative, as it had been working with this programme for over five years and was integrating this effort with the air carriers and the compliance of the ICAO Annexes related to ramp inspections.

2.4.4 Gaining the experience and access to surveillance records developed by other CAAs where such operations occur has great value in building a more complete global picture of an operator's compliance or non-compliance with its regulations. The International Aviation Safety Data Exchange (IASDEX) programme has great potential to become an effective tool for regulatory authorities, which will eventually become participants in this new system.

2.4.5 Cuba did not doubt the value in these ramp inspections; however, it would involve a cost to select and train safety inspectors. The delegate stated that it would be no problem working with the United States since they had worked on other Air Transport matters. Cuba has similar agreements with European Union and suggested that the information be made confidential due to its sensitivity.

CONCLUSION 2/6 IASDEX PROGRAMME

That States/Territories recognize the importance of safety data sharing initiatives such as the IASDEX programme, and are encouraged to express interest to the FAA in possible future participation in this specific initiative.

Government Safety Inspectors Training provided by ICCAE

2.4.6 IP/37 was prepared by COCESNA, providing a report of the current activity of the Central American Training Centre (ICCAE), that included training endorsed by ICAO for Gobernment Safety Inspectors, and the benefits for the CAR Region.

2.4.7 The paper concluded with a list of positive aspects of the programme for ICCAE and having this safety training programme endorsed by ICAO.

2.5 Safety – related topics

Enhancement of the Aviation Safety Culture

2.5.1 The Directors noted that a rash of accidents in the third quarter of 2005 had shocked the aviation community back to reality, particularly in light of the excellent safety record from the past few years. This was an indication that all was not well in the international civil aviation system. It was safe to presume that human factors were involved in some, if not all of these accidents. Additionally it appeared that the underlying element in human factor contribution to these accidents was the lack of a positive aviation safety culture within the operators as well as the regulatory authorities.

2.5.2 The Meeting noted Management's special responsibility for accident prevention and authority to manage safety risks by establishing a systematic method for identifying hazards, assessing risks, assigning priority to these risks and then reducing or eliminating those hazards. The onus on Management for safety management applies to all organizations providing an aviation service, regardless of type or size.

2.5.3 It was also noted that a positive aviation safety culture requires a commitment to safety as a top level overriding priority. The Meeting noted the characteristics of a positive safety culture as well as the elements of a formal safety programme, primarily compliance with ICAO requirements, noting that the implementation of a Safety Management System was an indispensable pro-active tool for creating and reinforcing a "safety culture" in any organization.

2.5.4 The Directors noted that aviation has a good safety record and one could not afford to be complacent. Safety must remain the number one priority for aviation and ways in which safety can be improved must be sought. As a result, the Directors adopted the following Conclusion:

CONCLUSION 2/7 ENHANCEMENT OF THE AVIATION SAFETY CULTURE

The Directors from the NAM/CAR States, Territories and International Organizations, in agreement of the necessity and importance of a safety culture, resolved to:

a) comply with ICAO safety requirements as elements for a safety culture, and

b) commit to taking other appropriate measures for the enhancement of the aviation safety culture in their respective organizations.

ICAO Language Proficiency

2.5.5. The Secretariat presented information on the new ICAO Language Proficiency requirements as described in Annex 1, Annex 6, Annex 10, Annex 11 and PANS-ATM, Doc 4444.

2.5.6 The Secretariat also presented guidance material of ICAO Document 9835 “Manual on the Implementation of the ICAO Language proficiency Requirements” which is only available on the ICAO Website (www.icao.int). ICAO Language Proficiency Requirements were developed for use in assessing language proficiency in all languages used for radiotelephony communications, not just in the English language, much of the focus of the manual is on English language training issues, as this is the area in which most States and aircraft operators require specific guidance. The principles are largely applicable to other language training programmes as well.

2.5.7 The purpose of Doc 9835 is not to provide a comprehensive language learning education to language instructors or training programme developers, nor to provide a curriculum but to serve as a guide, addressed to the training managers of civil aviation administrations, the airline industry, and training organizations in order to ensure the compliance of ICAO language proficiency requirements.

2.5.8 The ICAO language proficiency requirements:

- strengthen the requirement for English to be provided by air navigation service providers for international flights by upgrading it from the level of a Recommendation to that of a Standard (Annex 10);
- establish minimum skill level requirements for language proficiency for flight crews and air traffic controllers (Annex 1);
- introduce an ICAO language proficiency rating scale applicable to both native and nonnative speakers (Annex 1);

- clarify the requirement for the use of both plain language and phraseologies (Annexes 1 and 10);
- standardize on the use of ICAO phraseologies (Annex 10);
- recommend a testing schedule to demonstrate language proficiency (Annex 1); and
- provide for service provider and operator oversight of personnel compliance (Annexes 6 and 11).

2.5.9 The FAA informed on the following courses in English and Spanish for pilots and controllers: Introduction to Aviation English and English for Air Traffic. The information is found in the following webpage: www.academy.faa.gov/ama800 , e-mail: 9-amc-ama-itd@faa.gov

2.5.10 France informed that tests have been scheduled in order to determine the level of proficiency and if necessary, provide training for controllers and pilots to attain the minimum level 4 indicated in Annex 1. The estimated budget of 2006 for this kind of training is of a million dollars, and it includes different evaluation and training stages for each controller/pilot.

2.5.11 It was noted that training is extremely costly, however, this cost may be reduced through collaboration with other States.

2.5.12 The Meeting recalled that GREPECAS has detected that the occurrence of the incidents and accidents is primarily due to the deficiency of English proficiency. It was also recognised that the Quality Assurance Programmes had been of great help for the reduction of these events.

2.5.13 COCESNA presented the actions that it has carried out in order to comply with ICAO regulations regarding the performance of Air Traffic Controllers in English, thus avoiding that this element contribute to the occurrence of ATS incidents, and the actions taken in preparation for an English Proficiency Implementation Project, which main objective is to achieve that ATC personnel of the Central American subregion attain the ICAO required language proficiency level.

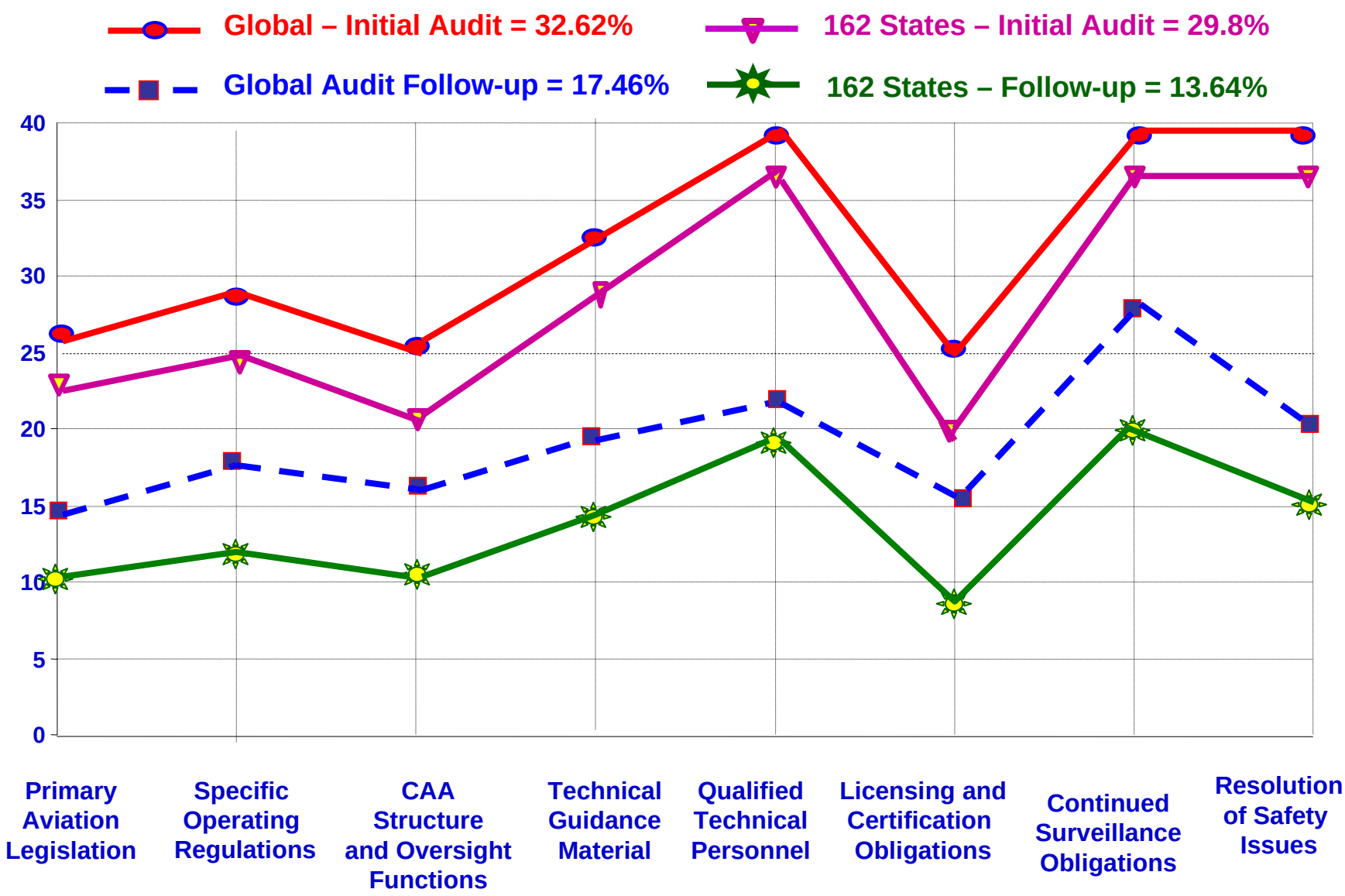
2.5.14 The objective is that each one of the Central American States achieve the proficiency level through training and continuing assessment. It is foreseen that the training project be carried out at ICAEE and in situ of each State so that they may achieve the desired purposes.

2.5.15 It was also explained that the training project may be made available to other States, depending on a study carried out by COCESNA ATS Working Group. Taking into account the importance of complying with the requirements of language proficiency, the Meeting adopted the following Conclusion:

CONCLUSION 2/8 COMPLIANCE WITH ICAO LANGUAGE PROFICIENCY REQUIREMENTS

That States/Territories and International Organizations of the NAM/CAR Regions begin the preparatory work in order to comply with ICAO language proficiency requirements by **5 March 2008,** preventing the occurrence o ATS incidents and accidents.

Critical Elements of a Safety Oversight System - Lack of Effective Implementation (%)
Comparison of Audit and Audit Follow-up Results



APPENDIX B

UNIFIED STRATEGY FOR THE RESOLUTION OF SAFETY-RELATED DEFICIENCIES RESOLUTION A35-7 OF THE 35TH SESSION OF THE ASSEMBLY OF ICAO

A35-7: Unified strategy to resolve safety-related deficiencies

Whereas a primary objective of the Organization continues to be that of ensuring the safety of international civil aviation worldwide;

Whereas ensuring the safety of international civil aviation is also the responsibility of Contracting States both collectively and individually;

Whereas in accordance with Article 37 of the Convention on International Civil Aviation each Contracting State undertakes to collaborate in securing the highest practicable degree of uniformity in regulation, standards, procedures and organization in relation to aircraft, personnel, airports, airways and auxiliary services in all matters in which uniformity will facilitate and improve air navigation;

Whereas the improvement of the safety of international civil aviation on a worldwide basis requires the active collaboration of all stakeholders;

Whereas the Convention and its Annexes provide the legal and operational framework for Contracting States to build a civil aviation safety system based on mutual trust and recognition, requiring that all Contracting States implement the SARPs as far as practicable and adequately perform safety oversight;

Whereas the results of the Universal Safety Oversight Audit Programme (USOAP) indicate that several Contracting States have not yet been able to establish a satisfactory national safety oversight system;

Whereas the ICAO Technical Cooperation Bureau (TCB) can provide the required assistance to States in need;

Whereas the International Financial Facility for Aviation Safety (IFFAS) has been established to assist Contracting States in financing safety-related projects to correct deficiencies primarily identified through USOAP and for which they cannot otherwise provide or obtain necessary financial resources;

Recognizing that not all Contracting States have the requisite human, technical and financial resources to adequately perform safety oversight;

Recognizing that the establishment of regional and sub-regional safety oversight organizations has great potential to assist States in complying with their obligations under the Chicago Convention through economies of scale and promotion of uniformity on a larger scale;

Recognizing that the assistance available to Contracting States experiencing difficulties in correcting deficiencies identified through the safety oversight audits would be greatly enhanced by a unified strategy involving all Contracting States, ICAO and other concerned parties in civil aviation operations;

Recognizing the safety enhancement contributions resulting from audits conducted by international and regional organizations such as the IATA Operational Safety Audit (IOSA) Programme and Eurocontrol ESARR Implementation Monitoring and Support (ESIMS) Programme;

Recognizing that transparency and sharing of safety information is one of the fundamental tenets of a safe air transportation system;

The Assembly:

1. *Urges* all Contracting States to share with other Contracting States critical safety information which may have an impact on the safety of international air navigation and to facilitate access to all relevant safety information;

2. *Encourages* Contracting States to make full use of available safety information when performing their safety oversight functions, including during inspections as provided for in Article 16 of the Convention;

3. *Directs* the Council to further develop practical means to facilitate the sharing of such safety information among Contracting States;

4. *Reminds* Contracting States of the need for surveillance of all aircraft operations, including foreign aircraft within their territory and to take appropriate action when necessary to preserve safety;

5. *Directs* the Council to develop a procedure to inform all Contracting States, within the scope of Article 54 j) of the Chicago Convention, in the case of a State having significant compliance shortcomings with respect to ICAO safety-related SARPs;

6. *Directs* the Council to promote the concept of regional or sub-regional safety oversight organizations;

7. *Requests* the Secretary General to continue to foster coordination and cooperation between USOAP and audit programmes of other organizations related to aviation safety, and specifically with IATA and Eurocontrol;

8. *Urges* Contracting States to further develop regional and sub-regional cooperation and, whenever feasible, partnership initiatives with other States, industry, air navigation service providers, financial institutions and other stake holders to strengthen safety oversight capabilities in order to foster a safer international civil aviation system and to better discharge their individual responsibilities;

9. *Encourages* States to foster the creation of regional or sub-regional partnerships to collaborate in the development of solutions to common problems to build their individual safety oversight capability;

10. *Encourages* all States able to do so to participate in, or provide tangible support for, the strengthening and furtherance of regional safety oversight organizations;

11. *Invites* Contracting States to use the services of the ICAO Technical Cooperation Bureau (TCB) to resolve deficiencies identified by the USOAP;

12. *Invites* Contracting States experiencing difficulties in financing measures necessary to correct safety-related deficiencies identified through USOAP to take advantage of the funding opportunity offered by the International Financial Facility for Aviation Safety (IFFAS);

13. *Requests* the Council to implement a unified strategy based on the principles of increased transparency, cooperation and assistance and to foster, where appropriate, partnership among States, users, air navigation service providers, industry, financial institutions and other stake holders to analyze causes, establish and implement sustainable solutions in order to assist States in resolving safety-related deficiencies;

14. *Directs* the Council to adopt a flexible approach for the provision of assistance through the ICAO Regional Offices to support regional and sub-regional organizations responsible for safety oversight tasks and to implement an efficient system to monitor implementation of the unified strategy.

15. *Requests* the Secretary General to investigate ways in which the identification of measures may be undertaken at national and regional levels to support States' development of ATM safety oversight capabilities and procedures.

Associated practice

1. The Council should develop ways in which all relevant information from the Audit Findings and Differences Database (AFDD) could be made available to all Contracting States through the use of the ICAO secure website.

APPENDIX C

SCENARIOS FOR ACTION UNDER THE UNIFIED STRATEGY

1. SCENARIO 1

1.1 In the first scenario, a State participates fully in the USAOP process and has persistently poor results. This State has very few resources to devote to safety oversight. It may lack even a basic regulatory framework and have few or no qualified personnel to participate in certification and surveillance of operators. When the level of aviation activity in this State is examined, it is clear that the State engages in a relatively low level of aviation activity that is essential to the support of its economy. This indicates a deliberate balance between oversight capability and essential aviation activity.

1.2 This State will be offered assistance under the unified strategy. It will be the object of support of ICAO Headquarters, regional offices, and the Technical Cooperation Bureau. ICAO will bring the needs of this State to the attention of donors and financial institutions. ICAO will also work with this State to develop appropriate regional or subregional partnerships for safety oversight support. It will be the goal of all parties to rapidly improve the safety oversight capabilities of the State so that the State may benefit from the safe and orderly expansion of its aviation industry. The safety risk is being managed by the State itself, the transparency mechanisms under Assembly Resolution A35-7 will provide other States the insight necessary to provide oversight of foreign operations, and all possible actions are being taken to resolve the problems. Such a State would not be the object of special Council consideration regarding the procedure for transparency and disclosure under Article 54 j).

2. SCENARIO 2

2.1 In the second scenario, a State may have difficulties managing the safety and effectiveness of its air navigation facilities. The specific air navigation deficiencies will be routinely tracked through the long-standing regional planning process. When the USOAP audit occurs, there will likely be findings and recommendations regarding the State’s ability to manage air navigation safety issues. This scenario has not been an issue to date, but can be expected to present itself with increasing frequency as more audits are completed under the comprehensive systems approach for the USAOP programme, expanded to all safety-related Annexes.

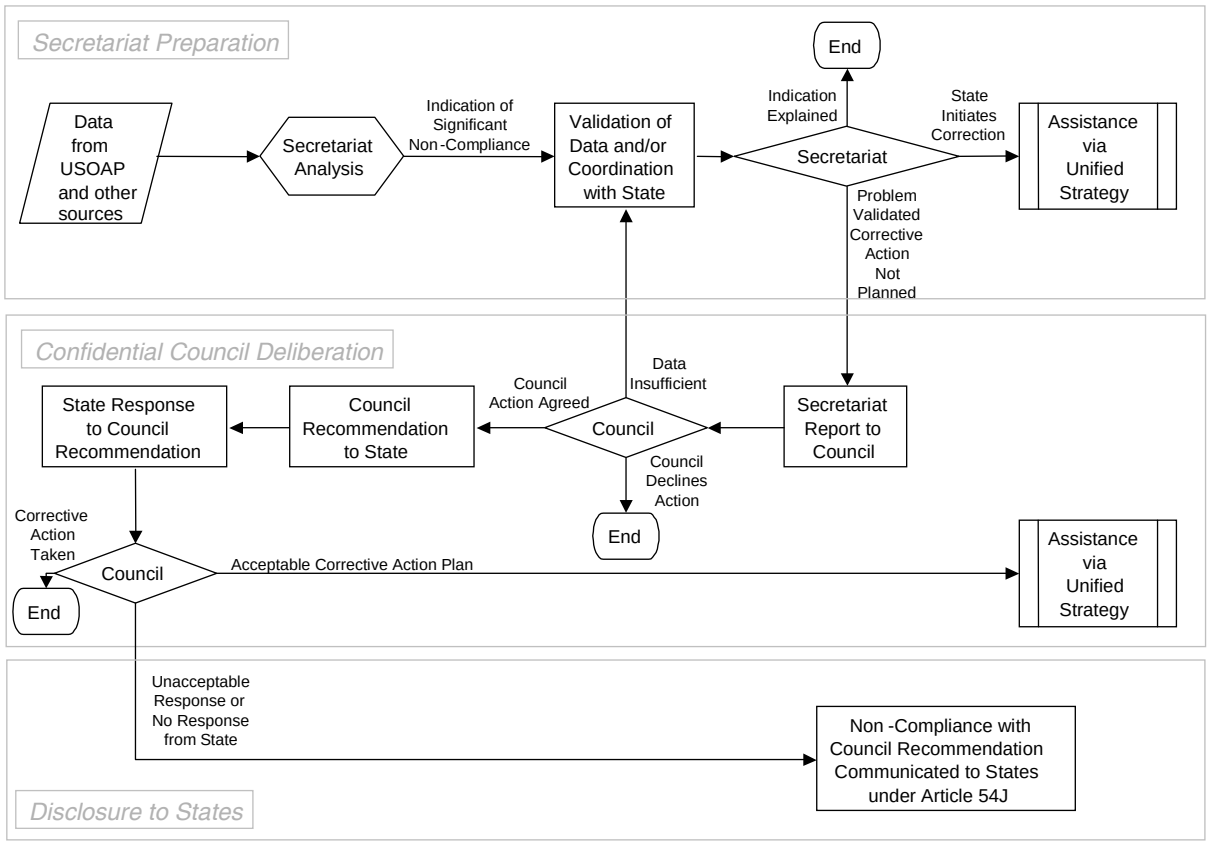
2.2 As in the first scenario, the State will receive appropriate assistance under the unified strategy to resolve their safety oversight shortfalls. It will be up to the State and the regional planning mechanisms to support the eventual resolution of the specific air navigation deficiencies. The Technical Cooperation Programme will provide assistance to States in the resolution of such infrastructure issues just as it does today. This State will not be the subject of special Council consideration regarding the procedure for transparency and disclosure under Article 54 j). In this case the safety risks are being managed collaboratively through the regional planning process, the necessary transparency regarding the status of air navigation deficiencies is ensured, and the deficiencies are being addressed by the most appropriate mechanism.

3. SCENARIO 3

3.1 The third and final scenario is the most difficult. A State demonstrates severe and persistent safety oversight shortfalls, similar to the State described in the first scenario. However, unlike the State described in the first scenario, this State may not have participated fully, or at all, in the USOAP audit process. The data available regarding this State's limited safety oversight capabilities may be limited. Also, data indicates that this State is engaging in aviation activities that seem implausible, given what is known about that State's safety oversight capability. For example, the State may have requested a disproportionate number of three-letter designators and radio-telephony designators from ICAO to support airline operators for which it has issued an AOC. The State may have an excessive number of large-transport aircraft on its registry, well beyond the capability of the State for safety oversight. Data regarding these aircraft and their operators show that they operate exclusively in distant countries and regions that may be thousands of miles from the State, without the State having concluded appropriate arrangements, such as the transfer of certain functions and duties in accordance with Article 83 bis of the Convention, thus making effective safety oversight virtually impossible. The State may openly advertise registration services for a fee, and United Nations Security Council reports may even link some operations to illegal activity.

3.2 In this case the first action would be to obtain better information about the State's safety oversight capabilities and aviation activities. All efforts would be made to do this through collaboration with the State. A special USOAP mission may be recommended and ICAO may choose to request this State to provide currently valid aircraft registry and ownership information, with reference to Article 21 of the Convention. It is possible this State will be unable to support such validation efforts, or could be prevented from participating because of external forces. As information is developed, this State would receive priority consideration for assistance under the unified strategy. The goal of everyone involved would be the establishment of support mechanisms and regional partnerships that would resolve this State's problem. If the State was unwilling or unable to participate in such activities, the case would be presented to the ICAO Council for special consideration and possible future action under the procedure for transparency and disclosure under Article 54 j). This would be necessary because the safety risk posed by these States operators is not contained, the transparency mechanisms under Assembly Resolution A35-7 are not effective, and progress towards resolution is not being made.

FLOW CHART DEPICTING SECRETARIAT PREPARATION, CONFIDENTIAL COUNCIL DELIBERATION AND DISCLOSURE TO STATES



APPENDIX E

DRAFT

MEMORANDUM OF AGREEMENT

NAT-I-_____

BETWEEN THE

FEDERAL AVIATION ADMINISTRATION
OF THE DEPARTMENT OF TRANSPORTATION
OF THE UNITED STATES OF AMERICA

AND

XXXXXXXXXXXX CIVIL AVIATION AUTHORITY
MINISTRY OF TRANSPORT
XXXXXXXXXXXX

INTERNATIONAL AVIATION SAFETY DATA EXCHANGE (IASDEX) SYSTEM

WHEREAS, the Federal Aviation Administration (FAA) of the Department of Transportation, United States of America, and XXXXXXXXXXXX Civil Aviation Authority (XXXXXXXXXXXX) of the Ministry of Transport, XXXXXXXXXXXX, have as common objectives conducting and improving aviation safety oversight, particularly as it concerns overseeing the operations of foreign and domestic air carriers and ensuring a high level of safety for those operations; and

WHEREAS, the FAA and XXXXXXXXXXXX are authorized to take those actions necessary to carry out their respective duties and powers with regard to aviation safety oversight, including the execution of this Memorandum of Agreement for the exchange of safety-related information;

NOW THEREFORE, the FAA and XXXXXXXXXXXX, collectively referred to herein as the parties and individually as the party, agree as follows:

ARTICLE I—OBJECTIVE

This Memorandum of Agreement NAT-I-____ (the Agreement) establishes the terms and conditions under which XXXXXXXXXXXX shall participate in the FAA's International Aviation Safety Data Exchange (IASDEX) system.

ARTICLE II—TERMS AND CONDITIONS

A. The IASDEX is a web-based data reporting system designed to facilitate the storage and exchange of safety information between civil aviation authorities worldwide.

1. Participation in the IASDEX allows a party to submit to the system certain safety inspection data collected by that party on foreign carriers operating within the party's territory.

2. Once accepted by the IASDEX system, all safety inspection data submitted by a party shall be available for review by all other participants in the IASDEX system.

B. In support of the IASDEX system and XXXXXXXXXXXX's participation in the IASDEX, the FAA shall:

1. Establish and maintain a secure internet site where XXXXXXXXXXXX and other IASDEX participant can submit safety inspection data and review safety inspection data posted by other participants.

2. Specify minimum hardware and software requirements for a participant's use of the system.

3. Develop procedures for submitting safety inspection data, including establishing a standard format for the data and the minimum frequencies for submitting data and defining the type of data that may be posted on the IASDEX system.

4. Establish the terms and conditions under which all participants may have access to and review the safety inspection data.

5. Provide IASDEX participants with a user manual for the IASDEX system.

6. Hold periodic meetings with IASDEX participants to review and discuss the operation of the IASDEX system.

C. In connection with its participation the IASDEX system, XXXXXXXXXXXX shall:

1. Designate no more than one hundred (100) XXXXXXXXXXXX employees as users of the

IASDEX system and provide the FAA with a list of those users.

2. Train the employees designated as IASDEX users on the operation and use of the system using the FAA-developed user manual.

3. Ensure that it and each of its employees:

a. Adheres to the procedures established for posting and reviewing safety inspection data on the IASDEX system; and

b. Takes no action, whether directly or indirectly, that would compromise the security of the IASDEX system.

4. Establish a point of contact who, upon request of the FAA or another IASDEX participant, can provide additional detailed information concerning the safety inspection data posted on the IASDEX system.

ARTICLE III—<u>IMPLEMENTATION</u>

A. The designated points of contact between the FAA and XXXXXXXXXXXX for coordination and management of this Agreement are:

1. For the FAA:

Manager, Global Issues Branch
Office of the Assistant Administrator for
International Aviation
Federal Aviation Administration
800 Independence Avenue, SW, FOB-10B
6th Floor East
Washington, D.C. 20591
USA

Telephone: 202-385-8857
Facsimile: 202-385-____

2. For XXXXXXXXXXXX:

(contact information as required)

B. The designated managers for routine technical issues under this Agreement are:

1. For the FAA:

International Programs & Policy Division, AFS-50
Flight Standards Service
Federal Aviation Administration
800 Independence Avenue, SW, FOB-10B
6th Floor West
Washington, D.C. 20591
USA

Telephone: 202-385-8070
Facsimile: 202-267-____

2. For XXXXXXXXXXXX:

(contact information as required)

ARTICLE IV—FINANCIAL PROVISIONS

Each party shall bear the cost of any activity performed by it under this Agreement.

ARTICLE V—RELEASE OF TECHNICAL DATA OR OTHER INFORMATION

Except as required by applicable law or by mutual written agreement of the parties, neither party shall release any technical data or other information or material pertinent to the tasks or related to the agreed program to third parties other than participants in the IASDEX system.

ARTICLE VI—WAIVER OF CLAIMS

Each party to this Agreement waives any and all claims against the other party for all loss, damage, or injury resulting from the activities performed under this Agreement.

ARTICLE VII—AMENDMENTS

This Agreement may be amended by mutual consent of the parties. The details of any such amendment shall be memorialized by written agreement signed by both parties.

ARTICLE VIII—DISPUTE RESOLUTION

Any disagreement arising under this Agreement shall be resolved by negotiations between the

two parties and shall not be referred to any international tribunal or third party for settlement.

ARTICLE IX—ENTRY INTO FORCE AND TERMINATION

A. This Agreement shall enter into force on the date of the last signature and shall remain in force until terminated.

B. Either party may terminate this Agreement by providing ninety (90) days written notice to the other party. Each party shall have one hundred and twenty (120) days to close out its activities following any such termination. The termination of this Agreement shall not affect existing rights and obligations of the parties under this Agreement.

ARTICLE X—SIGNATURE IN COUNTERPARTS

To facilitate execution, this Agreement may be executed in as many counterparts as may be required. It shall not be necessary that the signature of or on behalf of each party appear on each counterpart, but it shall be sufficient that the signature of or on behalf of each party appear on one or more of the counterparts. All counterparts shall collectively constitute a single agreement.

ARTICLE XI—AUTHORITY

The FAA and XXXXXXXXXXXX agree to the provisions of this Agreement as indicated by the signatures of their duly authorized representatives.

FEDERAL AVIATION ADMINISTRATION DEPARTMENT OF TRANSPORTATION UNITED STATES OF AMERICA	DIRECTOR GENERAL XXXXXXXXXXXX XXXXXXXXXXXX
BY: _____	BY: _____
TITLE:	TITLE:
DATE: _____	DATE: _____

Agenda Item 3: Air Navigation Services

3.1 CNS/ATM

3.1.1 The Meeting recalled that recently ICAO issued a State Letter Ref.: AN 13/54-05/65, dated 27 June 2005, informing the progress to the second proposal for amendment of the *Global Air navigation Plan for the CNS/AT/M systems*, which would include a new approach to planning aimed at avoiding a further proliferation of systems and planning activities, and would help as an integral planning tool in a near and medium terms to both, the States and the planning and implementation regional groups (PIRGs), and at the same time would offer a transition scheme for the evolution towards a new global ATM system.

3.1.2 The second amendment to the Global Plan is being developed based on recommendations of AN-Conf/11 and logical groupings of operational initiatives excerpted from the Industry Roadmap, taking into account the need to ensure a smooth integration with the PIRGs current planning framework as well as with the current Global Plan version. The amendment will also take into account the global ATM operational concept and the long-term transition strategies. The finalization of the amendment to the Global Plan for its formal presentation to the Commission is intended for the last quarter of 2005. The Commission will then review the Global Plan and results will be reported to the Council for its final determination and acceptance.

3.1.3 Based on WP/09 and bearing in mind the background expressed in the above paragraphs and in the Industry Roadmap reviewed by ICAO, the Meeting prepared a table showing a Matrix on the present status of the CNS/ATM systems development in the NAM/CAR Regions, as well as its goals. In this regard, the United States presented updated information on the current status of its development of some of its ATM and surveillance systems; likewise France and Saint Lucia presented information on the present status of implementation of WGS-84 in their Territories and State, respectively, as well as in the rest of the Eastern Caribbean.

3.1.4 The CNS/ATM Matrix of the NAM/CAR States reviewed by the Meeting is presented in **Appendix A** to this part of the Report and is aimed at providing a significant contribution to the air navigation services and systems regional development plan, contributing to the establishment of an adequate CNS/ATM systems infrastructure in the NAM/CAR Regions in harmony with other regions development, to achieve the goal of implementing a better global air navigation system. Additionally, the Meeting considered that the Matrix should be a dynamic document requiring a periodic updating of information regarding the status of development of the CNS/ATM systems in the NAM/CAR Regions. Therefore, the Meeting agreed on the following Conclusion:

CONCLUSION 2/9 COORDINATED DEVELOPMENT AND IMPLEMENTATION OF THE CNS/ATM SYSTEMS IN THE NAM/CAR REGIONS

That aimed at continuing a coordinated development and implementation of the CNS/ATM systems in the NAM/CAR Regions, States/Territories/International Organizations should:

a) follow-up the CNS/ATM Matrix presented in Appendix A to this part of the Report;

b) develop planning implementation of these CNS systems taking into account, among other aspects, the Matrix referred in paragraph a) above;

c) with the ICAO NACC Office support, adjust the mentioned CNS/ATM Matrix, taking into account the second amendment to the Global Air Navigation Plan for the CNS/ATM systems expected to be approved in 2006; and

d) through the NACC regional/sub-regional meetings mechanism periodically update the information of the CNS/ATM Matrix on the status of development of the CNS/ATM systems in these Regions.

Application of regional technological solutions for the implementation of CNS/ATM systems and other aeronautical systems/services

3.1.5 COCESNA through WP/39, presented to the Meeting information on its experiences and benefits obtained by executing technological solutions in Central America facilitating the integration and harmonization in different aeronautical processes. In **Appendix B** to this part of the Report a summary of the COCESNA's experiences is presented. Moreover, COCESNA based on its experiences propose the application of regional technological solutions. Therefore, the Meeting agreed on the following Conclusion:

CONCLUSION 2/10 APPLICATION OF NAM/CAR REGIONAL TECHNOLOGICAL SOLUTIONS FOR AERONAUTICAL SERVICES

That States/Territories/International Organizations of the NAM/CAR Regions aimed at facilitating and obtaining major benefits in the implementation of the CNS/ATM systems and other aeronautical services:

a) look for and implement regional technological solutions that facilitates the integration, harmonization and intra/inter regional cooperation; and

b) consider the agreement of regional technical cooperation projects for applying solutions mentioned in paragraph a) above.

ATM Automation and ADS-B Implementation

3.1.6 The Secretariat presented information on the progress achieved for ATM automation and ADS/ADS-B implementation in the NAM/CAR Regions. In this regard, it was recalled that the AN-Conf/11, approved the use of the ADS-B system to support the global ATM system and contribute achieving global interoperability, taking into account AN-Conf/11 Recommendations. Additionally, the Meeting was informed that at present in the Global Air Navigation Plan for CNS/ATM Systems (Doc 9750), ADS systems appear like options for the future ATM surveillance system, and that ICAO is developing additional SARPs on the use of ADS-B, which will be published soon.

3.1.7 The Meeting considered that the automation systems should be capable of providing information to the ATM system in order to optimize the capabilities of the services rendered to airspace users until and beyond year 2025, establishing as target the achievement of a global inter-functional ATM system for all the users during all the phases of flight.

3.1.8 During the evolution of ATM automation systems, it is important to consider the integration, operational use and development of technical infrastructure, including communication systems supporting the implementation of operational applications. To this end, the Meeting considered essential the regional application of an Interface Control Document (ICD), for the integration of ATM automation systems in the NAM/CAR Regions. Presently, the Working Groups are carrying out an analysis of the ICD developed by Canada, Mexico and the United States for its future harmonious implementation in the CAR and SAM Regions.

3.1.9 It was also recalled that the States/Territories/International Organizations should analyze and provide the information concerning the operational and inter-connectivity requirements for the interfacing of other automation systems, which includes planned actions for the implementation of ADS-B systems in the NAM/CAR Regions taking into account the strategy presented in the **Appendix C** to this part of the Report.

3.1.10 On the other hand, the regional automation strategy approved by GREPECAS/12 has been recognized as perfectly viable and considered as futuristic, supporting the regional interoperable development and harmonious interfacing of ATM automation systems in the short, mid and long-term. In accordance with the comparison of the current capability of the traffic flows in the CAR/SAM Regions, it is obvious that there are still some areas with facilitation requirements, which should be planned in accordance with the objectives and functionalities of a progressively automated interregional ATM.

3.1.11 Likewise, the Meeting agreed to continue supporting the work through the *Regional Strategy for ATM Automation Systems Interface* approved by GREPECAS, including other activities within the future programme of the Working Groups, such as:

- foster the interfacing of the automation systems through the use of ICAO standardized operational applications;
- carry out an operational, technical, harmonized, interface using an interface control document (ICD) for data exchange and coordination among ATS units, based on ICAO SARPs and supplemented as necessary;
- foster the planning and development of human resources applied to the regional implementation and interfacing of ATM automation systems;

- designate ATM contact points in each State/Territory/International Organization for the coordination ATM automation systems interface in the CAR/SAM Regions.

3.1.12 In view that the technology allows achieving important advantages with little investment towards a flexible air traffic management system, the States/Territories/International Organizations agreed to establish bilateral or multilateral agreements with a view to a regional ATM automation, with a harmonious and evolutionary view of inter-operability within systems allowing data exchange among ATS units in order to achieve a flexible, transparent, and optimum airspace management, increasing at the same time the required ATM safety levels.

3.1.13 Based on the above paragraphs, the Meeting considered convenient that States, Territories of the NAM/CAR Regions and COCESNA continue working for the interface and operational integration of ATS automation systems in the NAM/CAR Regions as well as to adopt the regional strategy for ADS-B implementation. Therefore, the Meeting formulated the following Conclusion:

CONCLUSION 2/11 INTERFACE AND OPERATIONAL INTEGRATION OF ATM AUTOMATION SYSTEMS OF THE NAM/CAR REGIONS

That the States/Territories/International Organizations:

a) define the ATM automation requirements, in accordance with their operational and technical needs;

b) base on the Regional Strategy for the implementation of ADS-B presented as Appendix C to this part of the Report;

c) examine other regional requirements for the integration of ATM automation systems;

d) establish bilateral or multilateral agreements for the integration of ATM automation systems, with a view to a regional ATM automation in accordance with ICAO guidelines;

e) designate a point of contact to participate in the work for the integration of ATM automation systems; and

f) coordinate their action plans with the ICAO NACC Regional Office in order to ensure a regional integration of ATM automation systems, in an integral, harmonious, interoperable manner, coherent with the Regional Air Navigation Plan (ANP) of the CAR/SAM Regions.

3.1.14 IP/27 presented a summary of the different activities and work made by COCESNA for the implementation of the automation of Maintenance Management for Air Navigation Systems that allows improvement of the availability and the efficiency of the services, in accordance with CNS/ATM requirements.

3.1.15 COCESNA also presented the progress developed on automation, emphasizing SGM that uses a reliable and up-to-date database of the SNA systems, which allows to develop and define the renewal plans of the systems, plan and schedule the maintenance activities, gather and analyze the activities and maintenance events and manage logistic and resources.

COCESNA ATIS Voice System

3.1.16 COCESNA informed on the development of its ATIS Voice System, and its implementation in the Juan Santamaria International Airport in San Jose, Costa Rica in September 2005, as well as on the development plans of a digital ATIS system (D-ATIS). In **Appendix D** to this part of the Report information on an ATIS System developed by COCESNA is presented. Taking into account these considerations and that Table CNS2A also contains requirements for other international airports in the CAR Region, the Meeting adopted the following Conclusion:

CONCLUSION 2/12 DEVELOPMENT OF A MODERNIZATION AND IMPLEMENTATION PLAN OF D-ATIS EQUIPMENT IN THE INTERNATIONAL AIRPORTS OF THE CAR REGION

That, taking into account the experiences of COCESNA in developing a new D-ATIS equipment, States, Territories of the CAR Region and COCESNA examine and consider adopting in the international airports an equipment modernization plan and implementation of ATIS services, in accordance with ATM requirements.

COCESNA ADS data processing and CPDLC communications

3.1.17 A general description of available facilities and capabilities in COCESNA Control Centres and of actions undertaken in planning and executing trials for the ADS Data Processing and CPDLC Communication, mainly for the Pacific oceanic area of the Central America FIR that do not have radar coverage was presented. As a possible backup to CENAMER ACC contingencies, a Backup Control Centre is available in Ilopango, El Salvador, serving at the same time as ATC Simulator.

3.1.18 The existing functions in both Control Centres for ADS C data Processing and CPDLC management communications are: CENAMER Control Centre having ADS/CPDLC Data Link Servers (Data Link Servers – DLS). The system has the capacity of ADS/CPDLC management communications through connections to the Data Link providers networks, could carry out messages exchange between aircraft and the Data Link Terminal, distribution of ADS data to the Surveillance Data Processing (SDP) subsystem for ADS and ADS/SSR runway monitoring, as well as the recording of all messages issued.

Information presented to the Meeting on developments of CNS in the NAM/CAR Regions

3.1.19 The Meeting noted that United States, through its IP/06 provided the most recent status of the United States Global Positioning (GPS) and the updated GPS policy, as well as the Federal Aviation Administration's (FAA) Wide Area Augmentation System, or WAAS, and Local Area Augmentation System, or LAAS. The material presented is considered an important contribution to the implementation of a global satellite-based navigation system (GNSS).

3.1.20 Moreover, United States presented to the Meeting its IP/12, containing a technical synopsis and a status report of the Aeronautical Telecommunication Network (ATN) Architectural Components in the U.S. National Airspace System (NAS), including the ATS Message Handling System (AMHS) and the FAA ATN Router component. The U.S. and Japan AMHS trials, the current operational FAA AMHS Gateway, the FAA AMHS program as well as the FAA ATN Router component were also highlighted. Likewise, concerning this matter, United States presented IP/13, providing information on a technical overview of the FAA Aeronautical Telecommunications Network (ATN) Architecture Plan, and provides a brief synopsis of the FAA ATN Architectural Plan (AAP) document.

3.1.21 Additionally, United States, through its IP/25 informed the Meeting on the status of development of the MEVA II VSAT digital communications network, which is carried out by the States, Territories and International Organization of the Central Caribbean and neighbouring zones, including United States, and Americom Government Services (AGS) as the selected service provider for the MEVA II Network.

3.1.22 COCESNA also presented the Meeting its IP/28, describing the activities and tasks included in COCESNA PRE-ATN routing System Project, presenting the advances of it and the characteristics and potentialities of compatibility with the future CNS systems and the future ATN network.

3.1.23 COCESNA, through its IP/31 presented a summary of the different activities and work carried out by COCESNA within the framework of the Regional Projects for SBAS Augmentation: RLA/00/009: System WAAS and RLA/03/902: System SACSSA, as well as the works in process made by COCESNA for the implementation of future GNSS augmentation systems.

3.1.24 In addition, COCESNA, through its IP/32 presented a summary of the different activities and projects that COCESNA is working on and participating with the purpose of optimizing the communications in the Central American FIR, as well as in the compatibility of its systems with the future interoperations of regional satellite networks and the homologation of channels and communications.

3.1.25 Lastly, COCESNA presented IP/36, describing in general the "Substitution of Navaids in Central America" Project as well as the present status and planning of its execution, taking into account that the total utilization of navigation systems based on satellites is foreseen in a term that widely exceeds the life utility of present navaids.

Support for ICAO's Position for the ITU WRC-2007

3.1.26 Based on WP/22 and WP/28 presented by the United States and the Secretariat, respectively, the Meeting was informed on the Agenda for the Work Radiocommunication Conference (2007) (WRC-2007) presented to the Meeting in the Appendix to WP/22, likewise, it was recalled that GREPECAS formulated Conclusion 12/33 – *CAR/SAM Regional Action for the Preparation and Support of the ICAO's Position for WRC-07*, and that recently, ICAO issued a State Letter Ref.: E 3/-05/85, dated 12 August 2005, informing States that the Council, at the 14th meeting of its 175th Session, held on 14 June 2005, reviewed the ICAO position on issues of critical concern to aviation which are on the agenda of the International Telecommunication Union (ITU) WRC-2007, planned to be held in October 2007. The Council approved the ICAO position as contained in the appendix to the referred State Letter. The State Letter and the position referred to were included as Appendix B to WP/28 presented in this Meeting.

3.1.27 The Meeting took note that ICAO's position is to protect the aeronautical spectrum for the radiocommunications and radionavigation systems required for current and future safety-of-flight applications. In particular, it stresses that safety considerations dictate that exclusive frequency bands must be allocated to safety critical aeronautical systems and that adequate protection against harmful interferences must be ensured. It also includes proposals for new aeronautical allocations for the air-ground communications.

3.1.28 Furthermore, the Meeting took note that the active support from States is deemed the only means to ensure that the results of the WRC-2007 reflect civil aviation's need for spectrum. Therefore, according to Conclusion 12/33 of GREPECAS and the State Letter, Ref.: E 3/5-05/85, the Meeting agreed on the following Conclusion:

CONCLUSION 2/13 SUPPORT OF STATES IN THE NAM/CAR REGIONS TO ICAO'S POSITION FOR THE ITU WRC-2007

That the Directors of Civil Aviation of the NAM/CAR Regions, if not already done, adopt appropriate measures to support ICAO's position for the ITU WRC-2007:

a) designate a focal point or a contact person with the respective national authority of radio-frequency spectrum management, in order to incorporate ICAO's position which is presented as the appendix to State Letter Ref.: E 3/5-05/85, dated 12 August 2005, when developing the State's position for the ITU WRC-2007, as well as with ICAO for the coordination of matters related with the WRC-2007;

b) participate in an active manner in the preparatory work for the WRC-2007 in the CITEL meetings of the Organization of American States (OAS);

c) participate in an active manner, whenever possible, in meetings of ICAO working groups and other activities convened by ICAO regarding the position for the WRC-2007; and

d) ensure that, to the extent possible, representatives from civil aviation administrations be included in the national delegations to the conference ensuring the support of ICAO's position for the ITU WRC-2007 in the civil aviation-related matters.

3.1.29 Regarding the ICAO working groups, the Meeting was informed that Working Group F of the Aeronautical Communications Panel (ACP) is tentatively programmed for 14-15 November 2005 in Cairo, Egypt.

ATM Developments

3.1.30 The Meeting noted the regional developments in the ATM field, as a result of the tasks of the Working Groups of North America, Central America and the Caribbean carried out according to the conclusions of the GREPECAS/12 and NACC/DCA/1 meetings.

RVSM Implementation

3.1.31 The Meeting agreed that the successful implementation on 20 January 2005 at 09.00 UTC of the reduced vertical separation minimum (RVSM) from FL 290 to FL 410 inclusive, in the CAR/SAM Regions, homogeneously with the NAM Region was a transcendental event, and as a result, the Secretary General of ICAO sent a congratulatory letter to the representatives of the involved civil aviation authorities.

3.1.32 In accordance with the information provided by the Administrations to the ICAO NACC Office, during the first hours of implementation some problems and minor coordination issues arouse; nevertheless, to date no similar situations have been reported, and coordination among the adjacent ACCs and other ATS units are performed normally without major problems.

3.1.33 After the implementation, the States agreed to the activation of the Scrutiny Working Group to analyze the information provided regarding all reported large height deviations **(**LHDs) of 300 feet or more. The review of this data has revealed that errors in ATC-unit-to-ATC-unit coordination generated the greatest percentage of the deviations, and therefore, the Working Group recommended remedial action to reduce the number of LHDs caused by errors in ATC-unit-to-ATC-unit coordination.

3.1.34 Taking into account these errors in the ATS coordination loop have a direct impact on safety, the CAR/SAM States/Territories/International Organizations should ensure the application of suitable measures in order to timely report and to reduce this type of errors in accordance with the guidelines of Doc 9574.

ATS Letters of Agreement (LOAs)

3.1.35 As a result of the RVSM implementation, all the LOAs between ATC units were updated during 2004. This task reflects one of the great co-operation efforts carried out by States/Territories/International Organizations responsible for the provision of air traffic services to achieve a complete agreement throughout the NAM, CAR and SAM Regions.

3.1.36 In addition, in the NAM/CAR Regions other operational and technical agreements between adjacent ACCs are being analysed for the implementation of the service for the air traffic flow management and for interfacing ATM automation systems.

RNAV Routes and Required Navigation Performance (RNP) Implementation

3.1.37 The Meeting was informed that since 2000, when the ATS route revision process began, 45 RNAV routes have been implemented, 38 were realigned and 6 were deleted, all submitted for consideration by and approval of the ICAO Council in the CAR/SAM Regions. At the end of all this process, in 2005 it is expected that 54 RNAV Routes will be implemented; realigning 44 routes and

deleting 9 routes. The Working Group will continue a permanent review of the route network in order to respond to the user's requirements.

3.1.38 Additionally, it was informed that the NACC Office has continued coordination with the States of the NAM Region for the harmonization of ATS route designators and of the allocated polar routes in coordination with the ICAO APAC and EUR Offices. The regional activities performed for the NAM/CAR airspace organization include the review and provision of 5-letter name codes designators as established in ICAO Annex 11. These regional tasks also include the implementation of GNSS procedures and SID and STARs standardized procedures among the airports and the RNAV routes, which are already implemented or under implementation process.

3.1.39 The most relevant aspects of the NAM/CAR/SAM Regional Seminar on RNAV/RNP Implementation, held in Mexico City, Mexico, from 11 to 13 August 2005 are included in **Appendix E** to this part of the report so that States, Territories and International Organizations take them into consideration before planning future implementations regarding RNAV/RNP.

3.1.40 United States presented information on the international activities that it has carried out for several years with its aviation stakeholders to implement Performance-Based Navigation in the U.S. National Airspace System and with the international ATM community, in global, regional, and bilateral forums, to further the harmonized implementation of Performance-Based Navigation. The implementation of Performance-Based Navigation is advantageous due to the fact that the users and service providers obtain benefits when applying the aircraft performance requirements.

3.1.41 The Meeting deemed appropriate to pursue regional harmonized implementation with the new concept of Performance-Based Navigation, and to streamline the implementation of Performance-Based Navigation and to make more efficient its implementation, taking as an example coordinated action on strategic issues carried out by Canada, United States and Mexico. Therefore, the Meeting agreed to formulate the following Conclusion:

CONCLUSION 2/14 IMPLEMENTATION OF PERFORMANCE-BASED NAVIGATION

That States/Territories and International Organizations take into account the information included in Appendix E to this part of the report in their future implementation work of Performance-Based Navigation in their airspace.

Search and Rescue

3.1.42 In collaboration with the Dominican Republic Civil Aviation Authority, the ICAO NACC Office organized a SAR Seminar for the CAR Region, held from 28 March to 1 April 2005. Likewise, a SAR Seminar for the Central American FIR was conducted in the ICAO NACC Office from 29 to 30 August 2005. The seminars focused mainly on the requirements and harmonization aspects of the SAR service included in the audits programme of ICAO such as the organization, legislation and documentation, cooperation agreements, drills and SAR quality assurance.

3.1.43 As a result of the work carried out, it was recommended that the SAR plans and cooperation agreements among States be adjusted along ICAO guidelines and to the IAMSAR Manual (Doc 9731), which has the advantage of harmonizing the future SAR tasks.

3.1.44 COCESNA presented information on the progress of its SAR agreements, and provided a copy of the SAR agreement recently signed between the Rescue Coordination Centre (RCC) and the Central American and Panama FIRs.

3.1.45 Taking into consideration that the agreements are an essential part for the harmonization of the SAR service in the NAM/CAR Regions, the Meeting deemed it convenient to adopt the following Conclusions:

CONCLUSION 2/15 REVIEW AND SIGNATURE OF AGREEMENTS ON SEARCH AND RESCUE (SAR) FOR THE CENTRAL AMERICA RESCUE COORDINATION CENTRE (RCC)

That, considering the need for updating the documents that regulate the Central American agreements in the Search and Rescue field, and the convenience of establishing other agreements with related entities that could provide support and assistance to the Central American Service SAR, it is requested that Central American Aeronautical Authorities and COCESNA:

a) send a delegation of SAR Coordinators to participate at the Fifth Meeting of the Central American Search and Rescue Committee (COBUSA/5), to be held in Tegucigalpa from 17-20 October, in order to proceed to:

i) Revise and update the present SAR Plan to Central American, signed on November 30th 1992;
ii) Update the Internal Regulation of Central American Search and Rescue Committee COBUSA);
iii) Revise/elaborate the SAR letters of agreements that be necessary; and

b) approve and endorse the described documents in item a) above.

CONCLUSION 2/16 AGREEMENTS ON SEARCH AND RESCUE (SAR) OF THE CENTRAL AMERICA RCC AND ADJACENT RRCs

That the ICAO NACC Office urge those States adjacent to the Central American FIR to subscribe SAR agreements with the Central American FIR.

ATM Contingency Plans

3.1.46 It was recalled that since 25 November 2003 new requirements to Annex 11 for States to develop their ATM contingency plan for airspace and aerodromes under their jurisdiction became applicable. These contingency plans should be approved by the President of ICAO Council, when a deviation from what is established in the air navigation plan is envisaged.

3.1.47 Cuba and COCESNA presented up-to-date information on the progress status of their contingency plans.

3.1.48 The status of development of the ATM contingency plans is found in **Appendix F** to this part of the report.

3.1.49 Considering the need for the Working Groups to continue the implementation work in the NAM/CAR Regions, the Meeting adopted the following Conclusion:

CONCLUSION 2/17 SUPPORT FOR THE ATM WORK IN THE NAM/CAR REGIONS

That Civil Aviation Administrations of the NAM/CAR Regions continue supporting the work of the Working Groups for the regional development and implementation of the ATM elements applicable to the NAM/CAR Regions.

Implementation of Air Traffic Flow Management (ATFM) in the NAM/CAR Regions

3.1.50 The Secretariat provide information on the recent ICAO visits to several States of the NAM/CAR Regions, notifying that presently, there are saturation periods at several airports and traffic flows in the Santo Domingo, Bahamas, Mexico and Miami FIRs, and it was recommended that States involved begin studies to establish balancing measures between ATS demand and capacity.

3.1.51 COCESNA presented a project for the ATFM implementation project in the short term, taking into account the horizon established in the GREPECAS approved CAR/SAM ATM Evolution Tables. To that end, COCESNA and FAA have established an agreement to share operational information through the use of the ETMS to monitor traffic flows to/from the NAM/CAR/SAM Regions. The action plan prepared by COCESNA for implementation of the ATFM service in the Central America FIR is included as **Appendix G** to this part of the Report.

3.1.52 As part of the activities of Central American ATFM project, COCESNA has kept a constant communication with ICAO NACC Office in order to coordinate an ATFM course for the CAR Region scheduled in March 2006 in order to initiate the corresponding regional activities. As part of the diffusion of this work, COCESNA also participated at the 3rd ATFM Global Conference in Ottawa, Canada, from 20 to 22 September 2005 organized by NAVCANADA.

3.1.53 Taking into consideration the information presented by COCESNA, the Meeting support the following Conclusion:

CONCLUSION 2/18 IMPLEMENTATION OF AIR TRAFFIC FLOW MANAGEMENT (ATFM) IN THE CENTRAL AMERICAN FIR

That, considering the important operational and financial benefits for the ATM community, derived from the implementation of an efficient and safe Air Traffic Flow Management (ATFM) system, the States in the Central American FIR and COCESNA:

a) initiate, under the coordination of COCESNA, the actions regarding the implementation of a sub-regional ATFM system for the Central American FIR, considering to that end the guidelines of ICAO, as well as the tasks and implementation programme to be agreed upon in the CAR/SAM Regions;

b) continue the coordination with States, ICAO NACC Regional Office and other International Organizations, air operators, other ATFM Units and related bodies within a cooperative framework, in order to establish an efficient, safe and highly beneficial ATFM system; and

c) present to the NACC/DCA/3 Meeting, through COCESNA, a report on the status of the progress of this project.

3.1.54 The Meeting also informed on the balancing measures between ATS demand and capacity discussed during the Air Traffic Flow Management (ATFM) Coordination Meeting for the NAM/CAR Regions, was held in Mexico City, Mexico, from 8 to 10 August 2005, where the current air traffic flows and different ATFM scenarios, and the 7% increase of the operations between the NAM/CAR Regions were analyzed.

3.1.55 The Meeting noted that the traffic flows of the NAM Region to/from the Eastern Caribbean and of the Caribbean to/from Europe, and have kept sustained annual increases. COCESNA identified an additional flow of continental-oceanic traffic of medium intensity between Central America and Miami. With these results, the Meeting concluded that the CAR Region, including Mexico, Central America, the Central Caribbean and the Eastern Caribbean are characterized as an homogeneous area with similar operational features and needs, and therefore, as a potential scenario for ATFM implementation.

3.1.56 In view that ATFM implementation will have an impact on all the FIRs of the CAR Region, the Meeting agreed on the need for States/Territories/International Organizations of the NAM/CAR Regions to take ATFM coordination measures between these regions for balancing ATS demand and capacity, in accordance with the ATM implementation chart of the Global Air Navigation Plan for CNS/ATM Systems. The adopted joint strategy for the development of an interregional NAM/CAR ATFM system is included in **Appendix H** to this part of the Report.

3.1.57 The Secretariat also provided detailed information on the activities that the ATM Committee of the ATM/CNS Subgroup of GREPECAS had initiated for the planning and implementation of a CAR/SAM interregional ATFM system, considering the ATM evolutionary tables of the CAR/SAM Air Navigation Plan FASID.

3.1.58 Due to the different characteristics and needs of the FIRs of the CAR and SAM Regions, the Meeting was informed that the ATM Committee of the ATM/CNS Subgroup of GREPECAS agreed to work towards a common ATFM planning for both regions; nevertheless, the implementation will be carried out by the different CAR and SAM Working Groups, considering the implementation of at least one centralized ATFM unit for the CAR Region and another one for the SAM Region. The Meeting supported this initiative and was also of the opinion that ICAO should adequately coordinate this work in order to ensure a harmonious ATFM implementation among the NAM, CAR and SAM Regions.

3.1.59 Taking into consideration this work for balancing demand and capacity, the Meeting decided to support the development of a joint strategy for a NAM/CAR ATFM system. Considering the information provided agreed on the following Conclusion:

CONCLUSION 2/19 IMPLEMENTATION OF THE ATFM SYSTEM IN THE NAM/CAR REGIONS

That the States/Territories/International Organizations initiate the corresponding activities to:

a) apply the NAM/CAR joint strategy for ATFM development presented in Appendix H to this part of the Report through:

i) the establishment of a CAR regional ATFM system;
ii) the harmonized establishment of a NAM/CAR ATFM interregional system; and

b) coordinate their implementation activities with the ICAO NACC Regional Office to achieve a regional, harmonious and interoperable ATFM implementation.

3.1.60 United States presented Air Traffic Flow Management (ATFM) activities and expressed its intent to work with the Caribbean Region to develop an ATFM system and implement the corresponding initiatives. The Air traffic flow management (ATFM) is a service which was established with the objective of contributing to a safe, orderly and expeditious flow of air traffic by ensuring that Air Traffic Control (ATC) utilizes capacity to the maximum extent possible and that the traffic volume is compatible with the capacities declared by the appropriate Air Traffic Services (ATS). FAA was recently been added their corporation activities related to the Air Traffic Management (ATM) work program for the Caribbean Region.

3.1.61 United States informed that there has been an increased activity with regard to the ATFM in the Caribbean and South American regions and it will work closely with all adjacent States in the Caribbean Region as the ATFM concept is developed.

3.1.62 The Meeting noted that the future direction of ATFM activities will drive towards a seamless global harmonized and inter-operable air traffic management (ATM) system. This system will traverse State boundaries merging data, knowledge, ideas, and concepts, and will capitalize its benefits such as enhanced safety, increased capacity, and improved effectiveness and hemispheric interaction. In this regard, the Meeting was informed of different activities that ICAO NACC Office has scheduled for year 2005, aimed at the development of a regional harmonized ATM system.

Safety Management Systems

3.1.63 Based on the requirements of Annexes 11 and 14 and Doc 4444, PANS-ATM, in force since November 2003, the Secretariat provided information on the relevant aspects of a safety management system (SMS) for States to develop an action plan for its implementation. Likewise, a CD titled ICAO Runway Safety Toolkit was provided to all the delegations.

3.1.64 The Global Aviation Safety Plan (GASP), included in the ICAO website (www.icao.int/icao/en/anb), is established as the mechanism allowing the coordination and consolidated reporting of safety-related activities conducted throughout the world and at the same time presents an overview of all these activities in a single document. The objectives of the Global Aviation Safety Plan (GASP) are to:

a) reduce the number of accidents and fatalities, irrespective of the volume of air traffic; and
b) achieve a significant decrease in worldwide accident rates, emphasizing on regions where the latter remain high.

3.1.65 The regional and national implementation of a safety management system and the ATM safety performance targets should take these objectives into consideration to ensure that they will contribute to meet the global objectives. To this end, the AN-Conf/11 supported the development of a joint document that could be available for the States perusal, Doc 9859 - *Manual on safety management for aerodromes and air traffic services*, whose objective is to assist States in the implementation of an SMS. This Manual is available in ICAO webpage (www.icao.int/net).

3.1.66 Doc 9859 represents the first stage in the adoption process of a harmonized approach with regard to safety management based on systems, described in the global ATM operational concept, organized in such a way that the aerodromes as well as ATS common basic principles of safety management for aerodromes and for ATS are dealt with firstly. That manual has specific sections for the implementation and general principles of a safety culture in aerodromes and in ATS.

3.1.67 Doc 9859 defines the close correlation between the philosophy of safety management and this concept of a safety culture; philosophy defines a way of thinking about safety. The safety culture is result of this way of thinking being translated into actions, so that the organizational culture becomes safety-oriented.

3.1.68 Based on all the above, the Meeting formulated the following Conclusion:

CONCLUSION 2/20 IMPLEMENTATION OF A SAFETY MANAGEMENT SYSTEM

That the States/Territories/International Organizations of the NAM/CAR Regions that have not yet done so:

a) develop an action plan to implement by 10 November 2006 a safety management system through systemic and appropriate programmes;

b) establish the acceptable levels and objectives with regard to safety, within airspaces and aerodromes under their jurisdiction; and

c) participate in the activities carried out by ICAO in order to foster the implementation of a regional safety management system.

3.1.69 COCESNA presented its Strategic Master Plan (PMEC 2005 - 2009) for the implementation of Integrated Management System, which is considered as one of the key and high-priority areas, to take the organization to other standards of performance that makes it more competitive at world-wide level, considering factors as Quality, Safety, Human Factors and Environment, ensuring the efficacy, efficiency and continuous improvement in the services provided, in the permanent search for the excellence in Management.

3.1.70 Implementation of the Integrated Management System is fundamentally sustained on the requirements of Normative ISO 9001:2000 and contemplates the certification of diverse areas. Integrated Management System of COCESNA greatly contributes to comply with the protocols and other requirements of the audit process of the Universal Safety Oversight Audit Programme (USOAP) of the International Civil Aviation Organization.

ATM Performance

3.1.71 The Secretariat presented guidelines found in diverse ICAO documents, and others under publication process in the short term, concerning ATM performance evaluation, so that States may develop their ATM performance evaluation programmes.

3.1.72 The Meeting noted the importance of establishing the system's performance indicators to ensure that the expectations of the ATM community are fulfilled and that new operational procedures are adequately introduced, so that the system may meet the agreed safety levels. The expectations are related with the access and equal participation, capacity, cost-efficiency, efficiency, environment, flexibility, global inter-operability, participation, predictability, safety and airport security.

3.1.73 Within the ATM system's safety performance, the following indicators are considered:

Safety Performance Indicator. A measure (or metric) used to express the level of safety performance required or achieved in a system.

Safety Performance Target. The required level of safety performance for a system. A safety performance target comprises one or more safety performance indicators, together with desired outcomes expressed in terms of those indicators.

Safety performance indicators

3.1.74 Safety performance indicators are generally expressed in terms of the frequency of occurrence of some event causing harm. Typical measures which could be used include:

- fatal aircraft accidents per flight hour;
- fatal aircraft accidents per movement;
- fatal aircraft accidents per year;
- serious incidents per flight hour;
- fatalities due to aircraft accidents per year.

3.1.75 Risk measures expressed in terms of fatal aircraft accidents are indicators of individual risk, since they do not take account of the number of people affected. A risk measure expressed in terms of number of fatalities would be more appropriate for expressing societal risk.

3.1.76 These risk measures specify only the frequency of occurrence, whereas risk involves both frequency and severity. In this form of risk measure, the severity is implicit in the occurrence whose frequency is being specified. Therefore it could be expected that an acceptable limit expressed in terms of incidents would be significantly different from a limit expressed in terms of fatal aircraft accidents.

Classification of safety occurrences and causal factors

3.1.77 It is much easier if events and causal factors are classified using a standard scheme, and the classified data are entered into a data base. A classification scheme (also called a *taxonomy*) is comprised of a hierarchy of classes of events. The top levels are very broad in scope, while each succeeding lower level becomes more specific.

3.1.78 ICAO has maintained a global database of accidents and serious incidents notified by States through the Aircraft Accident/Incident Data Reporting System (ADREP). The latest version of this system, called ADREP 2000, contains a greatly expanded taxonomy including many ATS-related categories. Information on this system, including copies of the taxonomies, can be found on the Internet at *http://eccairs-www.jrc.it/*

3.1.79 The Meeting was of the opinion that these taxonomies could be used for the classification of ATS-related safety occurrence data for internal investigation and analysis purposes, as well as for reporting accident and incident data to ADREP.

3.1.80 In all cases where safety occurrence data is entered into a data base, it should be borne in mind that the validity of the information derived from any data base will only be as good the data on which it is based. Therefore, it is important that the accuracy of the entered data is verified.

Safety Performance Assessment Process

3.1.81 The recently revised ICAO guidance material on measuring performance and productivity in the Manual on Air Navigation Services Economics (Doc 9161) includes an approach to development of performance metrics in, inter alia, the areas of safety, delay, flight efficiency, productivity and cost-effectiveness.

3.1.82 The safety assessment is a systemic approach, as whole criteria to evaluate the acceptability of the risk and incorporate severity and likelihood aspects. In **Appendix I** to this part of the report the seven steps of the complete process are pointed out.

3.1.83 The perceived risk associated with a hazardous event depends on both the likelihood of occurrence of the event, and the severity of its consequences. The safety assessment process needs to address both these factors. The **Appendix J** to this part of the report has the risk classification scheme.

3.1.84 If the initial assessment of the risk indicates that safety assessment criteria are not met, and it is required to introduce mitigation measures, it will be necessary to re-evaluate the risk and to determine if the mitigation measures caused the desired effect. This means that some of the previous steps should be repeated and might need to be repeated more than once, until a satisfactory combination of mitigation measures is found.

ATS Quality assurance programmes

3.1.85 It was recalled that in 2003 the ICAO NACC Office has carried out several special implementation projects (SIPs) for the Central Caribbean, the Eastern Caribbean and Central America with the objective to provide assistance for the implementation of Quality Assurance Programmes. Most of the States, Territories and International Organizations reported substantial progress on the implementation of these programmes.

3.1.86 The implementation of ATS Quality Assurance Programmes has proved to be an efficient tool that fosters improvements to the ATM system through the establishment of diverse complementary programmes for ATS performance assessment such as incidents reporting and investigation programmes; incidents prevention; verification and training on ATC proficiency; proficiency in the use of aeronautical language and of English language; verification of the use of aeronautical phraseology.

3.1.87 Although these implementations have attained great success in the solution of deficiencies, it is necessary to consider other aspects related with the assessment of ATM performance in order to achieve a harmonious migration towards the implementation of safety management systems in the CAR and NAM Regions.

3.1.88 Moreover, the NACC Regional has developed a database on ATS incidents in the CAR/SAM Regions, whose purpose is to register the safety measures carried out by States, Territories and International Organizations, and that are included in the Air Traffic Services Quality Assurance Programme.

3.1.89 Cuba informed that it has established the national policy for the implementation of Quality Management Programmes in the Instituto de Aeronáutica Civil de Cuba (IACC), making special emphasis on Quality Assurance in the air traffic services. Empresa Cubana de Aeropuertos y Servicios Aeronáuticos (ECASA), company in charge of providing air traffic services in Cuba, has implemented since 2003 the ATS Quality Assurance Management Programme.

3.1.90 ATS Quality Management Programme has had a very positive impact on safety and a considerable fall in ATS accidents has been achieved, which have decreased in 58 percent with regard to year 2003. The Programme is kept under constant enhancement and complies with ISO 9001:2000.

3.1.91 The Meeting recognised that the implementation of a safety management programme demands definition of related performance objectives, and implementing of suitable mechanisms to prove that these objectives are being met, which implies undertaking new work to measure the ATM system's performance. Among these aspects is sharing information on incidents and accidents online, the classification of risk and the suitable measures to its solution, as well as the regional collaboration for the harmonization and exchange of experiences.

3.1.92 Based on all the above, the Meeting formulated the following Conclusion:

CONCLUSION 2/21 IMPLEMENTATION OF PROGRAMMES FOR THE EVALUATION OF ATM PERFORMANCE

That States/Territories of the CAR Region and COCESNA implement by **30 November 2006** an ATM performance assessment programme, in accordance with ICAO guidelines (Annex 11, Doc 4444 and Doc 9854).

Provision of Aeronautical Meteorological Services

3.1.93 The Meeting recalled that on 8 September 2000, the Secretary General of ICAO and the Secretary General of the World Meteorological Organization (WMO) issued a joint letter inviting ICAO contracting States, OMM Member States and the entities designated as State's meteorological (MET) authorities "to enhance their cooperation at the national level in order to ensure that the provision of aeronautical meteorological service would continue to contribute effectively towards the safety, regularity and efficiency of international air navigation". Cooperation and mutual understanding between the aeronautical meteorological service authority/provider and other aviation authorities/organizations (CAA, ATS authority/provider, airport authorities) is crucial for the effective and efficient implementation of the ICAO provisions related to aeronautical meteorology by the States/Territories/International Organizations.

3.1.94 The Meeting agreed that the enhanced cooperation between the MET authorities/providers and the civil aviation administrations is considered extremely important in the efforts for improving the level of implementation of the required MET facilities and services, and hence in resolving the existing safety-related MET deficiencies. Some of the main areas where the coordination and collaboration are of particular importance could be outlined as follows:

- full implementation of the World Area Forecast System (WAFS);
- eliminating safety related MET deficiencies related to operational safety, particularly those related to SIGMET information (especially SIGMET for volcanic ash clouds and tropical cyclones);
- development of adequate cost-recovery mechanisms for the MET services at national level.

Participation of States/Territories/International Organizations in ICAO MET meetings and seminars/workshops organized by ICAO in coordination with the WMO

3.1.95 The Meeting noted that most CAR States/Territories/International Organizations have delegated the provision of MET aeronautical services to National Meteorological Services, however the participation of these national services in ICAO meetings, seminars and workshops in the aeronautical MET area has been very poor, which affects the quality of these services. In this sense, the Meeting agreed to urge civil aviation Administrations and meteorological authorities of CAR States/Territories/International Organizations to make the greatest efforts to improve the coordination and provision of the MET Aeronautical Services, for which the Meeting agreed to formulate the following Conclusion:

CONCLUSION 2/22 COORDINATION OF AGREEMENTS BETWEEN CIVIL AVIATION ADMINISTRATIONS AND MET AUTHORITIES OF CAR STATES / TERRITORIES / INTERNATIONAL ORGANIZATIONS

That, aimed at improving the coordination, cooperation and provision of aeronautical MET services, States/Territories/International Organizations of the CAR Region, that have not yet done so, coordinate agreements between civil aviation Administrations and meteorological authorities:

a) clearly identifying their respective functions and the coordination between them; and

b) that the agreement states the mechanism to ensure the participation of MET personnel in meetings, seminars and workshops organized by ICAO in coordination with the WMO, according to the *Modus vivendi* between ICAO and the WMO (Doc 7475).

Year 2005 – crucial for the implementation of WAFS

3.1.96 The Meeting recalled that the World Area Forecast System (WAFS) was established in 1982 in response to changes in the aeronautical operational requirements, specifically the rapidly increasing number of international operations, including long-haul flights. Aimed at contributing the global aviation safety and efficiency, the WAFS combined meteorology and communication technologies in providing meteorological information for flight planning and operations.

3.1.97 The WAFS went through several phases of development. A very important step towards the optimization and harmonization of the provision of WAFS products was the closure of the Regional Area Forecast Centres (RAFCs) (in CAR/SAM Regions it was completed by 2002) and centralizing the issuance of wind/temperature and significant weather forecasts by the two World Area Forecast Centres (WAFC) London and Washington.

3.1.98 The Meeting took note that other significant changes in the WAFS system are related to the cessation of T4 format altitude wind and temperature charts as of 1st July 2005 by the United States as Provider State of the International Satellite Communications System (ISCS1). From then on the Washington WAFC disseminates altitude wind and temperature forecasts only in GRIB code. Additionally, on 31st July 2005, the Washington WAFC ended the use of X.25 protocol FOR the transmission of WAFS products and started the use of TCP/IP protocol. It is also foreseen that the London and Washington WAFC will continue issuing significant weather forecast charts (SIGWX) until 30 November 2006 and as from that date all WAFS forecasts will be generated and disseminated in digital format (in WMO codes, called GRID and BUFR).

3.1.99 In accordance with the above paragraph, the aviation weather charts used worldwide for flight documentation will no longer be disseminated by the WAFC in pictorial format, but in the form of encoded messages. These messages should be converted into charts by specialized software packages installed on the WAFS workstations used by the States/Territories. The benefits of the transition to digital products will be twofold: economical and better resolution of the forecasts and flexibility for tailoring the flight documentation to the specific flight routes used by each operator.

3.1.100 In order to make full use of the WAFS forecasts in the digital (GRIB/BUFR) representation, States/Territories should upgrade their WAFS workstations and software to process WAFS data 30 November 2006.

Elimination of safety related MET deficiencies related to SIGMET information

3.1.101 The Meeting indicated that the provision of timely and accurate warnings for hazardous en-route weather phenomena in the form of SIGMET messages, is one of the highest priority tasks of the States' meteorological authorities. As other ICAO Regions, the CAR Region has been affected by volcanic ash clouds. In order to support the issuance of SIGMET by the States/Territories' meteorological watch offices (MWO), ICAO established a network of volcanic ash advisory centers (VAAC) that utilize state-of-the-art technologies to produce forecasts of the volcanic ash cloud trajectories.

3.1.102 Additionally, the Meeting recognized that it is a great achievement that the VAACs of Washington and Buenos Aires of the CAR/SAM Regions have been fully implemented and are now providing the required advisory services. However, these services would not be effective if the States/Territories' MWO, do not issue SIGMET based on the advisories received from the VAAC, since the SIGMET is a crucial report to aircraft. Based on reports from the PIRGs, the Meteorology (MET) Divisional Meeting (2002) recognized that deficiencies existed in the issuance of SIGMET, in particular, SIGMET for volcanic ash and formulated specific recommendations in this regard.

3.1.103 The Secretariat informed the Meeting that ICAO has addressed deficiencies related to SIGMET and assistance was provided to States by issuing a Regional SIGMET Guide. In case of the CAR/SAM Regions, SIGMET Guide is being updated based in amendment 73 to Annex 3 and in each Region a SIGMET Special Implementation Project (SIP) has been carried out and special emphasis was given to volcanic ash SIGMET. However, the main potential for improving SIGMET information is within the States/Territories and could be realized by enhancing the coordination and cooperation between the MET offices, AIS and ATS units, volcanological agencies and operators, in order to ensure timely exchange of any available information that supports the SIGMET issuance. Therefore, the Meeting agreed on the following Conclusion:

CONCLUSION 2/23 CO-OPERATION FOR SIGMET INFORMATION ISSUANCE

That, with the view of improving the issuance of SIGMET information:

a) civil aviation administrations and meteorological authorities of the States/Territories are urged to jointly deal with information issues related with the SIGMET issuance, through a Letter of Agreement among organizations/agencies involved in the re-collection and broadcast of SIGMET taking into account that the procedures used should be reviewed and arranged in accordance with the ICAO SARPs and guidance material; and

b) airlines whose aircraft fly through or near meteorological phenomena that could affect flight safety be urged by IATA to provide timely and accurate special pilot reports

Development of adequate cost-recovery mechanisms for the MET services at national level

3.1.104 Meteorological services for international air navigation are part of the air navigation services described in article 28 of the Convention for Civil Aviation and, as such, are subject to cost recovery in accordance with ICAO principles and policy on the air navigation service charges. Guidance on establishing national practices for recovery of the cost for the meteorological services rendered specifically for the international air navigation is provided in ICAO *Manual on Air Navigation Services Economics*, Doc 9161 and in WMO *Guide on Aeronautical Meteorological Services Cost Recovery* (WMO-No. 904).

3.1.105 Based on the considerations expressed in the above paragraph, the Meeting urged CAR States/Territories' civil aviation administrations and meteorological authorities to cooperate closely in setting up national practices for the cost recovery of fair, equitable and agreed costs for providing the required meteorological services and facilities for international air navigation. This process should include full consultation with the operators. In this regard, the Meeting was informed that the Seventh Meeting of the GREPECAS Aeronautical Meteorology Subgroup (AERMETSG/7), held in Mexico City, from 23 to 27 May 2005, formulated Draft Conclusion 7/2 – Cost recovery of the aeronautical MET services of the CAR/SAM Regions, which will be submitted to GREPECAS/13 Meeting (Santiago, Chile, 14 to 18 November 2005) for approval.

Aeronautical Information Services (AIS/MAP)

3.1.106 The Secretariat presented to the Meeting the concepts developed by the 11th. Air Navigation Conference regarding the future role of aeronautical information under the Global ATM Operational concept, so that the Aeronautical Administrations make the corresponding follow-up to adapt them in the Aeronautical Information Services in their respective States.

3.1.107 AN-Conf/11 discussed a perspective of the information services in general. It was pointed out that the function of information services deals with the exchange and management of information used by different processes and services. It will ensure the cohesion and linkages between the seven concept components described above.

3.1.108 In the context of the 11th Conference, it was recalled that the air traffic management (ATM) global operational concept represented ICAO's vision of an integrated, harmonized and inter-functional ATM system at a world-wide level, and that inside the planning of integrated, harmonized and inter-functional operational concept, the aeronautical information services are found as an essential part in the aeronautical information management.

3.1.109 Likewise, it was recognized that, in order for the ATM system to fully work, it is required that:

a) relevant information be available when and where required.
b) ATM community share all the information to adopt decisions based on collaboration leading to obtaining best commercial and operational results.
c) information management be the basis for improved decision-making by all ATM community members.
d) an information-rich environment be fostered, whose integrity must be ensured by the quality systems.
e) in order to ensure the compatibility and linkages between different components of the operational concept and to accomplish the AIS role, consideration also be given by AIS to the interchange and management of aeronautical information to be used by different services and users, while taking into account interoperability of existing and future systems.
f) to be efficient, aeronautical information management (AIM) incorporate the structure, delivery and critical nature of all the information pertaining to ATM such as aeronautical and meteorological information, flight planning, planned and real time ATM status and CNS systems and airspace configurations. Specifically, the decisions taken by the controllers, pilots, dispatchers, flight planners, meteorologists, etc. represent information used by others as data for their own planning and decision-making process.

3.1.110 Note was also taken of the AIM characteristics, including new terms on the AIM for its application at regional level such as.

a) aeronautical information shall be subject to an efficient management and shall be shared throughout the system, making it available so that every participant in the ATM environment has access to it when and where needed.
b) aeronautical information shall be produced from its origin under quality processes ensuring its availability, relevance, precision, integrity, timeliness, security**,** confidentiality, due its repercussion given in flight safety.
c) aeronautical information, quality-controlled and within a digital environment, shall be available in real time in an interoperable, flexible, adaptable and scalable manner between parties.

d) the aeronautical information conceptual model/aeronautical information exchange model (AICM/AIXM), and their mutual interoperabilities; are the models suggested by the Conference to develop AIM.

3.1.111 Considering the importance of emigrating towards a future AIM system, the Meeting adopted the following Conclusion:

CONCLUSION 2/24 STUDY OF THE AERONAUTICAL INFORMATION MANAGEMENT (AIM) CONCEPT

That States/Territories/International Organizations:

a) initiate the corresponding studies for the planning and development of the AIM concept in the AIS/MAP services of the NAM/CAR Regions and, to that end, be included as a task of the work programme of the existing working groups, taking into account, as reference, the Air Navigation Global Plan for the CNS/ATM Systems and the Recommendations of the 11th Air Navigation Conference, and

b) take the necessary measures and initiate the corresponding actions for the application of the AIM concept in the respective AIS/MAP services of the NAM/CAR Regions.

ICAO/PAIGH Regional Cooperation Project for the Production of 1:1000,000 and 1:500,000 VFR aeronautical charts

3.1.112 The Secretariat presented a regional cooperation project focused on the production of aeronautical charts for visual air navigation, in which CAR/SAM States jointly accomplish the requirements established in Annex 4 and in Doc. 8733 – *CAR/SAM Air Navigation Plan,* agreed in AIS/MAP/SG/9 Meeting.

3.1.113 The project has the possibility of being sponsored in its preliminary studies by the GEASA/WHTI initiative, as this was considered by this Group in its Fourth Meeting, held in Cartagena, Colombia, in May 2005 and will be considered by the GREPECAS/13 Meeting to make progress in the consolidation and support of the Region for the future project.

3.1.114 The basis of this project is supported by the responsibility of producing the World Aeronautical Chart –ICAO 1:1000 000, as established in the Air Navigation Plan for CAR/SAM Regions, Table AIS 7 of Part VIII, FASID – Volume II of the Plan, complemented by Chart AIS 2 and based on Annex 4. The Table and Chart are depicted in **Appendix K** to this part of the report.

3.1.115 It is also includes the possibility of establishing as an alternative to the aforementioned Chart 1:1000 000, that States provide the Aeronautical Chart –ICAO 1: 500 000, or small scale navigation charts, in order to ensure the coverage of all ground areas and thus fulfill the operational and safety needs within their territories and of the regions in general.

3.1.116 It was informed that the PAIGH will present for its approval in its Council meeting to be held in Caracas, Venezuela, in November 2005, the terms in which the project have been approved by the Subgroup, for its follow-up.

3.1.117 It was recalled that, as part of the efforts taken at the regional level for the production of these charts, there is the cooperation project fostered to that end by the Aeronautical Charts Committee of the Panamerican Institute of Geography and History (PAIGH) included in **Appendix L** to this part of the report, in English version, in which ICAO was invited to jointly develop it. The PAIGH Aeronautical Cartography Commission has continued the efforts to develop the project.

3.1.118 In a collaboration effort between International Organizations, the dialogue is open again between the authorities of the PAIGH and ICAO in order to reactivate the aforementioned project between these two specialized organizations possibly supported by the Organization of American States (OAS). The project might count with the support of other bodies such as the "Western Hemisphere Transportation Initiative (WHTI)" and its "Group of Experts on Aviation Safety, Security and Assistance (GEASA)", as well as the International Cartography Association (ICA).

3.1.119 The President of ICAO Council, Dr. Assad Kotaite, informed that ICAO counts with the IFFAS mechanism to support the solution of regional deficiencies. He also informed that he will keep a close communications with the Members of the Council and with ICAO NACC Office to assist in finalizing a regional cooperation project to help in solving the deficiencies related with the implementation of AIS-related elements, among which are the following:

- digital development of aeronautical charts for visual or instrument navigation
- quality assurance
- automation
- diffusion of AIP by electronic means
- implementation and harmonization of WGS-84 coordinates

3.1.120 Based on the above, the Meeting deemed it convenient to take action so that the CAR States may comply with this requirement of Annex 4 and of the Air Navigation Plan, and therefore formulated the following Conclusion:

CONCLUSION 2/25 PAIGH/ICAO REGIONAL PROJECT FOR THE PRODUCTION OF AERONAUTICAL CHARTS

That, taking into consideration the difficulties experienced in general in the CAR Region regarding the production of Aeronautical Charts required in Annex 4, and GEASA initiative to sponsor the preliminary studies to develop a regional cooperation project, CAR/SAM States/Territories/International Organizations:

a) consider their integration in the production of aeronautical charts project, that is proposed within the ICAO and PAIGH technical cooperation frame;

b) consider the regional Aeronautical Information Management (AIM) within the specifications of the project; and

c) support the work of ICAO/PAIGH Aeronautical Charts Working Group, which functions under the GREPECAS mechanism, in order to develop a project under the Terms of Reference and Work Programme that are shown in **Appendix M** to this part of the report; and

d) request support from the IFFAS.

3.1.121 COCESNA presented WP/36 concerning the need for a technical co-operation project for AIS/MAP, which was considered under the contents of Conclusion 2/25 adopted on this subject, and under para 3.1.119. Likewise, it suggested to take into consideration the information regarding the significant progress on AIS/MET automation developed by COCESNA and presented during the meeting.

NOTAM Contingency Plan

3.1.122 As a follow-up to GREPECAS Conclusion 12/99, Cuba presented the NOTAM Contingency Plan, which defines the actions to follow in order to reduce or eliminate the impact that may arise both, from labour conflicts, as well as from the inconveniences caused, on account of natural disasters, on the efficient and continued NOTAM service, providing the management technical measures and coordination and operational procedures necessary before, during and after any phase of contingency.

3.1.123 The purpose of the NOTAM Contingency Plan attached in **Appendix N** to this part of the report is to determine the arrangements and co-ordinations performed as backup procedures to maintain NOTAM service in a situation of contingency preventing the customary operation of Havana's NASC, thus guaranteeing the flow of aeronautical information which is necessary and essential for air navigation safety within Havana FIR, including agreements with COCESNAS' NOTAM Service specifying the steps to be followed and applying the acting procedures implemented with this Plan.

3.1.124 With the purpose of carrying out these co-ordinations, an operational Letter of Agreement was established between both Offices, with an explicit definition of the responsibilities to be assumed by both parties throughout the co-ordination process.

3.1.125 The Meeting, considering the importance of this plan to ensure aeronautical information flow, formulated the following Conclusion:

CONCLUSION 2/26 ADOPTION OF GUIDANCE MATERIAL FOR THE NOTAM CONTINGENCY PLAN

That States and Territories of the NAM/CAR Regions and COCESNA consider the contents of the NOTAM Contingency Plan for Havana's FIR as guidance material for the establishment of operational agreements related to NOTAM contingencies.

3.1.126 Likewise, Cuba and COCESNA presented information on the results obtained with regard to bilateral agreements with interested States or with ICAO and other related actions in the AIS and MAP fields.

Human Resources and Training Planning

3.1.127 The Secretariat presented a follow-up to the subject of human resources planning and training, in order to accomplish and maintain an efficient transition towards CNS/ATM, safety oversight and civil aviation security systems.

3.1.128 The Meeting recalled that the First North American, Central American and Caribbean Directors of Civil Aviation Meeting (NACC/DCA/1, Grand Cayman, Cayman Islands, 8-11 October 2002), recognized that human resources planning was a subject requiring priority action by the Aeronautical Administrations for their adequate development at the different categories of all the civil aviation fields involved in the new systems and technologies. To that end, the NACC/DCA/1 Meeting adopted Conclusion 1/21- *Human Resources planning and Training*; and Conclusion 1/22 – *Training Standardization, TRAINAIR Methodology in the CAR Region*

3.1.129 In order to follow up the agreement adopted during the NACC/DCA/1, the review of the Conclusion on Human Resource Planning and Training has been made in different sub regional meetings of Directors General where it has been recognized that human resources planning and training requires greater attention and priority by the Administrations.

3.1.130 As requested in the Conclusion 1/21, the ICAO NACC Office distributed to the Administrations the form, attached in **Appendix O** to this part of the report, whose aim was to determine the regional needs for human resources and training in the different aeronautical fields.

3.1.131 The Meeting was informed on the important steps given in this subject in the CAR Region, among which the following stand out: Cuba, Barbados, Jamaica, Trinidad and Tobago, COCESNA/ICCAE who has modernized equipment and installation and has obtained TRAINAIR certification, Mexico, who is developing an ICAO TC Project in order to reorganize and reactivate the CIAAC with TRAINAIR methodology. The Meeting was also informed on the Thirteenth TRAINAIR Seminar/Workshop of Centre Directors, to be held in Havana, from 7 to 18 November 2005 at the premises of the *Instituto de Aeronáutica Civil de Cuba* (IACC).

3.1.132 The Administrations of the CAR States/Territories/International Organization have performed efforts in order to keep optimum training rosters of qualified personnel at the different services as one of their main objectives. Notwithstanding, major efforts are still needed in order to develop a human resources plan.

3.1.133 Some of the elements that are still under consideration when developing a human resources plan are:

- audit the existing levels of personnel;
- project the needs of the personnel (all categories);
- plan the required human resource in the different services;
- draft a forecast of the need for personnel at all the categories;
- determine the effect that automation and new systems cause;
- plan HR projects for the transition and implementation of the new systems;

- plan the human resources training with a quality assurance focus (QA);
- review the selection criteria and personnel qualifications;
- plan the preparation of new instruction programmes;
- plan the instructor's training in new techniques;
- review the personnel's current training and plan the future training;
- review, if necessary, the organizational structures and fit them to the new needs;
- review the aeronautical technical personnel tasks and functions; and
- determine if the new systems will create new work disciplines.

3.1.134 The Meeting agreed that the objective of human resources planning is to ensure that Aeronautical Administration count in a timely manner with sufficient and duly trained personnel at the different serv ices, and recommended that CAAs begin as soon as possible a human resources and training planning process in order to implement the new systems.

3.1.135 Based on the above, the Meeting adopted the following Conclusion:

CONCLUSION 2/27 HUMAN RESOURCES AND TRAINING PLANNING

That those States/Territories/International Organizations that do not have a human resources planning process at the different aeronautical services they provide, consider as an urgent matter the need to take the following measures:

a) designate and prepare personnel on human resources planning within the responsible units of the different aeronautical services;

b) develop a plan on human resources aimed at covering the needs for the next 5 years, including a training programme for the civil aviation staff involved in the implementation and operation of the new CNS/ATM systems, safety oversight and civil aviation security, and establish **31 March 2006** as deadline to finalize the plan;

c) submit to the ICAO NACC Regional Office by 30 January 2006, the form shown in the Appendix O to this part of the report, duly completed by the CAAs.

3.1.136 Strongly supporting the subject of Human Resources and Training Planning, in view of the agreements adopted by the Fifth Meeting of the Central Caribbean Working Group, which activated a Task Force for these purposes, Cuba informed the Meeting of their selection as Rapporteur of the Human Resources Training Task Force, Ms. Vivian Travieso Sautié.

3.2 Air Navigation Deficiencies

3.2.1 Based on WP/16 and WP/17 presented by the Secretariat and WP/27 presented by IATA, the Meeting noted that the ICAO NACC and SAM Regional Offices developed a database of the CAR/SAM Air Navigation Deficiencies using Microsoft Access software based on the uniform methodology established for identification, assessment and reporting of air navigation deficiencies in the different fields of air navigation.

3.2.2 The database resulted from the work developed by a Special Implementation Project approved by the ICAO Council as a follow-up to the Reports of GREPECAS/10 and GREPECAS/11 Meetings, where the States, Territories and International Organizations expressed their interest in establishing a methodology allowing on-line access to deficiencies information, through the WEB page of the ICAO NACC and SAM Offices, and facilitating the provision of information for their updating with the relevant corrective measures.

3.2.3 The ICAO NACC Office has sent several State Letters to the States/Territories/International Organizations instructing them on the procedures to access and use the GREPECAS Air Navigation Deficiencies Database (GANDD) at the following electronic address: www.mexico.icao.int/bases using a username and password assigned to the nominated person in each Administration. The access instructions are depicted in **Appendix P** to this part of the Report.

3.2.4 The Meeting was also informed on the status of the requests made by States, Territories and International Organizations of the NAM/CAR Regions in order to access the GANDD, as well as on the States that have made updates to the database is presented in **Appendix Q** to this part of the Report. The Meeting, when noting this information was aware that many States/Territories/International Organizations are still not taking total benefit of this useful electronic tool.

3.2.5 IATA informed that according to its conservative estimates, the existing deficiencies in this Region and in South America cost airlines around USD $10 million dollars per year in operating cost. Likewise informed that they consider that the obstacle to overcoming deficiencies in the air navigation field is not so much technical as they are organizational and financial in nature. IATA provided a few examples of the deficiencies that impact airline operations and are predominant in several States/Territories/International Organizations of these Regions:

- Lack of meteorological information - timely dissemination of METARs or TAFs.
- Inadequate runway and taxiway maintenance.
- VHF/HF communications voids on several airways.
- Timely dissemination of aeronautical information such as NOTAMs
- Outdated AIPs lacking revised amendments.
- Missing perimeter fencing around the airport.

3.2.6 Based on the view of existing deficiencies, IATA also expressed that airlines are expecting to receive services guaranteeing safety and efficiency of their operations, and insist that corrective measures be adopted when the standard and recommended practices are not in compliance.

3.2.7 The Meeting agreed that the solution to Air Navigation deficiencies is the responsibility of aviation authorities and air navigation services providers. Periodic meetings of Directors of Civil Aviation and their associated Working Groups, always review their respective Deficiencies. It is incumbent upon the Directors of Civil Aviation to take note of these deficiencies and take action to resolve them. The Secretariat presented to the Directors of Civil Aviation individual outstanding deficiencies in each State/Territory/International Organization, as well as on individual deficiencies where action plans for their correction have been submitted in accordance with GREPECAS Conclusion 11/55*: Action Plan for the Resolution of Air Navigation Deficiencies.*

3.28 In accordance with the information referred in the above paragraph, the Meeting noted that not all States/Territories/International Organizations have informed the ICAO NACC Regional Office on their respective action plans to correct the deficiencies in the air navigation fields. Within this context and considering the concern that the Air Navigation Commission, the ICAO Council and GREPECAS have repeatedly expressed on the many deficiencies and the time that these have persisted, the Meeting agreed to urge States/Territories/Organizations that have not yet taken actions in this regard, to implement GREPECAS Conclusion 11/55, by using the revised format for action plans for the resolution of regional air navigation deficiencies presented in **Appendix R** to this part of the Report**.** Due note should also be taken by the aviation authorities on their responsibility under Article 28 of the Chicago Convention for providing safe, regular and efficient air navigation services.

3.2.9 Through its WP/44 COCESNA informed the Meeting that in accordance with the ICAO instructions to update the deficiencies database, COCESNA has coordinated with the Central American States, and is participating in the updating in the updating and solution of each deficiency, carrying out appropriate actions.

3.2.10 Taking into account the information and considerations expressed in the preceding paragraphs, the Meeting agreed on the following Conclusion:

CONCLUSION 2/28 PRIORITIZE SOLUTION TO EXISTING AIR NAVIGATION DEFICIENCIES

That States/Territories/International Organizations that have not yet done so, with the view to resolve air navigation deficiencies in the NAM/CAR Regions:

a) use the GANDD database and provide information to keep the database updated;

b) prepare and inform the ICAO NACC Office of their respective action plans for the solution of deficiencies, to be received before **30 December 2005**; and

c) prioritize and provide the necessary and available resources to resolve as soon as possible the deficiencies.

APPENDIX A
STATUS AND DEVELOPMENT GOALS OF THE CNS/ATM SYSTEMS IN THE NAM/CAR REGION REFERRED TO THE ICAO/INDUSTRY ROADMAP

AIR TRAFFIC MANAGEMENT					
No.	**System / Overview Statement**	**Current Status**		**Goal**	**Target Date**
		NAM Region	**CAR Region**		
1	**Revision of ATS route structure / Dynamic and flexible route management.** The establishment of structured but flexible route systems, on the basis of RNAV and RNP capability, aimed at accommodating preferred flight trajectories.	The ATS route structure of NAM Region – Under review. To be included in updated version of the NAM ANP.	Phase II a) Implemented Phase II b) Implementation of ATS RNAV route network in CAR/SAM Regions planned by December 2005.	Implementation of ATS route structures on the basis of RNAV and RNP capability that avoid concentrations of aircraft over congested points and, eventually, implementation of a free routing environment that meets the needs of the airspace users to operate along preferred and dynamic flight trajectories.	2013
2	**RVSM /** **Implement reduced vertical separation** Increase capacity through optimized use of airspace.	RVSM was implemented 20 Jan. 2005.		Implement RVSM in all airspace. Over the long term, develop and implement new vertical separation minima.	2008
3	**Establishment of Regional airspace safety system performance monitoring structure**	NAARMO was designated for NAM Region. NAM RVSM Scrutiny Group supports NAARMO.	CARSAMMA (CAR/SAM Monitoring Agency) Implemented December 2002. CAR/SAM RVSM Scrutiny Group supports CARSAMMA.	To carry out safety assessment for any ATM implementation, as required.	- - -
4	**ACAS II Implementation** Airborne collision avoidance system (ACAS) to detect and avoid on flight conflict situations.	Implemented	Mandatory from 1 Jan,. 2003.	To achieve the goal of using ACAS II, and thus increasing flight safety.	
5	**RNAV/RNP /** **Capability performance based horizontal navigation.** The implementation of the concept of required navigation performance (RNP) so that horizontal separation can be reduced and benefits achieved by aircraft operators that equip to meet RNP requirements.	United States implemented RNP in domestic and oceanic airspace since 1998. Canada, Mexico and United States agreed on RNP implementation strategy. New RNAV and RNP harmonized implementation should be made in accordance with new ICAO provisions – (On going).	RNP 10 UL 302 and UL 780 – Implemented 22 Jan. 2004. Studies ongoing for RNAV/RNP implementation strategy for enroute, terminal and approach procedures. Interregional RNP implementation strategy for the upper airspace *a*greed Studies for interregional RNP implementation strategy in the lower airspace being carried out by other States of the CAR/SAM Regions. New RNAV and RNP harmonized implementation should be made in accordance with new ICAO provisions – (On going).	Incorporate advanced aircraft navigation capabilities as part of the air navigation system infrastructure, bringing additional efficiency benefits to the airspace users.	2011

AIR TRAFFIC MANAGEMENT					
No.	**System / Overview Statement**	**Current Status**		**Goal**	**Target Date**
		NAM Region	**CAR Region**		
6	**Flexible use of airspace** The optimization and equitable balance in the use of airspace between civil and military users, facilitated through both strategic coordination and dynamic interaction.	Scheduled strategic coordination meetings for flexible use of airspace and other related improvements.	Scheduled coordination meetings for flexible use of airspace and enhancements carried out in CAR Region. Improvements are required.	The aim is for all States to evolve toward complete dynamic integration of civil and military air traffic services including real-time civil/military controller-to-controller co-ordination to the required level through adequate system support, improved operational procedures and enhanced information on civilian traffic position and intentions.	2009
7	**Alignment of upper airspace classifications**. The harmonization of Upper Airspace and associated traffic handling in each State to ensure application of a common ICAO ATS Airspace Class above a globally agreed division level.	Regional studies ongoing.	Regional studies on going.	The aim is to achieve a continuum of airspace, free from operational discontinuities, inconsistencies and disparate rules and procedures, so that transition from one segment to another is seamless to both airspace users and ATM providers. Over the long term, the ICAO classification scheme should be simplified to accommodate implementation of the Global ATM Operational Concept.	2010
8	**Enhancement of terminal operations through SIDs/STARs/IFP, etc.** The implementation of optimized standard instrument departures (SIDs), standard instrument arrivals (STARs), instrument flight procedures, holding, approach and associated procedures, taking into account improved aircraft capabilities, along with ATM decision support systems.	Interregional work between Mexico, Canada and United States ongoing.	Interregional work is ongoing. RNAV/RNP/TF (GREPECAS).	The aim is to optimize TMA capacity and efficiency and provide for more fuel efficient aircraft operations. Aircraft will gradually take on traffic synchronization activities.	2010
9	**Enhancement of traffic and capacity management through ATFM.** The implementation of air traffic flow management (ATFM) measures on a strategic and regional basis, along with reduced vertical separation minimum (RVSM) and RNP, to enhance airspace capacity and improve in operating efficiency.	Canada and United States have implemented cooperative strategic, pre-tactical and tactical measures and other improvements for traffic flows, and airspace capacity.	Some States have implemented strategic, pretactical and tactical measures to enhance traffic flows, and increase airspace capacity. Mexico has implemented strategic measures for certain airports to improve traffic flows. Planned to implement FMUs in ACCs 2008. Studies for Regional Centralized ATFM being carried out. Scheduled 2010 ATFM/TF (GREPECAS). Work to develop regional strategy implementation on going.	The overall objective is implementation of the strategic aspects of the global ATM operational concept (i.e., airspace organization and management, demand/capacity balancing, conflict management) including collaborative decision-making techniques, making use of decision support tools. Restrictions would then be largely centred on entry/exit times while tactical separation will revert to the aircraft.	2012

AIR TRAFFIC MANAGEMENT					
No.	**System / Overview Statement**	**Current Status**		**Goal**	**Target Date**
		NAM Region	**CAR Region**		
10	**Enhancement of aerodrome capacity.** The ATM system should know the position and intent of all vehicles and aircraft operating on the maneuvering area so that capacity can be maintained in all weather conditions. Over the long term, aircraft design should allow enhanced ability to slow and vacate the runway.	Interregional work between Mexico, Canada and United States ongoing. Implemented procedures and improvements to increase aerodrome capacity in a*ll* weather conditions.	Some States have implemented procedures to increase aerodrome capacity in all weather conditions. Runway incursion programs, ongoing. There is a Task force on Aerodrome Capacity in the AGA/AOP/SG, which is expecting comments from States having aerodrome capacity problems. Work on regional improvements on going.	The reduction of runway occupancy times through improved runway geometry, lighting, markings and procedures, including the application of reduced runway separation minima, and improvement the ability of aircraft to maneuver on the aerodrome surface in all weather conditions.	2011
11	**Adoption of ICAO flight-level scheme to harmonize level systems.**	Implemented, 20 Jan. 2005.			
12	**Implementation of decision support systems.** **Overview Statement:** Make optimum use of currently available automation functions (e.g., automated FDPS, MSAW, STCA, URET, CTAS, MAESTRO and on-line data interchange systems) in the near and medium terms.	Interregional work between Mexico, Canada and United States ongoing for the inter*face* of ATS Automated Systems.	Several States have implemented advanced ATS automated systems. Interregional interface strategy for ATS Automated Systems ongoing Automation/TF (GREPECAS).	To implement decision support tools to assist the air traffic controller and pilot with conflict detection and resolution and traffic smoothing, making optimum use of aircraft derived data.	2012
13	**Collaborative Airspace Design** The organization of airspace, in cooperation and coordination with the ATM service provider and airspace users, so that the airspace can be flexibly and dynamically managed to accommodate the preferred trajectories of the users.	Regional improvements on going.	Work on regional improvements on going.	The aim is to standardize airspace organization and management principles applicable on a global basis, leading to a more flexible airspace design to accommodate traffic flows dynamically, initially on a sub-regional basis leading to harmonized management and allocation of airspace and route structures regionally rather than on a national basis.	2012
14	**Harmonize Level Systems** Increase capacity and improve safety through implementation of a globally harmonized and seamless airspace.	Non standard metric altitudes are used for aircraft transitioning between Alaska (NAM Region) and Russia.	Completed	Make a sustained political effort to encourage all States to adopt the ICAO Tables of Cruising Levels based on feet as contained in Appendix 3 to Annex 2 — *Rules of the Air*.	2007

COMMUNICATION					
No.	**System / Overview Statement**	**Current Status**		**Goal**	**Target Date**
		NAM Region	**CAR Region**		
1	**ATN Implementation** (subnetworks, end-systems and intermediate systems and applications such as AMHS, AIDC and CPDLC).	ATN transition plan developed with focus on ground-ground applications. Test, development and validation phases completed. Operational implementation – Under review.	ATN transition plan – Under review– Considering in the short term deployment of ATN routers to implement ground-ground applications (AMHS and AIDC). The upgrade of CAR digital networks is being implement– Studies are being carried out to achieve the interoperability of CAR and SAM networks as a regional digital platform to facilitate the ATN backbone. A target date term and strategy for the deployment of ATN in the CAR/SAM regions was developed.	To implement ATN and its sub-networks ground-ground and air-ground to provide the final user an end-to-end communications system supporting air traffic services, as well as for other type of aeronautical services.	2014
2	**Air-ground communication infrastructure/ Implement Data Link Applications** Make maximum use of data link capabilities (VDL2, FANS, HF).	VHF voice provided in continental and terminal areas. HF voice provided in oceanic areas. States are implementing ACARS/FANS-1A and planning VDL Mode 2 to support CPDLC, D-ATIS and other applications. SSR Mode S data link in some airspace being planned.	VHF voice provided in continental and terminal areas. HF voice provided in oceanic areas. VHF/AMS have been improved. Several States are implementing ACARS/FANS-1A and planning VDL Mode 2 to support CPDLC and D-ATIS. SSR Mode S data link in some airspace being planned. An activities plan and the respective programme was implemented for the CAR/SAM regional strategy for the air ground data link implementation.	To implement ACARS and VDL-Mode 2 based data link services for pre-departure clearance, oceanic clearance, D-ATIS and other flight information and routine messages in the near term, as well as automatic position reporting on the part of the aircraft. Over the medium term, more complex safety related information can be exchanged, including ATC clearances. The long term use of data link will include down linking of aircraft flight parameters for use by the ATM system, and uplink of traffic data for improved situational awareness in the cockpit. Implement Data links (VDL2, FANS, HF).	2013
3	**Ground-ground digital communication infrastructure** Digital communication platforms development would allow the establishment and implementation of the inter/intra regional ATN backbone.	States have-implemented digital ground-ground networks.	Number of digital networks implemented in the Regions. Additional interconnectivity points for regional and interregional digital networks being implemented with aim of achieving interoperability of digital platform.	To achieve fully interoperability of regional/sub-regional digital networks.	2007

NAVIGATION					
No.	**System / Overview Statement**	**Current Status**		**Goal**	**Target Date**
		NAM Region	**CAR Region**		
1	**GNSS Implementation** The global navigation satellite systems (GNSS), comprising satellite constellations in conjunction with appropriate augmentation systems should evolve into sole means of navigation for oceanic/remote areas, en-route continental, non-precision approach and for precision approach and landing operations.	GNSS/GPS strategy adopted for NPA and APV. SBAS based on United States-wide area augmentation system (WAAS) commissioned 10 July 2003 for initial operating capability. GNSS approach implementation programme initiated by all 3 States; GNSS augmentation system agreements completed for future expansion of GNSS concept. GNSS being used for oceanic and continental en-route operations	Strategy for implementation of GNSS adopted. SBAS test bed in cooperation with EGNOS and WAAS are being developed. Preoperational model of SBAS – Under study as a basis for the future operational system. Ionospheric model – Under study in order to apply the NPA Operation with SBAS test bed. Several CAR States have implemented GNSS/GPS NPA. GNSS being used for oceanic and continental en-route operations.	To migrate from terrestrial navigation to satellite navigation through a cooperative and cost-effective approach.	2012

SURVEILLANCE					
No.	**System / Overview Statement**	**Current Status**		**Goal**	**Target Date**
		NAM Region	**CAR Region**		
1	**SSR Modes A/C and SSR Mode S**	Substantial improvements achieved in en-route area with upgrading of radar systems. In areas of Gulf of Mexico & Northern Canada, surveillance restricted to position reports sent by pilots via air-ground communications. Agreement reached between Canada, Mexico and United States to implement SSR Mode S.	Currently, SSR Modes A/C employed. Some States are introducing the Mode S. Oriented use of ASTERIX protocol for SSR data sharing. Implementation of SSR Mode S in some terminal areas and high-density en-route areas – Ongoing.	Improvements to the surveillance radar systems by implementing SSR data sharing and enhance SSR Mode S on a region-wide basis.	2011
2	**ADS-C Implementation**	ADS-C will be used in oceanic or remote areas; however, further review needed for continental domestic airspace areas.	ADS-C will be used initially for oceanic airspace and, later, in remote areas.		
3	**ADS-B Implementation** To improve surveillance in the terminal and en route environment through the implementation of ADS-A or ADS-B wherever there is presently no ATC surveillance system.	United States implementation of ADS-B in Alaska since 2001. Research and testing of ADS-B conducted in other U.S. controlled airspace. United States will use Mode S and UAT for data link. Mode S extended squitter as the data link for near-term ADS-B implementation was selected by States.	ADS-B deployment in Mexico. Trinidad and Tobago and United States planned. Trials in some other Caribbean States in progress. Implementation plan of ADS-B in CAR/SAM Regions –Under study. Mode S extended squitter as the data link for near-term ADS-B implementation was recommended by GREPECAS.	Implementation of ADS-C/ADS-B on a region-wide basis. Implement available surveillance systems for surface movement at airports where weather conditions and capacity warrant.	2011

RELATED ISSUES					
No.	**System / Overview Statement**	**Current Status**		**Goal**	**Target Date**
		NAM Region	**CAR Region**		
1	**WGS-84 Implementation** The geographical coordinates used across various States in the world to determine the position of runways, obstacles, airports, navigation aids and ATS routes are based on a wide variety of local geodetic reference systems. With the introduction of area navigation (RNAV), the problem of having geographical coordinates referenced to local geodetic datums is more evident and has clearly shown the need for a universal geodetic reference system. ICAO, to address this issue, adopted in 1994 the World Geodetic System – 1984 (WGS-84) as a common horizontal geodetic reference system for air navigation with an applicability date of 1 January 1998.	Transition to WGS-84 completed in Canada and United States.	WGS-24 fully implemented in many States/Territories. Completion expected in 2006 by other States/Territories.	Total implementation of WGS-84 by all States.	2007
2	**Improvement of information exchange through Integrated AIS.** Standardize aeronautical information data exchange format and implement distributed electronic data services. Ultimately, aeronautical information management should provide quality assured information to users in real-time.	Canada and United States are providing QA aeronautical information, but United States need to adopt the ICAO Integrated AI package. The aeronautical information is processed automatically being ready for the future information exchange data model for CDM environment..	Steps to implement an automated Integrated AIS system – In progress. Regionally important steps have been taken in preparation for the data model.	To implement the global data model for the aeronautical information exchange.	2014
3	**Enhancement of Meteorological Systems (WAFS, IAVW and Automatic Air-Reporting) to support ATM** To improve the availability of meteorological information in support of a seamless global ATM system.	Migration from T4 charts to WAFS forecasts in GRIB code forms fully implemented by 31 July 2005 and in BUFR code forms~~)~~ to be fully implemented by 30 November 2006		Enhancement of WAFS in view of producing automated turbulence, icing and thunderstorm forecasts in the grid-point format, and wind and temperature forecasts with improved spatial and temporal resolution to assist ATM in tactical decision-making for aircraft surveillance, air traffic flow management and updating flight plans for flexible/dynamic aircraft routing. Enhancement of the IAVW to improve the forecast accuracy in view of the optimization of the use of airspace and to reduce the time needed for volcanic ash advisories and SIGMET to reach area control centres and aircraft-in-flight. Enhancement of automatic downlink of MET information included in ADS messages to provide accurate upper wind fields and real-time wind profiles to assist in the automatic sequencing of aircraft on approach to maximize runway capacity.	30 Nov. 2006

RELATED ISSUES					
No.	**System / Overview Statement**	**Current Status**		**Goal**	**Target Date**
		NAM Region	**CAR Region**		
		A workshop on use of GRIB & BUFR-coded WAFS data was organized by WAFC Provider States, in coordination with ICAO and WMO in 2004.	A workshop on use of GRIB & BUFR-coded WAFS data for Spanish speaking States was organized by WAFC Provider States, in coordination with ICAO and WMO in 2004.		
		Two world area forecast centres (WAFC London and Washington), nine volcanic ash advisory centres (VAAC Anchorage, Buenos Aires, Darwin, London, Montreal, Tokyo, Toulouse, Washington and Wellington) and seven tropical cyclone advisory centres (TCAC Darwin, Honolulu, Miami, La Reunion, Nadi, New Delhi and Tokyo) to serve all ICAO Regions – Fully implemented.			

APPENDIX B

DEVELOPMENT AND EXPERIENCES OF COCESNA ON AERONAUTICAL MANAGEMENT AUTOMATION AND THE APPLICATION OF TECHNICAL SOLUTION FOR AERONAUTICAL AREAS APPLIED IN CENTRAL AMERICAN

1. Introduction

1.1 The aeronautical industry has been changing as technology evolves; the aeronautical information has become a crucial component to the CNS/ATM system and operational safety because the states must assure they have quality aeronautical information. Taking this into account, COCESNA decided to invest economic, technical and human affords in the development of technological solutions with high safety, quality and satisfaction levels, designed to cover the needs of the different aeronautical areas.

1.2 The technology as a strategic resource and its adoption through the automation is expensive, and try to adopt it as such and the way it works in other more developed regions, generates us the problem of investing a lot of money in order to obtain tangible benefits.

1.3 Considering the needs of Central American States for automating their aeronautical management, COCESNA has developed technological solutions for the air navigation and safety areas in the last decade. In that way, it has strengthened the integration and standardization of the process, updating the industrial and hi-technological investment standards.

1.4 Thanks to the work of expert personnel in the areas of Safety, Air Navigation, Research and Development, COCESNA has developed technological solutions with high levels of quality and satisfaction.

2. Air Navigation Products

2.1 In the air navigation area COCESNA has developed systems like Maintenance Management System (SGM by its Spanish acronym), Aeronautical Messaging Switch System (AMH by its Spanish acronym), Auxiliary System for the Air Control Center (SACC by its Spanish acronym), and Monitor and Control System (MYC by its Spanish acronym). Additionally, COCESNA has created solutions for invoicing based on a flight data processor.

2.2 Maintenance Management System (SGM): It is a management tool designed to aid the decision making process based on a knowledge data base that includes economic and technical aspects, maintenance plan, workflow control, control of the measurement equipment calibration, equipment condition diagnosis, and statistical data. This System manages all these components and presents precise information to the authority facilitating information access to the technical personnel in order to solve the problems rapidly when they access the information online.

2.3 The Aeronautical Messaging Switch (AMH) maximizes the modern advantages of network management. This system is completely customizable and it works with different networks from old connections to wide area networks (WAN). It can also implement a variety of messaging applications including AFTN/ICAO, ATN, etc.

2.4 The Support System for the Air Control Center (SACC) is a complementary tool for consulting to a Air Traffic Control System, which provides the necessary support to the air traffic controllers offering solutions for the search of NOTAM, ASHTAM, meteorological information, flight plans, aeronautical charts, search and rescue, access to aeronautical papers, as well as mailing of messages across the ATN/AFTN.

2.5 Monitoring Control System (MYC) was developed with the purpose of support an effective control of the AMH Stations and the Stations of the SACC system; additionally this system presents functions that allow a preventive and corrective maintenance in a remote way to the whole software and hardware of the stations. It is important to keep in mind that the system is so robust that it controls and interact with the operating system and the database of the Station, capable of re starting the equipment no matter the location.

2.6 The FYC4 Billing System was created with the capability to receive information online from a flight treatment system, transforming a work of several hours to a few seconds, eliminating transcription errors.

3. Safety Products

3.1 In the safety area COCESNA has the information system for regulations administrations which is an integral solution of management support on the airworthiness and operations areas such us register activities of aircraft and aeronautical personnel control. Other facilities include operator's certification, training programs, incidents and accidents, airports, workshops, schools, information digitalization, surveillance plan, fines and sanctions, tests, economical authority among others.

3.2 The information system of aeronautical regulations (SIAR) has as principal objective to support the regulatory agencies and air transport operators in the management of all those operations required to comply with international safety standards.

3.3 The SIAR is developed in modules and displays the essential information at the right time in order to aid the decision making process of the Authority. Besides, it allows taking total control in the performance and incidence of every inspection detailing the findings.

4. Central American Benefits

4.1 With these solutions, COCESNA provides top technology to the Central American States, allowing them to gradually evolve into a high automated aeronautical management with lower costs compared to the international technology providers.

4.2 COCESNA's research and development process has allowed all Central American States to have access to the technological innovations of the aeronautical industry.

4.3 The platforms standardization allows connections between different solutions to integrate seamlessly flow of information in technical, operatives and management areas.

4.4 The use of standards open the possibility to share information between the states, making easier the implementation of regional certificates, licensing, documents and operative processes.

4.5 Having diminished the technology costs, it allows to have a quickly access to software updates avoiding outdated packages.

4.6 COCESNA's solutions play an important role for the technological improvement of Civil Aeronautical Authorities, having permanent state-of-the art products with updates and improving their internal and external processes.

4.7 The experience that COCESNA has gained in safety and navigation areas allows the development of specialized tools for international rules accomplishment.

4.8 The integrated and automated systems allows the sharing of radar data, flight plans, meteorological information, which provides the operators local and regional information like pre and post flight information data.

4.9 With the technology platforms standardization, scale economies can be reached for the training processes, allowing the interchange of inspectors, air traffic controllers, AIS officers.

5. Standard Products

5.1 COCESNA´s projects have been developed under a methodology oriented to objects and metrics 3.0.

5.2 Besides, these solutions fulfill the open system standards of the computer industry using multi platform libraries which allow us to export the systems to the different operating systems like UNIX, LINUX or WINDOWS.

5.3 The solutions are able to connect through serial line terminals or TCP/IP WAN, AMHS network connections.

5.4 The applications are available in client/server and web versions.

5.5 The databases are managed by a powerful and high growth in the industry system administrator (MySQL).

5.6 All the systems are developed with dynamic interfaces adapted to every language selection by every aeronautical authority.

5.7 These solutions comply with the ICAO standards applicable to the field.

APPENDIX C

NAM/CAR REGIONAL STRATEGY FOR THE ADS/ADS-B SYSTEMS IMPLEMENTATION

Near-Term (2005 – 2011)

1. The ADS or ADS-B implementation should be prioritize in the oceanic/continental airspaces where there is no radar surveillance available, taking into consideration the density of traffic, identifying the flows with the highest current and foreseen traffic density, the operational requirements and aircrafts capability. Also, consideration should be given to the potentialities to complement or replace the SSR in a scarcely to medium traffic density area, for route surveillance, in terminal areas, for surface movement control (ADS-B) and other applications.
2. Each State/Territory/International Organization needs to evaluate the: maximum density traffic nowadays and expected for the year 2015. The useful life of their radars and the potentiality for their replacement with ADS-B, the locations of potential ADS-B ground station sites, and the capabilities of existing and planned ATC automation systems to support the ADS or ADS-B.
3. The proportions of equipped aircrafts are also critical for the ADS and ADS-B deployment, for which it is required to periodically provide, al least, the following information: number of equipped aircrafts operating in the concern airspace, number and name of the airlines that have equipped aircrafts for ADS and ADS-B, type of equipped aircrafts, categorization of the accuracy/integrity data available in the aircrafts.
4. The ADS-B deployment should be associated at early stages in coordination with the States/Territory/International Organizations responsible for the control of adjacent areas, and the correspondent ICAO Regional Office, establishing a plan in the potential areas of ADS-B data sharing, aimed at a coordinated, harmonious and interoperable implementation.
5. Each State/Territory/Organization should investigate and report their own Administration's policy in respect to the ADS-B data sharing with their neighbours and from cooperative goals.
6. The ADS-B data sharing plan should be based selecting centres by pairs and analyzing the benefits and formulating proposals for the ADS-B use for each pair of centre/city with the purpose to improve the surveillance capacity.
7. Likewise, it is necessary to consider implementing surveillance solutions for surface movement control by the implementation of ADS-B.
8. To support the ADS and ADS-B regional plan, the States/Territories/International organizations, as well as the entity representing the airspace users, should organized and provide the following information; a focal point of contact, its respective implementation plan, including a time-table, and information on its air-ground communications and automation systems.
9. The ADS-B data links technology that will be use for the Mode S 1,090 MHz extended squitter to (1090 ES). Likewise, al the end of the medium term the introduction of ADS-B data sharing could be initiated and be approved by ICAO for its use in a long-term to satisfy the new requirements of the global ATM system.
10. The implementation would be in conformity with the SARPs, ICAO guidelines and the GREPECAS conclusions.

Medium-Term (2011 – 2015)

11. Continuation of the ADS-B use with the 1090 ES technique and the planning initiation for the ADS-B implementation by new data links to satisfy the ATM global system requirements.

Longer-Term (From 2015)

12. The planning and implementation would be carried out according to the ADS and ADS-B evolution, with the associated technology developments, in conformity with the global ATM systems, with the new SARPs and ICAO guidance.

APPENDIX D

ATIS-DATIS SYSTEM

1. Introduction

1.1 The current and real-time aeronautical information is essential for operations and for air navigation, particularly the meteorological information and active NOTAMs in the approach and landing phases. They are also important for the coordination and development of air services. One of the systems providing this type of service to aircraft is the ATIS systems (Automatic Terminal Information Service).

1.2 The ATIS transmissions are used at airports to notify landing and take-off aircraft of current local atmospheric conditions, runway conditions communications frequencies and any other important information.

1.3 These transmissions are updated each time meteorological or runway conditions change. The ATIS transmissions are used by most of the airports, the operation frequency could be found in the aeronautical charts close to the airport symbol. If there is an ATIS system, the operation frequency is close to the word ATIS.

1.4 Based on operational and technical requirements and in compliance with the corresponding standards, COCESNA has developed an automated ATIS system, which is integrated by all other database management systems that COCESNA has developed such as the AIS system, billing, flight plans and radar data processing, AIS/MET, etc.

1.5 Currently COCESNA is implementing the automated ATIS system in all international airports in the Central American region.

2. Background

2.1 ATIS is defined as “The continue transmission of NON-CONTROL recorded information in some terminals. Its purpose is to improve the performance of air controllers and the de-congestion of frequencies by automating routine essential information transmissions”.

2.2 At present the ATIS system developed by COCESNA has been operationally proved and accepted by the DCA of Costa Rica. The installation at the Juan Santamaria Airport was completed in September 2005.

3. Functional Description of the ATIS System

3.1 COCESNA’s ATIS System (Automatic Terminal Information System) offers the analysis, preparation, correction and broadcasting of ATIS-voice messages (valid and real time aeronautical and meteorological information) to arriving and departing aircraft. Moreover this system is designed to allow its configuration, adjustment and personalization to the required operative environment, always in compliance with the ICAO standards and the international associated rules.

3.2 The ATIS system developed by COCESNA has the following functions:

- Recording and insertion of messages
- Search and correction
- Storage
- Management
- Recording
- Statistic
- Monitoring and supervision
- Access control
- AFTN connection
- On-line assistance

3.3 **System Specifications**

3.3.1 The ATIS system complies with the following technical specifications:

a) The system complies with the standards and recommendations in Chapter 4 of ICAO Annex 11 – Air Traffic Services and regarding aeronautical communications as indicated in ICAO Annex 10.

b) The purpose of the system developed is to carry-out voice broadcasts of the automatic information service (ATIS-voice) at selected aerodromes.

c) The ATIS messages are simultaneously, alternately or selectively broadcasted in English and Spanish, this being a configurable parameter.

d) The system is developed with interfaces that dynamically adapt to the user's selected language.

e) If possible, a discrete VHF frequency for ATIS-voice broadcasts is used at aerodromes. If a discrete frequency is not available, transmission could be made through the more appropriate terminal navigational aids radiotelephone channels, VOR preferably, assuming that the range and legibility are adequate and the assistance identification signal is inserted in the broadcast.

f) The system, in addition to generating ATIS-voice files, has the capability of generating D-ATIS information that can be broadcasted through data electronic means such as the AFTN or Data Link.

g) The information provided refers only to one aerodrome, with 24-hour availability. These parameters can be reconfigured.

h) The system is computer based, automating meteorological information acquisition, voice message generation and ATIS information allocation.

3.4 **System Output**

3.4.1 The ATIS system complies with the following output specifications:

- Data processing speed: Message generation does not exceed 30 seconds.
- High storage capacity.
- Minimum time of total system recovery.

3.4.2 Network management:

- Management is decentralized, also local and remote monitoring is available.
- From the monitoring and control positions all system configurations and parameters can be accessed.

4. System Design Advantages

4.1 This system digital and modular design has allowed the automatic messages processing and its full integration with COCESNA ATM system database.

4.2 This ATIS system as all other systems developed by COCESNA is fully compatible and can be integrated to other ATM automated systems.

APPENDIX E

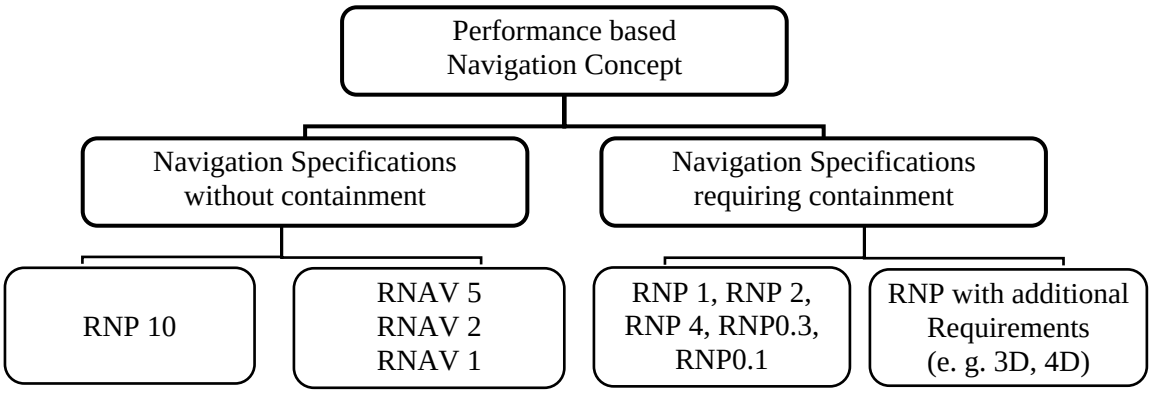
NAM/CAR/SAM REGIONAL SEMINAR ON RNAV AND RNP IMPLEMENTATION (Mexico City, Mexico, 11 to 13 August 2005)

1. In light of new technologies and capabilities and experience gained over previous years with RNP and RNAV implementations at the global level with respect to air navigation performance, discussions were focused in different perspectives and implementations of required navigation performance (RNP) and area navigation (RNAV) carried out between the international civil aviation community and some individual States, which evolved towards a divergence of interpretations and resulted in a lack of harmonization.

2. The participants noted that work of the RNP Special Operations Requirements Study Group (RNPSORSG) is presently progressing very well and agreed that the future RNAV and RNP applications should be as follows:

Area of Application	Navigation accuracy	Designation of navigation standard: Current situation	Designation of navigation standard: New RNP concept
Oceanic/ Remote	10	RNP 10	RNP 10
	4	RNP 4	RNP 4
En Route-Continental	5	RNP 5 Basic RNAV	RNAV 5
En Route-Continental and Terminal	2	USRNAV type A	RNAV 2
Terminal	1	USRNAV type B P-RNAV	RNAV 1

3. Also, considering that the navigation containment is based on accuracy, functional integrity, continuity and systems availability, the participants noted that the RNPSORSG agreed on the need for specifying future applications of a **performance based navigation concept without containment integrity and continuity, which will be designated as RNAV and with containment integrity and continuity, which will be designated as RNP**, as follows:



4. In addition, the Separation and Airspace Safety Panel (SASP) is in the process of drafting an amendment to *Attachment B* of Annex 11, *"Method of establishing ATS routes for use by RNAV-equipped aircraft*, its work includes updating relevant guidance material on safety and separation.

5. The participants were informed of the new activities that ICAO, with the assistance of the RNPSORSG and SASP, is carrying out to clarify all RNAV and RNP guidelines so as to ensure a common understanding of the RNP concept and the relationship between RNP and RNAV functionality, facilitating at the same time global harmonization of existing applications as well as the establishment of the future basis of air navigation performance operations, in benefit to the entire global aviation community.

6. Attendees concurred that any new implementation should be in accordance with ICAO guidelines and considering other provisions for all weather operations, safety issues, ATM requirements, verification-approval procedures, fleet equipment and available infrastructure.

7. Also, future RNAV and RNP implementations should envisage aspects regarding Human Factors such as common use of ATC terminology and phraseology, radar and non radar procedures, safe use of air navigation database, training and educational events looking to sharing acknowledge, and CDM process of ATM community.

8. Participants took note that new ICAO guidelines with amendments to Annexes 6 and 11, a revised Performance Based Navigation Manual and other related provisions will soon be presented as follows:

- Revised RNAV and RNP Standards:
  - State consultation August 2006
  - Applicable November 2007

- Performance Based Navigation Manual:
  - Available July 2006

- Obstacle Clearance Criteria (PANS-OPS):
  - State consultation August 2006
  - Applicable November 2007

- ATC Separation Criteria (PANS-ATM):
  - State consultation August 2006
  - Applicable November 2007

APPENDIX F

STATUS OF THE ATM CONTINGENCY PLANS OF THE NAM AND CAR FIRS

FIR	Adjacent FIRs / FIR adyacente	Status / Estado		Remarks / Observaciones
		Draft / Borrador	Final	
Canada	United States / Estados Unidos			
	NAT Region			
	Russian Federation			
Curacao	Colombia			
	United States / Estados Unidos			
	Kingston			
	Port-au-Prince		X	
	Santo Domingo	X		
	Venezuela			
La Habana *(Plan presented with domestic Contingency procedures / Plan presentado con procedimientos nacionales de Contingencia)*	United States / Estados Unidos	X		
	Port-au-Prince	X		
	Kingston	X		
	Mexico	X		
	COCESNA	X		
Kingston	Curacao /Curazao			
	Colombia			
	Havana			

FIR	Adjacent FIRs / FIR adyacente	Status / Estado		Remarks / Observaciones
		Draft / Borrador	Final	
Kingston	Panamá			
	Port-au-Prince		X	
	COCESNA			
Mexico	Cuba			
	United States / Estados Unidos			
	COCESNA		X	Agreed for adjacent airspace with Guatemala / Acordado para el espacio aéreo adyacente con Guatemala
PIARCO	United States / Estados Unidos		X	
	Guyana	X		In process of final coordination
	French Guiana	X		In process of final coordination
	Venezuela	X		In process of final coordination
	Suriname	X		In process of final coordination
Port-au-Prince *(Plan approved by the President of ICAO Council / Plan aprobado por el Presidente del Consejo de la OACI)*	Havana		X	
	United States / Estados Unidos		X	
	Kingston		X	
	Curacao		X	
	Santo Domingo		X	
Santo Domingo	Curacao	X		
	Port-au-Prince		X	
	United States / Estados Unidos	X		

FIR	Adjacent FIRs / FIR adyacente	Status / Estado		Remarks / Observaciones
		Draft / Borrador	Final	
United States / Estados Unidos (FIRs)	Havana			
	Mexico			
	Port-au-Prince		X	
	Santo Domingo	X		
	PIARCO		X	With New York Oceanic / Con New York Oceanic
	Venezuela			
COCESNA (FIR Centroamérica) *(Contingency measures developed for the Central American FIR)* / *Medidas de Contingencia Desarrolladas para la) FIR de Centroamérica)*	Colombia	X		
	Havana	X		
	Kingston	X		
	Mexico		X	Plan agreed for adjacent airspace with Guatemala.
	Panama		X	Plan acordado para el espacio aéreo adyacente con Costa Rica.
	Ecuador	X		

APPENDIX G

IMPLEMENTATION OF ATFM IN THE CENTRAL AMERICA FIR

1. Introduction

1.1 Due to a considerable increase of air operations at a world-wide level, some areas and airports of the CAR/SAM Regions are experiencing important air traffic concentrations during determined periods of the year, which is negatively affecting air traffic management by ATC services providers and activities of air operators and of airports systems.

1.2 This situation concerns all the States, and it is foreseen that the situation might turn more complex if no suitable and timely measures are taken, in view that indicators show an important growth trend in the short and long terms.

1.3 Central America is strategically located between North and South America, which are important industrial, commercial and tourism development poles, and therefore a sustained growth in commercial aviation is experienced, which has an effect on the efficiency of aeronautical facilities, which is more evident during certain months, days and hours, in determined geographical areas, flight routes and airports located in the Central American FIR.

2 Analysis

2.1 The need for implementing ATFM in the CAR/SAM Regions has been discussed in different ICAO fora. Likewise, some countries of those Regions have developed important work on the matter in order to establish a national system allowing to face in a suitable manner their current and future needs to attain an adequate air traffic management of airport and related services.

2.2 Under this scheme, and considering the guidelines established by the 11th Air Navigation Conference, the CAR/SAM Regional Planning and Implementation Group (GREPECAS), COCESNA has considered the convenience of implementing an ATFM system for the States included in the Central American FIR and COCESNA.

3. Resources for the implementation of ATFM

3.1 The ATFM implementation includes, among other, financial resources, adequate ATM/CNS infrastructure and project management capability, as well as a favourable environment, where the collaboration of air operators, Central American and other CAR Region States, adjacent ATM units and other related bodies is necessary.

3.2 In this regard, COCESNA deems to be in an advantageous situation, considering that the current available resources in COCESNA and in the States of Central America, as well as other that are being developed or under implementation process by COCESNA, would provide the necessary support to carry out ATFM implementation according to the implementation horizon established in the ATM Evolutionary Tables for the CAR/SAM Regions, approved by GREPECAS or, failing that, the delays established in the regional agreements on this matter and the coordination carried out during the Third Global ATFM Conference, wherein COCESNA participated.

3.3 Among those resources the following can be mentioned:

a) Institutional support of the Central American States, ICAO and COCESNA to carry out the project;
b) Automated ATC/AIS Systems implemented in all the Central American countries and in COCESNA;
c) Implementation and currently in place, of a Central American Pre-ATN network;
d) Availability of an Central American Aeronautical Communications Satellite Network (CAMSAT), through which oral (ATC units), radar data and AFTN data are transmitted;
e) Aeronautical satellite links with diverse ATC units of the CAR Region though the MEVA network, which has voice and data (radar data, AFTN, etc.) transmission capability;
f) Current operational agreements and systems to exchange and share radar data among Central American countries and COCESNA;
g) Agreements between COCESNA and United States for radar data exchange (ETMS), which currently allows the visualization of air traffic from Canada, United States, Mexico, Chile, and in the future at a continental level, facilitating strategic planning of air traffic management;
h) Human resources with a high level training on ATM, automation and CNS;
i) A solid infrastructure in the computer science field, with a broad experience in the development of similar projects.
j) Collaboration of air operators, as well as of countries outside Central America, ICAO and other related organizations.

4 Considerations for the implementation of ATFM

4.1 The implementation of ATFM in the Region requires taking into account a series of aspects in order to attain the objective in a successful manner, with the consequent benefits for all the parties related with it.

4.2 Some of the aspects considered are the following:

a) Develop the project from an integral perspective, involving in it all the related parties (Central American States, COCESNA, ICAO, air operators, States outside Central America, etc).
b) Define the Terms of Reference for the implementation of the project in accordance with the guidelines established by ICAO and the regional and global agreements backing it, so that obtaining a coherent product may be ensured, compatible with the actions in this regard developed in other countries, especially with those belonging to the CAR/SAM Regions.
c) Take advantage of the available technological resources in the market concerning aeronautics and other fields, in order to develop and implement an ATFM system not limited to the needs of the Central American FIR, but also capable of expanding its coverage and service to the CAR Region.
d) Establish bilateral or multi-lateral co-operation agreements with countries or bodies with experience in the field, in order to attain the implementation of an efficient, trustworthy, dynamic and evolutionary system, based on state-of-the-art technology platform, supporting the current and future demand.

e) Clearly identify those aspects of interest of air operators that might negatively influence the development of the project in order to foster the suitable preventive measures concerning the capacity of the systems, airport infrastructure, etc.

5. Principles on which the COCESNA's ATFM would be based.

5.1 In order to fulfill its objectives, ATFM should be based on the following principles:

a) To be, in a transparent manner, at the disposal of all the States, users and other concerned parties, considering the requirements of air operators, airports, ATC units and other ATFM related units.
b) Use a common flight data base, permanently up-to-date and of high availability.
c) Take the relevant measures with enough time to prevent and/or minimize overloads in the ATC system.
d) Keep a close and continued coordination with other ATFM units, Flow Management Units (FMU) and/or Flow Management Posts (FMP), aircraft and airport operators and ATC units.
e) Take measures to ensure that the delays that may occur be fairly distributed among operators.
f) Apply quality management to the services provided.
g) Base the implementation of ATFM measures on the collaborative decision-making (CDM) process.
h) Foster the highest use of the existing capacity without compromising safety.
i) Contribute to attain the global ATM objectives.
j) Have the necessary flexibility to allow the operators to amend their arrival/departures schedules.

APPENDIX H

JOINT STRATEGY FOR EXPANDING AIR TRAFFIC FLOW MANAGEMENT (ATFM) SYSTEM

Supported by the North American, Central American and Caribbean, (NACC) Civil Aviation Authorities (CAA) and Air Navigation Service Providers (ANSPs)

The North American, Central American and Caribbean (NACC) Directors General of Civil Aviation (DCAs) and Air Navigation Service Providers (ANSPs) recognize the need to expand air traffic flow management capability within and between NAM and CAR Regions, as a means to improving airspace capacity, traffic flow, and efficiency of air operations in response to growing demand by aircraft operators and service providers.

The Directors General of Civil Aviation (DCAs) and Air Navigation Service Providers (ANSPs) acknowledge that forecast traffic growth between of NAM and CAR Regions (7% per year) warrants near-term action to maintain efficient air operations between both regions.

The Second Meeting of North American, Central American and Caribbean, Directors General of Civil Aviation (NACC/DCA/2) agree that increased ATFM capability must be based on a collaborative decision making (CDM) process in order to have a significant and positive impact on coordinated air traffic flow management. The benefits resulting from inter and intra-regional ATFM based on the CDM model, include:

- A focus on ensuring system performance by supporting the facilities and offering alternatives;
- Implementation of balancing ATS demand capacity initiatives on wide regional and interregional ATFM system;
- A total picture approach on how restrictions affect customers or adjacent facilities;
- Minimized delays and reduced costs for the customers through improved ATFM within and between regions;
- Avoid additional flight time resulting from congestion, weather or short staffing situations;
- Common Situational Awareness for ATM community;
- Collaborative Decision Making (CDM) between ATM Community to ensure the most efficient use of airspace resources; provide equitable access for all airspace users; accommodate user preferred routes; and ensure that service demand will not exceed its capacity;
- Management of contingency situations;
- Focal point for sharing of ATFM information (one stop shopping) for customers, ATS units, operational managers and other service providers;
- Enhanced ATM safety management and performance assessment;
- Structure to support procedures for in flight contingency and operations;
- Assist the operators and users in making the best flight planning decisions;
- Ability to report the actual situation, system wide and in real time; and
- Enhanced communication, planning and coordination between Air Traffic Services Providers and customers will lead to better decision making.

The North American, Central American and Caribbean Directors General of Civil Aviation recognize that implementation of a regional and interregional ATFM capability will follow a progressive and phased process based on various factors including the traffic flow and coordination requirements with adjacent Regions. This strategy will ensure that a logical and economical approach to establishing a regional and interregional ATFM capability is undertaken. ATS Providers will need to assess their ATFM requirements in coordination with ATS Providers of adjacent FIRs to determine the optimum ATFM capability, based on:

- A common understanding of ATFM options;
- A prioritized approach that considers costs/benefit analysis;
- A systems approach, developed with the customers;
- A commitment to support and participate in the joint strategy to develop ATFM system.

In developing an AFTM capability, the North American, Central American and Caribbean Directors General of Civil Aviation agree that the ATFM system should strive for:

- A common understanding of ATFM philosophies with users;
- A common application of air traffic flow management initiatives across FIRs;
- Compatible automation systems;
- Common ATFM terms and procedures;
- Develop common training programs;
- Use of compatible operational situation displays;
- Develop an orchestrated implementation plan;
- Sharing new ideas and concepts;
- Encourage collaborative decision making between ATS providers and users.

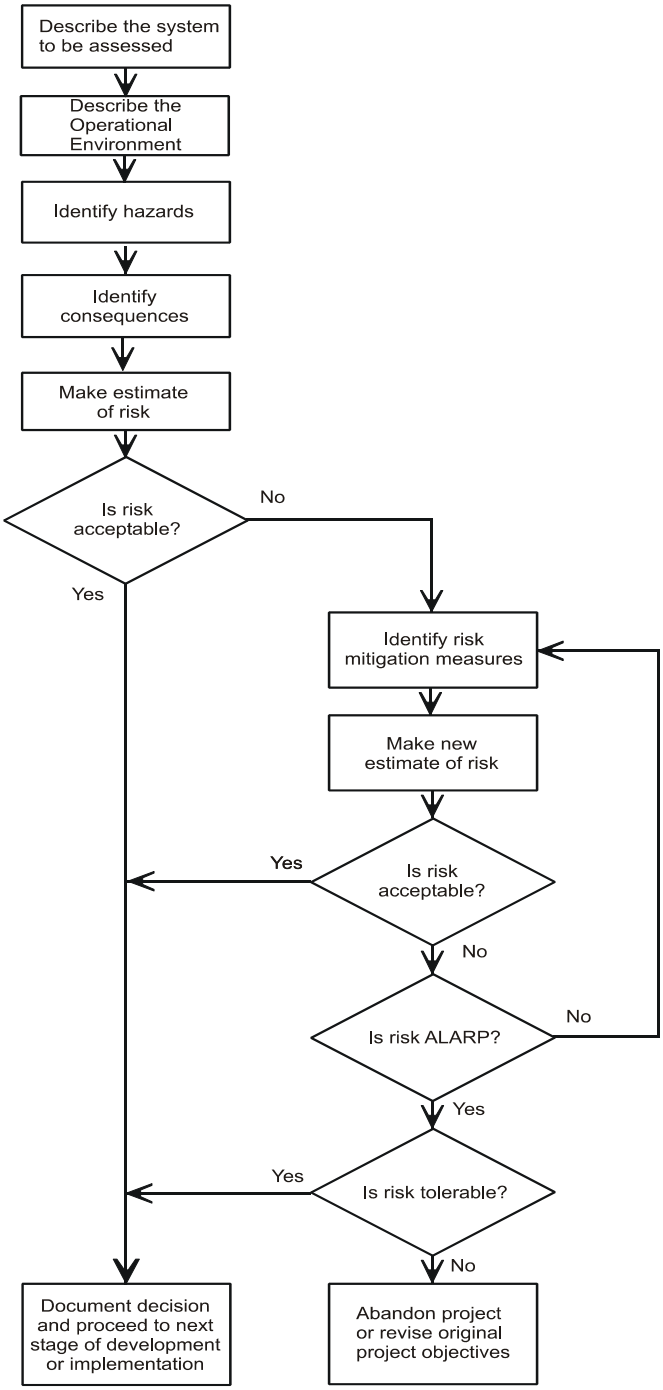
The North American, Central American and Caribbean, Directors General of Civil Aviation support the implementation of regional and interregional Air Traffic Flow Management capability by taking coordinated action on strategic issues. Initial areas for coordination in the near term include: training, technical assistance, air traffic control inter-facility data exchanges; best practices; and operational agreements for coordination of air traffic flow management in adjacent airspaces.

The North American, Central American and Caribbean, Directors General of Civil Aviation support a strategy for ATFM capability system based on the collaborative decision making model and a progressive development process that recognizes traffic levels and coordination requirements; agree that this strategy provides a realistic and economical approach to establishing ATFM capability, benefiting the ATS Providers and customers and leading to more efficient and cost-effective air operations.

The North American, Central American and Caribbean, Directors General of Civil Aviation therefore plan to pursue this harmonized and coordinated implementation strategy for expanding air traffic flow management capability in the near term in order to obtain the capacity and efficiency necessary to accommodate the forecast traffic growth in and between the North American (NAM) and Caribbean (CAR) Regions.

APPENDIX I

SEVEN STEPS OF THE SAFETY ASSESSMENT PROCESS



APPENDIX J

RISK CLASSIFICATION SCHEME

Since the acceptability of a risk is dependent on both its likelihood and the severity of its consequences, the criteria used to judge acceptability will always be two-dimensional. Acceptability is usually based on comparison with a severity/probability matrix.

		Probability of Occurrence				
		Extremely improbable	**Extremely remote**	**Remote**	**Reasonably probable**	**Frequent**
Severity	Catastrophic	Review	Unacceptable	Unacceptable	Unacceptable	Unacceptable
	Hazardous	Review	Review	Unacceptable	Unacceptable	Unacceptable
	Major	Acceptable	Review	Review	Review	Review
	Minor	Acceptable	Acceptable	Acceptable	Acceptable	Review

Once the assessment of acceptability of the risk has been completed for all the identified hazards, the results, including the rationale for the classifications chosen, should be recorded in the hazard log. It is particularly important that all cases where the risk has been accepted and tolerable are well documented, and that the justification for the decision is clearly specified.

Risk Mitigation

If the risk does not meet the pre-determined acceptability criteria, an attempt should always be made to reduce it to a level which is acceptable, or if this is not possible, to a level as low as reasonably practicable, using appropriate mitigation procedures.

The identification of appropriate risk mitigation measures, requires a good understanding of the hazard and the factors contributing to its occurrence, since any mechanism which will be effective in reducing risk will have to modify one or more of these factors.

Risk mitigation measures may work through reducing the probability of occurrence, or the severity of the consequences, or both. Achieving the desired level of risk reduction may require the implementation of more than one mitigation measure. The possible approaches to risk mitigation include:

a) revision of the system design;
b) modification of operational procedures;
c) changes to staffing arrangements; and
d) training of personnel to deal with the hazard.

The earlier in the system life cycle that hazards are identified, the easier it is to change the system design if necessary. As the system nears implementation, changing the design becomes more difficult and costly. This could reduce the available mitigation options for those hazards which are not identified until a late stage of the project.

APPENDIX K

Table AIS 7 — Tableau AIS 7 — Tabla AIS 7 (FASID)

PRODUCTION RESPONSIBILITY FOR SHEETS OF THE WORLD AERONAUTICAL CHART — ICAO 1:1 000 000

RESPONSABILITÉ DE LA PRODUCTION DES FEUILLES DE LA CARTE AÉRONAUTIQUE DU MONDE AU 1/1 000 000 — OACI

RESPONSABILIDAD DE LA PRODUCCIÓN DE LAS HOJAS DE LA CARTA AERONÁUTICA MUNDIAL — OACI 1:1 000 000

EXPLANATION OF THE TABLE

Column

1 Name of State accepting production responsibility

2 World Aeronautical Chart — ICAO 1:1 000 000 sheet number(s) for which production responsibility is accepted

3 Remarks

EXPLICACIÓN DE LA TABLA

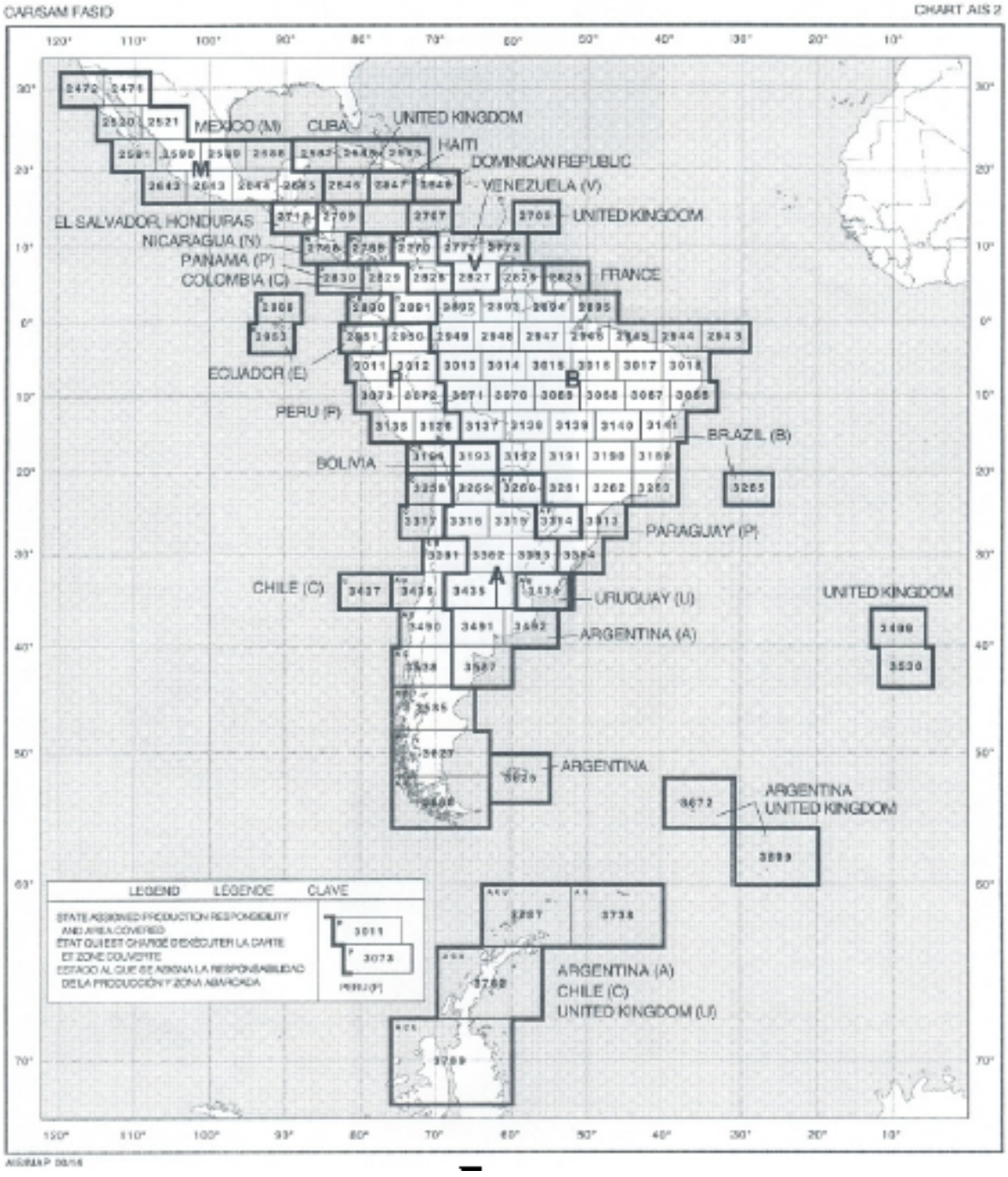
*Column*a

1 Nombre del Estado que acepta la responsabilidad de la producción.

2 Carta aeronáutica mundial — OACI 1:1 000 000, número de las hojas por cuya producción se acepta la responsabilidad.

3 Observaciones.

State État Estado	Sheet number(s) Numéros de feuilles Números de las hojas	Remarks Remarques Observaciones
Argentina	3259, 3260, 3314, 3315, 3316, 3381, 3382, 3383, 3434, 3435, 3436, 3490, 3491, 3492, 3537, 3538, 3585, 3625, 3627, 3668, 3672, 3699, 3737, 3738, 3762, 3789	
Bolivia	3193	Will be published in the future./Sera publiée ultérieurement./Se publicará más adelante.
Brazil	2826, 2892, 2893, 2894, 2895, 2943, 2944, 2945, 2946, 2947, 2948, 2949, 3013, 3014, 3015, 3016, 3017, 3018, 3066, 3067, 3068, 3069, 3070, 3071, 3137, 3138, 3139, 3140, 3141, 3189, 3190, 3191, 3192, 3261, 3262, 3263, 3265, 3313, 3384	
Chile	3194, 3258, 3317, 3381, 3436, 3437, 3490, 3538, 3585, 3627, 3668, 3737, 3762, 3789	
Colombia	2769, 2770, 2828, 2829, 2890, 2891*	*Only to cover its own territory./Pour son propre territoire seulement./ Sólo para cubrir su propio territorio.
Cuba	2585, 2586, 2587	
Dominican Republic	2648	
Ecuador	2888, 2890*, 2951, 2953	*Only to cover its own territory./Pour son propre territoire seulement./ Sólo para cubrir su propio territorio.
El Salvador	2710*	*Only to cover its own territory./Pour son propre territoire seulement./ Sólo para cubrir su propio territorio.
France	2825	Chart at 1: 740 000 covering French Guiana is published./Une carte au 1/740 000 de la Guyane française est publiée./Se publica la carta al 1: 740 000, cubriendo la Guayana Francesa.
Haiti	2647	
Honduras	2710	
Mexico	2471, 2472, 2520, 2521, 2588, 2589, 2590, 2591, 2642, 2643, 2644, 2645	
Nicaragua	2709, 2768	
Panama	2769, 2830	Covered by Aeronautical Chart - ICAO 1:500 000, to cover its own continental territory and territorial waters./Couvert par la Carte aéronautique au 1/500 000 — OACI. Pour son propre territoire et ses eaux territoriales./Cubierta por la carta aeronáutica — OACI 1:500 000, para cubrir su propio territorio continental y aguas territoriales.
Paraguay	3260, 3314	
Peru	2950*, 3011*, 3012, 3072, 3073*, 3135*, 3136*, 3194*	* Will be published in the future./Sera publiée ultérieurement./ Se publicará más adelante.
United Kingdom	2646, 2705, 3499, 3530, 3672**, 3699**, 3737**, 3738**, 3762**,3789**	** These charts are also published by Argentina./Ces cartes sont aussi publiées par l'Argentine./Estas cartas también son publicadas por la Argentina.
Uruguay	3434*	* Will be published in the future./Sera publiée ultérieurement./Se publicará más adelante.
Venezuela	2707, 2770, 2771, 2772, 2827, 2828	With modified sheetlines and covering its own territory only./Découpage modifié. Pour son propre territoire seulement./Con los límites de las hojas modificados y cubriendo solamente su propio territorio.


CARISAM FASID
CHART AIS 2
MEXICO (M)
CUBA
UNITED KINGDOM
HAITI
DOMINICAN REPUBLIC
VENEZUELA (V)
EL SALVADOR/ HONDURAS
NICARAGUA (N)
PANAMA (P)
COLOMBIA (C)
UNITED KINGDOM
FRANCE
ECUADOR (E)
PERU (P)
BRAZIL (B)
BOLIVIA
PARAGUAY (P)
CHILE (C)
URUGUAY (U)
ARGENTINA (A)
UNITED KINGDOM
ARGENTINA
ARGENTINA
UNITED KINGDOM
ARGENTINA (A)
CHILE (C)
UNITED KINGDOM (U)
LEGEND LÉGENDE CLAVE
STATE ASSIGNED PRODUCTION RESPONSIBILITY AND AREA COVERED
ÉTAT QUI EST CHARGÉ D'EXÉCUTER LA CARTE ET ZONE COUVERTE
ESTADO AL QUE SE ASIGNA LA RESPONSABILIDAD DE LA PRODUCCIÓN Y ZONA ABARCADA
PERU (P)

PAN AMERICAN INSTITUTE OF GEOGRAPHY AND HISTORY

PROJECT REQUEST FORM

Commission: Cartography Commission

Name of Project: Aeronautical Chart Standardization

Project No. (assigned by the General Secretariat): 3.1.1.1

Agency executing the Project: Committee on Aeronautical Charts

National Section presenting the Request: United States of America

Type of Project: Multi-national

Name of responsible official: Raoul Alvarez
Address: National Imagery and Mapping Agency/Reston
ATTN: Mr. Raoul Alvarez, COTN, MS: P-33
12310 Sunrise Valley Drive
Reston, VA 20191-3449
Telephone: 703-264-7288 **E-mail:** alvareza@nima.mil

I. Other Specifications of the Project:

a) **Beneficiary countries: All member nations of PAIGH producing VFR Aeronautical Charts.**

b) **Other Member States which have confirmed their participation:**

1999

Name & Address:

Argentina- Departmento Cartografía e Informacion Aeronáutica
Direccion de Transito Aéreo
1104 Cap Fed
Buenos Aires, Argentina

Brazil- Instituto de Cartografía Aeronáutica
Aeroporto Santos Dumont, Anexo 1
20021-130, Rio de Janeiro, Brazil

Chile- Servicio Aerofotogramétrico de la Fuerza de Chile
Aeropuerto Los Cerrillos
Casilla 67 Los Cerrillos
Santiago, Chile

Uruguay- Servicio de Sensores Remotos Aeroespaciales
Fuerza Aérea Uruguaya
Brigada Aérea –1 –Ruta 101 KM 19
Aeropuerto Internacional de Carrasco
Montevideo, Uruguay

c) **Cost of the Project** **US$**

Requested from PAIGH:	**9,000.00**
Requesting Agency:	**14,300.00**
Financial contribution from other institutions:	**12,000.00**
Total US$:	**35,300.00**

II. Justification of the Project:

a) Outline of the problem:

Aviation has played an important part in the economic development of the Western Hemisphere. In a comparatively short period of time, airlines carrying passengers and freight have made isolated places accessible on a regularly scheduled basis. The increasing air traffic has of necessity led to the establishment of a requirement for the production of standardized aeronautical charts and flight information publications essential to flight planning, operations and safety. Aeronautical charts, in order to be most effective, must be made available through the application of modern cartographic technology in conformance with documented specifications and quality assurance criteria. This Project supports the strengthening of democracy by ensuring air safety for both business and tourism travel throughout the region. It fosters mutual confidence among nations by promoting common standards in the compilation and portrayal of aeronautical charts throughout the Western Hemisphere. Scientific and technical cooperation is enhanced between PAIGH and ICAO.

b) Background:

In 1977 at the XIII Consultation held in Quito, Ecuador the Pan American Institute of Geography and History (PAIGH) Committee on Aeronautical Charts set up a working group dedicated to the standardization of production specifications designed to prepare Visual Flight Rules (VFR) Charts which would enhance safety of flight. The continuation of the project was reaffirmed by resolution at the XIV Consultation (Santiago, Chile), the XV Consultation (Rio de Janeiro, Brazil), the XVI Consultation and the XVII Consultation (both in San Jose, Costa Rica).

The Working Group is comprised of personnel drawn from PAIGH Member States' which have the responsibility for aeronautical charting and /or flight information publications standards. Active participation has in the past included members from Argentina, Brazil, Canada, Colombia, Mexico, Panama, Uruguay and the USA. These representatives are the experts in aeronautical charting and have access to the excellent cartographic and air navigation data and resources of the agencies which they represent.

c) Objectives

The objectives of Project 3.1.1.1 are:

(1) Continue to use the yearly meeting for the exchange of aeronautical data and as a forum for the discussion and resolution of problems in aeronautical charting.

(2) Maintain a standardized glossary of terminology to be used in aeronautical charting.

(3) Produce and maintain Technical Procedures for the Production of Aeronautical Charts to ensure compatibility and reliability of aeronautical charts produced by Member Nations.

(4) Maintain the Quality Control Manual for VFR charting. This will assist production elements in utilizing standard quality procedures in a production environment.

(5) Develop and maintain a standardized maintenance criteria for VFR charts to ensure consistency and compatibility of criteria among PAIGH member states.

(6) Develop and maintain VFR Specifications, Symbol Appendices, and Style Sheets to reflect current PAIGH aeronautical charting requirements for the scales 1:2,000,000; 1:1,000,000; 1:500,000; and 1:250,000.

(7) Promote the adoption of the English (Foot) System for aeronautical charting.

(8) Encourage cooperative mapping program agreements between member countries and mutual cooperation for aeronautical charting with the International Civil Aviation Organization (ICAO).

d) Stages

Since project establishment, the Working Groups have been active in the preparation and dissemination of standardized VFR aeronautical chart production specifications in both Spanish and English language versions. The VFR Aeronautical Chart specifications are in need of constant updating and the 2000 meeting activities will be directed to accomplishing this requirement.

Working with the GREPECAS Subgroup of the ICAO, the Committee encourages cooperation in the aeronautical charting field and the adoption of WGS-84 as the standard datum for building aeronautical charts.

III. Products or fruits to be generated by the Project. Benefits for the participating country or countries.

Published documents exist for the following manuals and specifications: Quality Control Manual for Aeronautical Chart Production (1990), Glossary of Cartographic Terms for VFR Aeronautical Charts (1992), Manual of Technical Procedures for the Production of Aeronautical Charts (Part I-Compilation (1996) and (Part II – Color Separation (1998) and Production Specifications for Aeronautical Charts – Scale 1:2,000,000 (1989), 1:1,000,000, 2nd Edition (1994), 1:500,000, 2nd Edition (1997). Work continues on the 1:250,000, 2nd Edition and a Product Evaluation Handbook for chart maintenance.

PAIGH Member States actively engaged in VFR Aeronautical Chart production utilize these specifications as their basic guides.

IV. Program of Activities:

	Description	Milestone Chart
a.	2000 working meetings to be held either in Rio de Janeiro or Mexico City.	March or May, 2000 announcement of meetings.
b.	Complete work on the "Product Evaluation Handbook" for the evaluation of aeronautical charts.	1999 publication date.
c.	Complete work on the 1:250,000 Scale VFR Aeronautical Chart Specifications, 2nd Edition.	1999 publication date.
d.	Initiate work on the revision of the 1:2,000,000 Scale VFR Aeronautical Chart Specifications, 1st Edition, 1989.	2000 publication date.

e.	Continue resolution of differences with the Aeronautical Charts Task Force, ICAO on subjects of mutual concern.	Ongoing.
f.	Provide updates/change notices to Keep the currently published Specifications and Manuals current.	Ongoing.

V. Financial Contribution of PAIGH, by calendar year-Budget Estimate:

Items	Description	US$ Amount	Disbursement Schedule
002	Airfares (Origination and destination to be determined.)	6,000.00	To be purchased by PAIGH (2000/1st trimester).
009	Per Diem (6 person x 6 days x $80)	2,880.00	Disbursed at 2000 meeting.
013	Materials	120.00	Disbursed at 2000 meeting.

Financial Contribution of the Sponsoring Agency (United States of America)

List Appropriate Code Descriptions		US$ Amount	Disbursement Schedule
002	Airfares	3,900.00	2000 meeting.
009	Per Diem	2,600.00	2000 meeting.
013	Materials	1,500.00	As work is accomplished.
023	Miscellaneous Expenses-Salaries	7,500.00	As work is accomplished.
	TOTAL US$	15,500.00	

Financial Contribution of Other Agencies

Contributing Agencies	Code & Description	US$ Amount
Argentina – Direccion de Transito Aéreo Brazil – Instituto de Cartografía Aeronáutica Chile – Servicio Aerofotogramétrico De la Fuerza Aérea Uruguay – Servicio de Sensores Remotos Aeroespaciales, Fuerza Aérea Uruguaya	Professional services (salary) of participants during and after meeting to complete project work. Agencies may send one or two participants to the meeting.	18,000.00

VI. Obligations of the Contributing Agency if the Project Request is approved:

a) *Request for Funds:*

Requests should be made through the respective National Section, which shall receive the notification from the General Secretariat after the Directing Council or General Assembly has finalized. Once the Request for Budgeted Approved Funds has been received, with the proper authorization, the first disbursement of 50% of the amount approved by the Directing Council or General Assembly, shall be dispatched. These funds shall be delivered under the responsibility of the respective National Section in order to implement the project.

b) *Statements of Accounts:*

The requestor, with the referendum of the Contributing Agency, shall present trimestral Statements of Accounts, with original receipts, through the National Section, or before requesting the second disbursement of funds.

All Statements of Accounts must be presented 30 days after the activity has concluded. If the activity shall be continued into the next fiscal year, a partial statement of expenses must be presented by NOVEMBER 30 OF THE CORRESPONDING YEAR and a final statement when the activity has terminated. A copy of the Statement of Accounts must be sent to the respective Commission Chairman, who must give his approval regarding the beneficial utilization of the funds. The Secretary General shall not be able to provide additional funding to those projects which do not comply with this stipulation and shall inform the Responsible Official, the Chairman of the National Section and the Chairman of the respective Commission accordingly. The Responsible Official shall not be allowed to present new projects.

c) *Progress Report:*

The Responsible Official, with the referendum of the Contributing Agency, shall present trimestral Progress Reports to the General Secretariat, with copies to the Commission and National Section, on or before requesting the second disbursement of funds.

d) *Final Report:*

The Requestor, with the referendum of the Contributing Agency, shall present the Final Report to the General Secretariat, with copies to the Commission and National Section.

The report shall consist of:

1) **Compilation of the papers presented by the participants (in the case of technical meetings with guest speakers invited to make presentations on specific topics).**
2) **The results obtained, in relation with the objectives and goals of the project.**
3) **An article prepared by the responsible official for the publication or corresponding Journal.**
4) **Financial Report of Statement of Accounts.**

All rights shall be the property of PAIGH, including the rights to the title, royalties, and patents of any work financed by PAIGH or that is carried out by one of its members regardless of status, as part of his official duties. In the case of joint participation with other institutions, PAIGH shall acknowledge the co-edition (expressly agreed upon), or the simultaneous publication, provided that PAIGH receives credit.

The Responsible Official and (the primary Supporting Agency) are in agreement with the content of this project proposal and accepts its inherent obligations.

Raoul Alvarez
Vice Chairman, Committee on
Aeronautical Charts
Cartography Commission

Robert L. Thibodeaux
Chairman, Committee on
Aeronautical Charts
Cartography Commission

Signature and seal of the National Section

PAN AMERICAN INSTITUTE OF GEOGRAPHY AND HISTORY

PROJECT REQUEST FORM

Commission: Cartography Commission

Name of Project: Aeronautical Chart Standardization

Project No. (assigned by the General Secretariat): IPGH (PAIGH) No. 3.1.1.1

Agency executing the Project: Committee on Aeronautical Charts

Address: _____

_____

Telephone ( ) _____ Fax ( ) _____ E-mail _____

National Section presenting the Request: United States of America

Priority set by National Section (if there is more than one): _____

Type of Project: _____

Pronat (National Project): ☐ Multi-national: ☒

Name of responsible official: Raoul Alvarez

Address: NIMA Liaison Office AIR 4.5M
ATTN: Mr. R. Alvarez, Bldg 2187, Suite 3140
NAVAIRSYSCOMHQ
48110 Shaw Road Unit 5
Patuxent River, MD 20670-1906

Telephone: (301) 342-0082 Fax: (301) 342-0128 E-mail: alvareza@nima.mil

I. Other Specifications of the Project:

a) Beneficiary countries: All member nations of PAIGH producing VFR Aeronautical Charts.

b) Other Member States which have confirmed their participation:

Name & Address: Argentina- Departmento Cartografia e Informacion Aeronautica
Direccion de Transito Aereo
1104 Cap Fed
Buenos Aires, Argentina

II. Justification of the Project:

a) Outline of the problem

Aviation has played an important part in the economic development of the Western Hemisphere. In a comparatively short period of time, airlines carrying passengers and freight have made isolated places accessible on a regularly scheduled basis. The increasing air traffic has of necessity led to the establishment of a requirement for the production of standardized aeronautical charts and flight information publications essential to flight planning, operations and safety. Aeronautical charts, in order to be most effective, must be made available through the application of modern cartographic technology in conformance with documented specifications and quality assurance criteria. This Project supports the strengthening of democracy by ensuring air safety for both business and tourism travel throughout the region. It fosters mutual confidence among nations by promoting common standards in the compilation and portrayal of aeronautical charts throughout the Western Hemisphere. Scientific and technical cooperation is enchanced between the military and civilian aeronautical communities and between PAIGH and ICAO.

b) Background

In 1977 at the XIII Consultation held in Quito, Ecuador the Pan American Institute of Geography and History (PAIGH) Committee on Aeronautical Charts set up a working group dedicated to the standardization of production specifications designed to prepare Visual Flight Rules (VFR) Charts which would enhance safety of flight. The continuation of the project was reaffirmed by resolution at the XIV Consultation (Santiago, Chile), the XV Consultation (Rio de Janiero), the XVI Consultation (San Jose, Costa Rica), and the XVII Consultation (San Jose, Costa Rica).

The Working Group is comprised of personnel drawn from PAIGH Member States' national agencies which have the responsibility for aeronautical charting and/or flight information publications. Active participation has in the past included members from Argentina, Brazil, Canada, Chile, Colombia, Mexico, Panama, Uruguay and the USA. These representatives are the experts in aeronautical charting and have access to the excellent cartographic and air navigation data and resources of the agencies which they represent.

c) Objectives

The objectives of Project 3.1.1.1 are:

(1) Continue to use the yearly meeting for the exchange of aeronautical data and as a forum for the discussion and resolution of problems in aeronautical charting.

(2) Maintain a standardized glossary of terminology to be used in aeronautical charting.

(3) Produce and maintain Technical Procedures for the Production of Aeronautical Charts to ensure compatibility and reliability of aeronautical charts produced by Member Nations.

(4) Maintain the Quality Control Manual for VFR charting. This will assist production elements in utilizing standard quality procedures in a production environment.

(5) Develop and maintain a standardized maintenance criteria for VFR charts to ensure consistency and compatibility of criteria among PAIGH member states.

(6) Develop and maintain VFR Specifications, Symbol Appendices, and Style Sheets to reflect current PAIGH aeronautical charting requirements for the scales 1:2,000,000; 1:1,000,000; 1:500,000; and 1:250,000.

(7) Promote the adoption of the English (Foot) System for aeronautical charting.

(8) Investigate the need for Instrument Flight Rules (IFR) chart specifications.

(9) Encourage cooperative mapping program agreements between member countries and mutual cooperation for aeronautical charting with the International Civil Aviation Organization (ICAO).

d) Stages

Since project establishment, the Working Group has been active in the preparation and dissemination of standardized VFR aeronautical chart production specifications in both Spanish and English language versions. The VFR Aeronautical Chart specifications are in need of constant updating and the 1999 meeting activities will be directed to accomplishing this requirement.

Working with the GREPECAS Sub-Group of the ICAO, the Committee encourages cooperation in the aeronautical charting field and the adoption of WGS-84 as the standard datum for building aeronautical charts.

III. Products or fruits to be generated by the Project. Benefits for the participating country or countries.

Published documents exist for the following manuals and specifications: Quality Control Manual for Aeronautical Chart Production (1990), Glossary of Cartographic Terms for VFR Aeronautical Charts (1992), Manual of Technical Procedures for the Production of Aeronautical Charts (Part I - Compilation) (1996) and 1:2,000,000 (1989), 1:1,000,000, 2nd Edition (1994), 1:500,000, 2nd Edition (1997) and 1:250,000, 2nd Edition (1998). Work continues on Part II of the Manual of Technical Procedures and a Product Evaluation Handbook for chart maintenance will be initiated.

PAIGH Member States actively engaged in VFR Aeronautical Chart production utilize these specifications as their basic guides.

IV. Program of Activities:

	Description	Milestone Chart (year and trimester)
a.	1999 working meeting to be held in Santiago, Chile.	April, 1998
b.	Complete work on the "Technical Procedures for the Production of Aeronautical Charts, Part II (Color Separation)".	1999 publication date.
c.	Initiate work on a "Product Evaluation Handbook" for the evaluation of aeronautical charts.	2000 publication date.
d.	Continue resolution of differences with the Aeronautical Charts Task Force, ICAO on subjects of mutual concern.	Ongoing.
e.	Initiate work on the revision of the 1:2,000,000 Scale VFR Aeronautical Chart Specifications, Edition 1, 1989.	2000 publication date.
f.	Provide updates/change notices to keep the currently published Specifications current.	Ongoing.

V. Financial Contribution of PAIGH, by calendar year - Budget Estimate

Items		Total US$ Amount	Disbursement Schedule (year and trimester)
	Description		
002	Airfares (Bogota, Buenos Aires, Mexico City, Montevideo and Rio de Janeiro to Santiago and return.)	6,000.00	To be purchased by PAIGH (1999/1st trimester).
009	Per Diem (5 people x 6 days x $80).	2,400.00	Disbursed at 1999 meeting (1999/2nd trimester).
013	Materials	600.00	Disbursed at 1999 meeting (1999/2nd trimester).

Financial Contribution of the Sponsoring Agency (United States of America)

List Appropriate Code Descriptions	Total US $ Amount	Disbursement Schedule
002 Airfares	3,900.00	1999 meeting.
009 Per Diem	2,600.00	1999 meeting.
013 Materials	300.00	1999 meeting.
023 Miscellaneous Expenses - Salaries	7,500.00	As work is accomplished throughout 1998/1999.
TOTAL US$	14,300.00	

Financial Contribution of other Agencies

Contributing Agencies	Code and Description	Amount (US$)
Argentina - Departmento Cartografia e Informacion Aeronautica, Direccion de Transito Aereo Brazil - Instituto de Cartografia Aeronautica Chile - Servicio Aerofotogrammetrico de la Fuerza Aerea Colombia - Instituto Geografico "Agustin Codazzi" Mexico - Direccion General de Geografico del INEGI Uruguay - Servicio de Sensores Remotos Aeroespeciales, Fuerza Aerea Uruguaya	Professional services (salaries) of participants during and after meeting to complete project work. Agencies may send more than one participant to the meeting.	18,000.00

VI. Obligations of the Contributing Agency if the Project Request is approved:

a) *Request for Funds:*
Requests should be made through the respective National Section, which shall receive the notification from the General Secretariat after the Directing Council or General Assembly has finalized. Once the Request for Budgeted Approved Funds has been received, with the proper authorization, the first disbursement of 50% of the amount approved by the Directing Council or General Assembly, shall be dispatched. These funds shall be delivered under the responsibility of the respective National Section in order to implement the project.

b) *Statements of Accounts:*
The Requestor, with the referendum of the Contributing Agency shall present trimestral Statements of Accounts, with original receipts, through the National Section, or before requesting the second disbursement of funds.

All Statements of Accounts must be presented 30 days after the activity has concluded. If the activity shall be continuing into the next fiscal year, a partial statement of expenses must be presented by NOVEMBER 30 OF THE CORRESPONDING YEAR and a final statement when the activity has terminated. A copy of the Statement of Accounts must be sent to the respective Commission Chairman, who must give his approval regarding the beneficial utilization of the funds. The Secretary General shall not be able to provide additional funding to those projects which do not comply with this stipulation and shall inform the Responsible Official, the Chairman of the National Section and the Chairman of the respective Commission accordingly. The Responsible Official shall not be allowed to present new projects.

c) *Progress Report:*
The Responsible Official, with the referendum of the Contributing Agency, shall present trimestral Progress Reports to the General Secretariat, with copies to the Commission and National Section, on or before requesting the second disbursement of funds.

d) *Final Report:*
The Requestor, with the referendum of the Contributing Agency, shall present the Final Report to the General Secretariat, with copies to the Commission and National Section.

The report shall consist of:
1) Compilation of the papers presented by the participants (in the case of technical meetings with guest speakers invited to make presentations on specific topics.
2) The results obtained, in relation with the objectives and goals of the project.
3) An article prepared by the responsible official for publication in the corresponding Journal.
4) Financial Report of Statement of Accounts.

All rights shall be the property of PAIGH, including the rights to the title, royalties, and patents of any work financed by PAIGH or that is carried out by one of its members regardless of status, as part of his or her official duties. In the case of joint participation with other institutions, PAIGH shall acknowledge the co-edition (expressedly agreed upon), or the simultaneous publication, provided that PAIGH receives the credit.

The Responsible Official and (the primary Supporting agency) are in agreement with the content of this project proposal and accepts its inherent obligations.

Raoul Alvarez
Vice Chairman, Committee on
Aeronautical Charts
Cartography Commission

Robert L. Thibodeaux
Chairman, Committee on
Aeronautical Charts
Cartography Commission

Signature and seal of the National Section

e.	Continue resolution of differences with the Aeronautical Charts Task Force, ICAO on subjects of mutual concern.	Ongoing.
f.	Provide updates/change notices to Keep the currently published Specifications and Manuals current.	Ongoing.

V. Financial Contribution of PAIGH, by calendar year-Budget Estimate:

Items	Description	US$ Amount	Disbursement Schedule
002	Airfares (Origination and destination to be determined.)	6,000.00	To be purchased by PAIGH (2000/1st trimester).
009	Per Diem (6 person x 6 days x $80)	2,880.00	Disbursed at 2000 meeting.
013	Materials	120.00	Disbursed at 2000 meeting.

Financial Contribution of the Sponsoring Agency (United States of America)

List Appropriate Code Descriptions		US$ Amount	Disbursement Schedule
002	Airfares	3,900.00	2000 meeting.
009	Per Diem	2,600.00	2000 meeting.
013	Materials	1,500.00	As work is accomplished.
023	Miscellaneous Expenses-Salaries	7,500.00	As work is accomplished.
	TOTAL US$	15,500.00	

Financial Contribution of Other Agencies

Contributing Agencies	Code & Description	US$ Amount
Argentina – Direccion de Transito Aéreo Brazil – Instituto de Cartografía Aeronáutica Chile – Servicio Aerofotogramétrico De la Fuerza Aérea Uruguay – Servicio de Sensores Remotos Aeroespaciales, Fuerza Aérea Uruguaya	Professional services (salary) of participants during and after meeting to complete project work. Agencies may send one or two participants to the meeting.	18,000.00

VI. Obligations of the Contributing Agency if the Project Request is approved:

a) *Request for Funds:*
Requests should be made through the respective National Section, which shall receive the notification from the General Secretariat after the Directing Council or General Assembly has finalized. Once the Request for Budgeted Approved Funds has been received, with the proper authorization, the first disbursement of 50% of the amount approved by the Directing Council or General Assembly, shall be dispatched. These funds shall be delivered under the responsibility of the respective National Section in order to implement the project.

b) *Statements of Accounts:*
The requestor, with the referendum of the Contributing Agency, shall present trimestral Statements of Accounts, with original receipts, through the National Section, or before requesting the second disbursement of funds.

All Statements of Accounts must be presented 30 days after the activity has concluded. If the activity shall be continued into the next fiscal year, a partial statement of expenses must be presented by NOVEMBER 30 OF THE CORRESPONDING YEAR and a final statement when the activity has terminated. A copy of the Statement of Accounts must be sent to the respective Commission Chairman, who must give his approval regarding the beneficial utilization of the funds. The Secretary General shall not be able to provide additional funding to those projects which do not comply with this stipulation and shall inform the Responsible Official, the Chairman of the National Section and the Chairman of the respective Commission accordingly. The Responsible Official shall not be allowed to present new projects.

c) *Progress Report:*
The Responsible Official, with the referendum of the Contributing Agency, shall present trimestral Progress Reports to the General Secretariat, with copies to the Commission and National Section, on or before requesting the second disbursement of funds.

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The report shall consist of:

1) **Compilation of the papers presented by the participants (in the case of technical meetings with guest speakers invited to make presentations on specific topics).**
2) **The results obtained, in relation with the objectives and goals of the project.**
3) **An article prepared by the responsible official for the publication or corresponding Journal.**
4) **Financial Report of Statement of Accounts.**

All rights shall be the property of PAIGH, including the rights to the title, royalties, and patents of any work financed by PAIGH or that is carried out by one of its members regardless of status, as part of his official duties. In the case of joint participation with other institutions, PAIGH shall acknowledge the co-edition (expressly agreed upon), or the simultaneous publication, provided that PAIGH receives credit.

The Responsible Official and (the primary Supporting Agency) are in agreement with the content of this project proposal and accepts its inherent obligations.

Raoul Alvarez
Vice Chairman, Committee on Aeronautical Charts
Cartography Commission

Robert L. Thibodeaux
Chairman, Committee on Aeronautical Charts
Cartography Commission

Signature and seal of the National Section

The Responsible Official and (the primary Supporting Agency) are in agreement with the content of this project proposal and accepts its inherent obligations.

Raoul Alvarez
Vice Chairman, Committee on Aeronautical Charts Cartography Commission

Robert L. Thibodeaux
Chairman, Committee on Aeronautical Charts Cartography Commission

Signature and seal of the National Section

APPENDIX M

TERMS OF REFERENCE AND WORK PROGRAMME OF THE PAIGH/ICAO AERONAUTICAL CHARTS WORKING GROUP

DRAFT
CONCLUSION 9/10 PAIGH/ICAO PROJECT FOR THE PRODUCTION OF AERONAUTICAL CHARTS

That, taking into consideration the difficulties experienced in general in the CAR/SAM Regions regarding the production of Aeronautical Charts required in Annex 4, and the GEASA initiative to sponsor the preliminary studies, the GREPECAS:

a) approve the development of a project for the production of aeronautical charts under PAIGH and ICAO technical cooperation schemes;

b) establish PAIGH/ICAO Aeronautical Charts Working Group to carry out, specially, the development of the ICAO/IPGH TC draft Technical Co-operation project for the production and implementation of the 1:000,000 and 1:500,000 VFR aeronautical charts under the Terms of Reference and Work Programme presented in the Appendix A to Agenda Item 5;

c) designate the Secretary of the AIS/MAP Subgroup to coordinate with PAIGH, with TCB and with any other body related with fostering the Project; and

d) urge the Task Force to initiate actions as soon as possible and to develop the draft project to be presented at GREPECAS.

PAIGH/ICAO Aeronautical Chart Working Group

1. Terms of Reference

a) To establish and conduct a joint project with PAIGH and other national and international organizations to develop processes and to determine database and Geographic Information System technology capable of producing electronic aeronautical charts in the CAR/SAM Region that meet ICAO Annex 4 standards.

b) To determine sources of adequate digital chart data available, such as terrain, to support the economic production of the full range of electronic charts.

c) To develop a plan, with achievable objectives in phases, for the funding and production of Electronic Aeronautical Charts based on WGS-84 in support of the CNS/ATM Systems and the Global Navigation Satellite System (GNSS) including the Flight Management System (FMS); the plan would provide for:

- a training program for CAR/SAM States to ensure adequate human resources are in place to support the initial ICAO/PAIGH project and the continual maintenance of the charts,
- the funding and the establishment of database and GIS systems capable of producing and maintaining electronic charts
- the achievable time-phased production of charts based on priority, and
- the follow-on maintenance of the charts.

d) meet and coordinate with the AIS/DB/AUTO/TF concerning database issues pertaining to electronic aeronautical chart support and production.

2. Work Programme

TASK NUMBER	TASK DESCRIPTION	PRIORITY	DATE	
			START	END
MAP-WG/1	**Establish the Composition of the ICAO/PAIGH Aeronautical Charts Working Group with Experience in Aeronautical Charting** a) Recruit ICAO and PAIGH members experienced in cartography, digital map or chart production, WGS 84, and digital terrain modeling to participate in the Task Force; invite the Cartographic and Geographic Institutes of the CAR/SAM Region to participate. b) Arrange joint AIS DB AUTO/MAP Task Force meetings to share database expertise between the participants and to coordinate charting database requirements.	A	2005	2006
MAP-WG/2	**Determine Methodology for Electronic Chart Production** a) Identify existing technology capable of producing electronic charts that meet the ICAO Annex 4 standards. b) Determine that methodology most achievable for a Joint ICAO/PAIGH electronic charting project and follow-on chart maintenance in the CAR/SAM Region	A	2005	2007
MAP-WG/3	**Prepare a Plan to Produce Electronic Charts Based on the Priority of each Chart to be Produced and with Achievable Milestones** a) Determine the priority of charts to be produced, b) Review past PAIGH and ICAO plans for the production of aeronautical charts and other example regional development plans to gain background for the development of a truly achievable plan, c) Prepare a plan that includes background on the recommended production process, the steps necessary to compile the data required, the quality	A	2005	2007

TASK NUMBER	TASK DESCRIPTION	PRIORITY	DATE	
			START	END
	process, and achievable milestones for production of charts based on priority requirements.			
MAP-WG/4	**Define Sources or Methods for Obtaining Electronic Terrain, Obstacle, Geodetic, Aeronautical and Other Cartographic Base Data Necessary to Produce Electronic Charts** a) determine data sources available within the State civil aviation authority, b) determine the availability of digital data from State Cartographic and geographic Institutes, c) determine the availability of international organization and commercial sources of data.	A	2005	2007
MAP-WG/5	**Seek Sources for Funding and Support for a Joint ICAO/PAIGH Electronic Charts Project in the CAR/SAM Regions** a) gain State aviation authority commitment to the joint project and determine that portion of funding that may be sustained by each of the CAR/SAM Region States, b) determine States and organizations that can provide data and production resources, c) determine States and organizations that will assist in the funding of the project such as the World Bank, International Development Bank and the U.S. Trade Development Agency; d) determine the most effective use of Special Implementation Projects (SIP) funding resources	A	2005	2007
MAP-WG/6	**Develop Implementation Plan for the Production of Electronic Charts** a) plan production milestones based on the available technology, human resources, funding, data, and chart priority, b) plan follow-on chart maintenance milestones and schedules based on the available technology, human resources, funding, data, and chart priority.	A	2005	2008

3. Composition

Argentina, Brazil, Chile*, Cuba, COCESNA, Jeppesen.

* ***Rapporteur***: Viviana Barrientos
Note: The Substitute Rapporteur will be designated at the next meeting of the Task Force

APPENDIX / APÉNDICE N
(Available in Spanish only)

Plan de Contingencia NOTAM NASC Habana

2005

(Borrador)

Introducción

Este Plan de Contingencia NOTAM ha sido elaborado en cumplimiento y aplicación en la FIR Habana de la **CONCLUSION 12/99** "Acuerdo sobre Planes de Contingencia NOTAM para las Regiones CAR/SAM".

El objetivo de este Plan de Contingencia NOTAM es precisar los arreglos y coordinaciones realizadas como procedimientos de respaldo para mantener el Servicio NOTAM en situación de Contingencia que impida el habitual funcionamiento del NASC Habana y garantizar con ello el flujo de información aeronáutica necesario e indispensable para la seguridad de la navegación aérea en la FIR Habana.

El Plan tiene en consideración todas las vías posibles de respaldo incluyendo acuerdos con el Servicio NOTAM de COCESNA y en cada caso se especifica los pasos a seguir, aplicando las fichas de actuación implementadas con el presente Plan.

Plan de Contingencia - NOTAM

Procedimientos de respaldo para situaciones de Contingencia del NASC Habana

1. Principios Generales.

1.1 Este documento se establece con el objetivo de definir procedimientos y medidas de respaldo a tomar en caso que se genere una situación de Contingencia en el NASC Habana que impida el cumplimiento de algunas o todas sus funciones.

2. Definiciones.

2.1 Se considera ***"Eventualidad"*** aquella que provocada por una situación imprevista o planificada, traiga como consecuencia una situación inhabitual en el NASC Habana.

2.2 Se considera una ***"Situación de Contingencia en el NASC Habana"***, aquella que provocada por una eventualidad, imposibilite al NASC Habana cumplir con alguna o todas las funciones para el cual fue creado y por tanto sea necesario aplicar los procedimientos descritos en el presente Plan de Contingencia para garantizar la publicación, recepción y mantenimiento de la información NOTAM en la FIR Habana.

3. Clasificación de eventualidades y contingencias.

3.1 Entre las eventualidades contempladas en este Plan de Contingencia, así como las posibles consecuencias que pueden generar diferentes tipos de contingencias en el NASC Habana se encuentran:

Eventualidad	Situación creada	Contingencia
1- Falla menor en Hardware o software del BD NOTAM.	1- Imposibilidad de trabajo del BD NOTAM, pero el sistema de mensajería AFTN está de alta.	Tipo A
2- Falla de comunicaciones en toda la red o falla del Servidor de mensajería AFTN.	2- El BD NOTAM puede estar operable o no, pero se imposibilita la transmisión y recepción por AFTN.	Tipo B
3- Falla del MEVA.	3- Imposible transmisión y recepción por AFTN.	Tipo B

3.2 Las situaciones de contingencia en el NASC Habana se clasifican en:

Tipo A: El BD NOTAM está inoperativo, pero las funciones que el mismo realiza serán asumidas *manualmente* por los propios técnicos NOTAM y retransmitidas por el sistema de mensajería AFTN.

Tipo B: El BD de NOTAM puede estar operando o no, pero el sistema de mensajería se encuentra inoperativo por lo que la Oficina NOTAM Habana se ve imposibilitada de divulgar y recibir nacional e internacionalmente información NOTAM lo que obliga a utilizar otro NASC de respaldo en el área para mantener el servicio de información NOTAM. En esta clasificación se incluye también las situaciones de desastres naturales o de otra índole.

3.3 Plan de Aviso.

3.3.1 Cuando el técnico de la Oficina NOTAM detecta alguna falla que pudiera generar un estado de contingencia por el acaecimiento de una eventualidad aplicable y descrita en 3.1, que clasifica como Tipo A o B, informa de inmediato al Departamento de Redes. De confirmarse la situación de contingencia NOTAM el técnico de Redes proporcionará información sobre la misma, como:

- Tipo de contingencia según tabla del punto 3.1 del presente Plan de Contingencia.
- Tiempo estimado de duración de la contingencia.

3.3.2 El técnico NOTAM informará de inmediato al Jefe de la Oficina NOTAM, quien decretará oficialmente el estado de contingencia NOTAM, para lo cual activará el presente Plan de aviso, en el orden de prioridad asignado e informando en todos los casos el tipo de contingencia que se está decretando.

- Especialidad AIS, Dpto Control Operacional, o Jefe Dpto Control Operacional.
- Director Servicios Aeronáuticos ECASA.
- Especialidad AIS, Dirección Aeronavegación IACC, o Director Aeronavegación IACC.
- Vicepresidencia IACC (En contingencia Tipo B).

3.4 Infraestructura de Contingencia.

3.4.1 En la Oficina NOTAM deberán estar creadas o se crearán de inmediato las condiciones mínimas indispensables para que se realicen todas las funciones que normalmente y de forma automatizada realiza el BD NOTAM, indispensables para garantizar la seguridad y regularidad de la navegación aérea en la FIR Habana y estas condiciones serán:

a) Acceso a Internet en la Oficina NOTAM y una cuenta de correo electrónico con salida internacional.

b) Se habilitarán 2 PC además de las ya existentes para garantizar el trabajo continuo de 3 técnicos elaborando y distribuyendo la información NOTAM y PIB, las cuales deberán estar previamente definidas.

c) Se instalará un telefax con línea directa que garantice la comunicación permanente y rápida, nacional e internacionalmente, que deberá estar previamente definido.

d) Se designarán 2 técnicos AIS de la dependencia ARO/AIS/MET de La Habana, que reforzarán el trabajo de confección de los PIB en la Oficina NOTAM, mientras dure la contingencia.

e) Se definirán oportunamente cuáles usuarios nacionales deberán contar con cuentas de correo y habilitarlas con tiempo, a fines de estar informados mientras dure la contingencia NOTAM.

3.5 Vías de comunicación.

3.5.1 La comunicación durante la contingencia se realizará, según se especifica en cada caso, mediante vía telefónica, e-mail o AFTN.

3.5.2 Los datos para la comunicación estarán previamente contenidos y actualizados en adjunto a la Carta de Acuerdo Operacional entre los NASC de La Habana y COCESNA. En esta carta se incluirán los datos de ambos NASC, así como las direcciones AFTN de todos los usuarios internacionales de los NOTAM de la FIR Habana.

3.5.3 Adjunto a este Plan se recogerán y mantendrán actualizados los datos de teléfonos, e-mail y AFTN de todas las Dependencias nacionales involucradas en la contingencia.

3.6 Organización de la contingencia.

3.6.1 El Jefe de la Oficina NOTAM asume la dirección de la contingencia NOTAM en la ECASA, dando todas las indicaciones pertinentes para asumir la contingencia de cualquier tipo, tales como:

a) Duplicar o triplicar al personal en turno para asumir la contingencia, elaborando “horario de trabajo de contingencia” hasta una semana como mínimo después del estimado de fin de la contingencia.

b) Mantener contacto estrecho con la especialidad en la Dirección de Aeronavegación y el Departamento de Control Operacional en la ECASA, tomando siempre que sea posible las decisiones después de colegiadas con los mismos.

c) Mantener contacto estrecho con el Departamento de Redes y toda la parte técnica, manteniéndose debidamente informado sobre el estado técnico, durante la contingencia.

3.7 Solicitudes de publicación de NOTAM.

3.7.1 Las Dependencias ARO/AIS/MET, la Dirección de Aeronavegación, el Centro Nacional Conjunto de Planificación de Vuelos, la Oficina de Publicaciones AIS, así como otros usuarios aeronáuticos autorizados, según el Apéndice 6 del Reglamento Nacional AIS, a solicitar la publicación de un NOTAM, enviarán a la Oficina NOTAM las solicitudes de los NOTAM a publicar cumpliendo con todos los requerimientos descritos en el PE-2084-04, vía AFTN (Contingencia Tipo A) o vía e-mail o telefónica (Contingencia Tipo B).

3.8 Solicitudes de elaboración de PIB.

3.8.1 Una vez decretada cualquier tipo de contingencia NOTAM, las Dependencias ARO/AIS/MET se verán imposibilitadas de elaborar sus propios PIB como se realiza habitualmente, por lo que deberán solicitar su confección a la Oficina NOTAM:

- En Contingencia Tipo A: enviando los FPL vía AFTN tan pronto como se reciban en la Dependencia ARO/AIS/MET.
- En Contingencia Tipo B: enviando los FPL tan pronto como se reciban en la Dependencia vía e-mail o vía telefónica, en cuyo caso deberán incluirse todos los datos contenidos en el FPL.

4. Procedimientos aplicables en caso de Contingencia Tipo A.

4.1 Publicación de NOTAM de advertencia.

4.1.1 Una vez decretada la Contingencia Tipo A, el Jefe de la Oficina NOTAM indicará al técnico cuando y como debe publicar el primer NOTAM que anuncia el estado de contingencia a los usuarios NOTAM de la FIR Habana, como sigue:

(AXXXX/YY* NOTAMN
Q)MUFH/QXXCA/IV/NBO/AE/000/999/COORD RDO FIR HABANA
A)MUFH B)*fecha/hora inicio contingencia* C)*fecha/hora EST fin contingencia.*
E)NOTAM CONTINGENCY ACT DUE TECHNICAL REASONS. THE INFORMATION NOTAM OF NASC HAVANA BY THE INTERROGATION SERVICE WILL BE INTERRUPTED)

** (XXXX numeración consecutiva correspondiente, YY año)*

4.2 Publicación de NOTAM.

4.2.1 La Oficina NOTAM recibirá las solicitudes de publicación de NOTAM por cualquiera de las vías especificadas en la documentación técnica y de calidad establecidas, aplicando en todos los casos de forma habitual los Apéndices 6 y 7 del Reglamento Nacional AIS y procediendo posteriormente a verificar y elaborar de forma manual los NOTAM solicitados y finalmente transmitirlos por AFTN a todos los usuarios NOTAM correspondientes, nacionales e internacionales.

4.3 Elaboración de PIB.

4.3.1 La Oficina NOTAM elaborará los PIB solicitados desde las ARO/AIS/MET mientras dure la contingencia y los reenviará por e-mail con un tiempo no menor de 2 horas antes del estimado de salida de cada vuelo.

5. Procedimientos aplicables en caso de Contingencia Tipo B.

5.1 De las coordinaciones entre los NASC Habana y COCESNA.

5.1.1 El Jefe de la Oficina NOTAM una vez decretada la Contingencia Tipo B contactará de inmediato con la Especialidad AIS en la DAN y especialmente con el especialista designado Jefe de la Contingencia NOTAM por la Dirección de Aeronavegación.

5.1.2 El Director de Aeronavegación del Instituto de Aeronáutica Civil de Cuba solicitará por escrito a la Autoridad Aeronáutica de COCESNA activar los procedimientos descritos en Carta de Acuerdo firmada por ambas entidades y pasará copia de esta comunicación a la Oficina NOTAM. Una vez recibida la copia de la carta, el Jefe de la Oficina NOTAM se comunicará telefónicamente con el NASC de COCESNA y coordinarán todos los temas necesarios para llevar a cabo los procedimientos de respaldo al NASC Habana mediante el NASC de COCESNA, según Carta de Acuerdo operacional.

5.2 Publicación de NOTAM.

5.2.1 En estado de Contingencia Tipo B todos los NOTAM que se necesiten publicar en la FIR Habana serán emitidos y distribuidos desde el NASC de COCESNA.

5.2.2 Todos los NOTAM que se soliciten publicar serán elaborados completamente en la Oficina NOTAM Internacional de La Habana, de inicio a cierre del paréntesis, manteniendo la consecutividad de los NOTAM y se enviarán por fax o e-mail al NASC de COCESNA, dejando constancia escrita de lo solicitado.

5.2.3 Después que el NOTAM en cuestión es publicado se verificará si coincide exactamente con lo que se solicitó y en caso contrario se solicitará reemplazo o cancelación, según proceda.

5.2.4 Antes de comenzar a publicar algún NOTAM, se enviará un primer fax o e-mail al NASC de COCESNA con el listado actualizado de direcciones AFTN internacionales, a quienes deberán ser enviados todos los NOTAM que la NOF Habana solicite publicar. El listado de direcciones AFTN de usuarios internacionales de la información NOTAM de la FIR Habana estará contenido en adjunto a la Carta de Acuerdo Operacional entre ambos NASC.

5.2.5 El Jefe de la Oficina NOTAM indicará al técnico cuando y como debe publicar el primer NOTAM que anuncia el estado de contingencia Tipo B a los usuarios, como sigue:

(AXXXX/YY* NOTAMN
Q)MUFH/QXXCA/IV/NBO/AE/000/999/COORD RDO FIR HABANA
A)MUFH B)*fecha/hora inicio contingencia* C)*fecha/hora EST fin contingencia.*
E)NOTAM CONTINGENCY ACT. THE INFORMATION NOTAM OF NASC HAVANA BY THE INTERROGATION SERVICE WILL BE INTERRUPTED. INFO NOTAM OF HAVANA FIR WILL BE PROVIDED BY COCESNA NASC).

** (XXXX numeración consecutiva correspondiente, YY año)*

5.3 Distribución de NOTAM a usuarios nacionales.

5.3.1 Los NOTAM de la FIR Habana publicados por el NASC de COCESNA, serán distribuidos a usuarios internacionales desde dicho NASC. El técnico NOTAM se encargará de distribuir a los usuarios nacionales posibles vía e-mail, los NOTAM de la FIR Habana después de recepcionados del NASC de COCESNA y debidamente revisados.

5.4 Elaboración de PIB.

5.4.1 La Oficina NOTAM elaborará los PIB solicitados desde las ARO/AIS/MET, mientras dure la contingencia y los reenviará por e-mail con un tiempo no menor de 2 horas antes del estimado de salida de cada vuelo.

6. Cese de la Contingencia y restablecimiento de funciones.

6.1 Cese de la Contingencia.

6.1.1 Una vez confirmado por el técnico de Redes el cese de la contingencia, el técnico NOTAM procederá a realizar una verificación minuciosa de todas y cada unas de las funciones que realiza el Banco de Datos NOTAM a fin de comprobar el perfecto estado de funcionamiento, así como el sistema de mensajería AFTN, solo entonces se procede a decretar el cese oficial de la Contingencia NOTAM.

6.1.2 El Jefe de la Oficina NOTAM será el encargado de emitir las indicaciones para publicar un NOTAM de cese del estado de Contingencia NOTAM y con ello decretar el final de la misma.

6.1.3 En Contingencia Tipo A:

6.1.3.1 Cuando el Jefe de la Oficina NOTAM lo indique, se publicará ya desde el NASC Habana el NOTAM de cierre de la misma como sigue:

(AXXXX/YY* NOTAMC AXXXX/YY*
Q)MUFH/QXXAK//////
A)MUFH B)*fecha/hora cese contingencia*
E)REF NOTAM AXXXX/YY NASC HAVANA OKAY)

** (XXXX numeración consecutiva correspondiente, YY año)*

6.1.4 En Contingencia Tipo B:

6.1.4.1 El Jefe de Oficina NOTAM comunicará de inmediato al Especialista Jefe de la Contingencia NOTAM en la Dirección de Aeronavegación el cese del estado de contingencia NOTAM y este gestionará a la mayor brevedad posible se envíe la comunicación pertinente a la Autoridad Aeronáutica de COCESNA informando sobre el cese de la Contingencia. El mensaje debe especificar que el cierre oficial de la Contingencia será en fecha y hora del NOTAM de cancelación que se emitirá para estos efectos.

6.1.4.2 La Dirección de Aeronavegación informará por cualquier vía posible al Jefe de NOTAM de la comunicación cursada a la Autoridad Aeronáutica de COCESNA sobre el cierre de la contingencia, y solo entonces el Jefe de NOTAM dará las indicaciones pertinentes para que sea publicado en el NASC Habana el NOTAM de cancelación como sigue:

(AXXXX/YY* NOTAMC AXXXX/YY*
Q)MUFH/QXXXX//////
A)MUFH B)*fecha/hora cese contingencia*
E)REF NOTAM AXXXX/YY CNL. INFO NOTAM OF HAVANA FIR WILL BE PROVIDED BY HAVANA NASC)

6.2 Restablecimiento de funciones.

6.2.1 Una vez emitido este NOTAM el Jefe de la Oficina NOTAM se encargará de tomar todas las medidas pertinentes para restablecer las condiciones y régimen de trabajo normal en la oficina, así como el regreso del personal de refuerzo a sus puestos de trabajo de forma gradual.

6.2.2 El Departamento de Redes se encargará de restablecer el equipamiento y medios que habitualmente se encuentran en la Oficina, retirando de forma gradual y convenida con el Jefe de la Oficina NOTAM las PC de refuerzo el telefax se mantendrá de forma permanente.

APPENDIX O

TRAINING NEEDS-CAR REGION STATES (PERIOD 2005-2009)

State/Territory/Organisation_____

(Please indicate in each column the estimated total number of personnel to be trained each year locally or abroad and by specialty)

AREA	CATEGORY/SPECIALTY	LOCAL INSTRUCTION					EXTERNAL INSTRUCTION					Total HR required	
		2005	2006	2007	2008	2009	2005	2006	2007	2008	2009	Local	Ext.
AIG	Officer - Accident Investigation and Prevention												
AIR	Inspector - Shop Specialist												
	Inspector - Fixed wing												
	Inspector - Helicopter												
	Specialist - Avionics												
	Inspector - Airworthiness certification												
	Specialist - RVSM												
AIS	Directorate/Supervisor AIS												
	AIS Officer												
	Aeronautical Cartography (MAP)												
	Specialist Data Base/Automation and Quality Assurance AIS												

NOTE: 1)The information required in the blank columns will be provided by the Administrations
2) Useful information for the Administration's training programmes planning
3) Information considered by the CATCs, GREPECAS and ICAO's for the programming of courses, seminars, etc.

AREA	CATEGORY/SPECIALTY	LOCAL INSTRUCTION					EXTERNAL INSTRUCTION					Total HR required	
		2005	2006	2007	2008	2009	2005	2006	2007	2008	2009	Local	Ext.
AGA	Supervision/Certification/Aerodrome Regulations												
	Aerodromes Inspector/Auditor												
	Officer – Airport Operations												
	Officer Airport Security												
	Trainer – Aerodrome Emergencies												
	Fire fighter - Rescue												
	Control – Natural resources												
	Maintenance - Pavements and drainage - Civil Engineer												
	Electric maintenance (lighting, markings, power generators) – Electric engineer												
	Inspector –Obstacle control												
	Inspector-environment control												
ATM	Air Traffic Controller - TWR												
	Air Traffic Controller - APP												
	Air Traffic Controller -Area												
	Air Traffic Controller-Radar/Area												
	Air Traffic Controller - Radar/APP												
	Supervisor – Air Traffic Control												
	ATC/OJT Instructor												
	ATS Airspace Planner												
	ATS Regulations Officer												
	Specialist – ATS Quality Assurance												
	Safety Officer												
	ATM Internal Audit Officer												
	Specialist – Search and Rescue SAR for RCC or RSC												

AREA	CATEGORY/SPECIALTY	LOCAL INSTRUCTION					EXTERNAL INSTRUCTION					Total HR required	
		2005	2006	2007	2008	2009	2005	2006	2007	2008	2009	Local	Ext.
AVSEC	Administrator AVSEC												
	Control Officer AVSEC												
CNS	Specialist - Communications												
	Specialist - Navigation												
	Specialist –ADS and Radar Systems												
	Digital communication system specialization course												
MET	Technician Meteorologist/Observer												
	Professional Meteorologist/Forecaster												
OPS	Inspector – Flight checks - Large airplanes												
	Inspector – flight checks – General aviation												
	Inspector – flight checks - Helicopter												
	Specialist – Regulatory compliance												
	Inspector OPS Certification												
	Inspector – Cabin safety												
	Inspector- Dangerous goods												
	Inspector – Ramp safety												
PEL	Specialist - Licensing												
	Examiner/Inspector – Flight schools												
GENERAL	Introduction to CNS/ATM Systems												
	CNS/ATM - Implementation systems global												
MANA-GEMENT	Management – Civil Aviation												
	Management – Aeronautical Operations												
	Management – AIS Services												
	Management – ATM Services												

AREA	CATEGORY/SPECIALTY	LOCAL INSTRUCTION					EXTERNAL INSTRUCTION					Total HR required	
		2005	2006	2007	2008	2009	2005	2006	2007	2008	2009	Local	Ext.
PLNG	Human Resources Planning												
Q.A.	Specialist – Quality Assurance												
TRNG	Instructors training -TRAINAIR												

APPENDIX P

SPECIAL IMPLEMENTATION PROJECT
INFORMATION ON THE CAR/SAM AIR NAVIGATION DEFICIENCIES
VIA INTERNET

With the purpose of providing on-line access to the Air Navigation Deficiencies Database and that States/Territories in the CAR/SAM Regions have an appropriate way to identify, assess and report changes, an application to publish the Database through the Internet has been implemented in such a way that a timely follow-up can be given by using this technology.

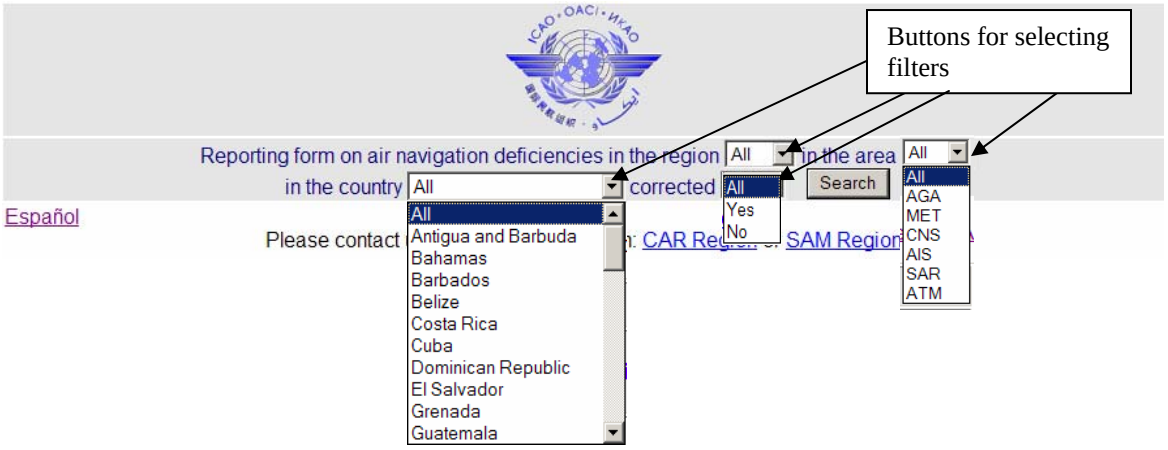
This application has been finished and is available for the States/Territories of the CAR/SAM Regions through the link "GREPECAS AIR NAVIGATION DEFICIENCIES DATABASE (GANDD) available in the following address: www.icao.int/nacc

When accessing this link a header will open where some selection buttons will appear for filtering the search of some deficiencies in particular (it is recommended to use a resolution screen of 1024 x 768 pixels even though it is also possible to work with 800x600 pixels.

Access to this site is restricted with the use of a username and a password which will be requested at the moment of accessing the corresponding link.

In accordance with the username used, the deficiencies corresponding to that State will initially appear, however, it is also possible to see the global information by using the corresponding filters.

Filters can be created by selecting the Region, Area, State and corrected fields.



Once the combination of these is selected, press the button “Search” and the table or tables containing the requested information will show as follows:

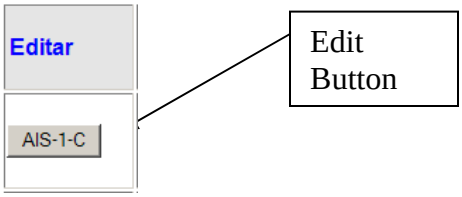
Records found for region CAR in the area AGA in Costa Rica

Identification			Deficiencies			Corrective Action			
Edit	Requirements	States/ Facilities	Description	Date First Reported	Remarks	Description	Executing Body	Date of Comple - tition	P
AGA-44-C	Visual Aids (Annex 14, Vol. I, Chap. 5 and ANP, Table AOP 1)	Costa Rica, ALAJUELA, Juan Santamaria Intl.	Non standard TWY markings and non standard signs	1996	IFALPA Meeting November 2000	Replaced by deficiency AGA 232 C	Costa Rica	2002	A
AGA-86-C	Bird Strike Hazards (Annex 14, Vol. I, Chap. 9.5)	Costa Rica, ALAJUELA, Juan Santamaria Intl	Bird strikes reported, sanitary landfills located in the vicinity of airport	2000	ASB/4 Review	Undertake bird hazard assessment to identify mitigation measures	Costa Rica	2002	U
AGA-76-C	Pavement Surface Conditions (Annex 14, Vol. I, Chap. 9.4)	Costa Rica, ALAJUELA, Juan Santamaria Intl	Excessive rubber deposit on runway surface resulting in poor friction characteristics - Ref. Annex 14, Vol. I, Section 9.4.10	2000	IATA Report December 2000	Remove rubber from runway surface	Costa Rica	2002	U

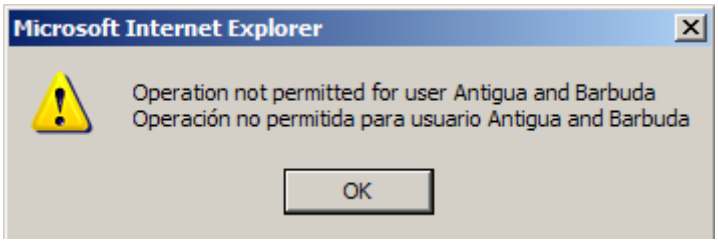
Initially the information will be presented in English, if the information is required in Spanish, press the button of language shown in the upper left corner of the page.

The information shown is the present information captured in the databases of each one of the CAR/SAM Regional Offices.

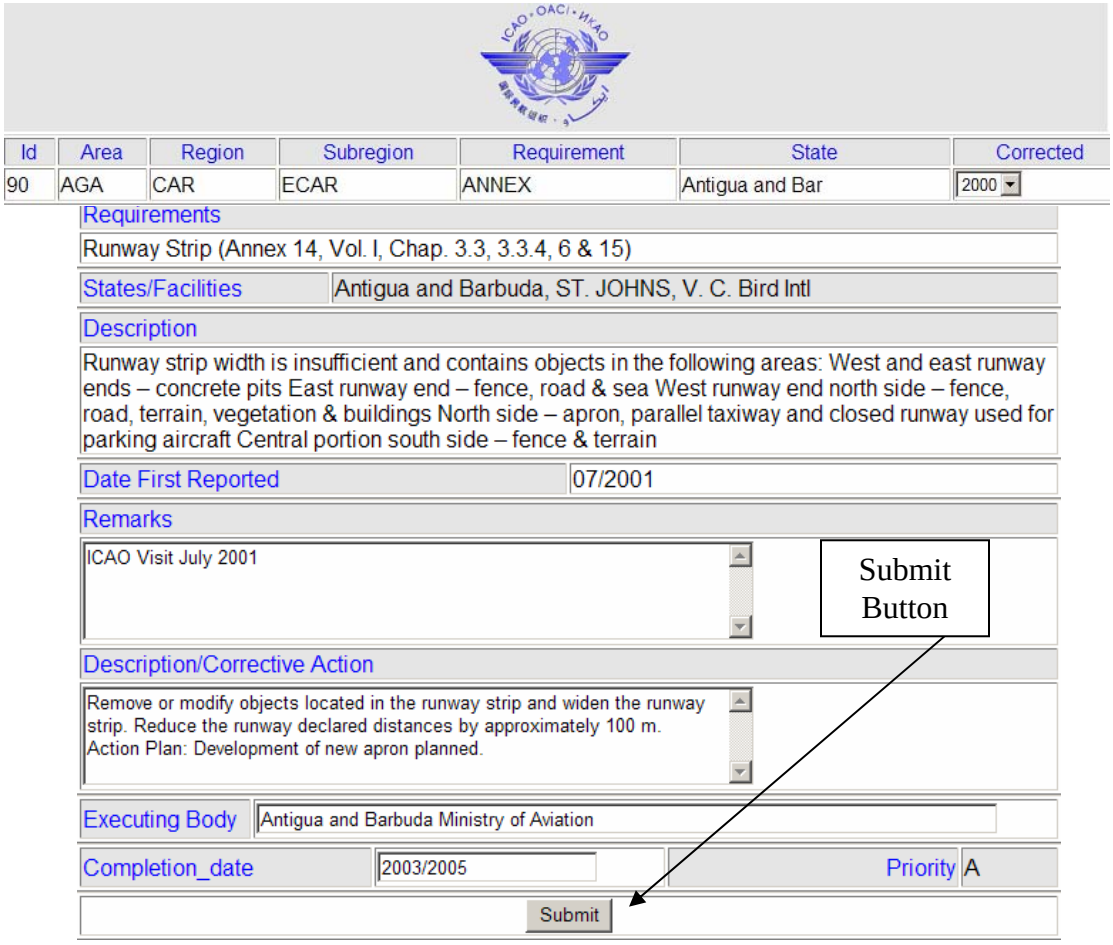
The intention of showing the databases through the Internet is for Contracting States/Territories to see the information at any moment and request its change and/or update. For this purpose a capture form has been created that could be displayed for each deficiency by pressing the buttons of the column “Edit”.



Only those users whose name and password correspond to the deficiency edited will be the ones authorized for its edition, on the contrary a message similar to the following will be shown:



In case the edition is authorized, a form with the information of the selected deficiency will appear as shown below:



The request for changing and/or updating the information should be captured directly on such form in the fields allowed, either in Spanish or English, and once done press the Button “Submit”.

The same procedure should be followed for each Registry willing to be modified.

The modified information of each registry will be sent via e-mail to the Regional Office concerned, NACC or SAM, according to the selected State, however, the database will not reflect immediately the requested changes. Those changes will be previously validated by the Regional Officer in each area before being updated in the database.

Updates to the databases published in the Web will be made periodically, at least 45 days or less which will be decided by each area officer.

APPENDIX / APÉNDICE Q

GREPECAS AIR NAVIGATION DEFICIENCIES DATABASE

BASE DE DATOS DEL GREPECAS SOBRE DEFICIENCIAS EN LA NAVEGACIÓN AÉREA

STATE/TERRITORY/INTERNATIONAL ORGANIZACIONS ESTADO/TERRITORIO/ORGANIZACIONES INTERNACIONALES	**WITH ACCESS/ CON ACCESO**	**AMENDMENTS/ ENMIENDAS**
Antigua and Barbuda/Antigua y Barbuda		
Bahamas		
Barbados	YES/SI	
Belize/Belice		
Costa Rica	YES/SI	
Cuba	YES/SI	
Dominican Republic/República Dominicana	YES/SI	
El Salvador	YES/SI	
Grenada/Granada		
Guatemala		
Haiti	YES/SI	
Honduras	YES/SI	
Jamaica		
Mexico		
Nicaragua	YES/SI	
Saint Lucia/Santa Lucía		
Saint Vincent and the G./San Vicente y las Granadinas	YES/SI	
Trinidad and Tobago/Trinidad y Tabago		
United States/Estados Unidos	YES/SI	YES/SI
Anguilla	*	
Aruba		
Bermuda	*	
Cayman Islands/Islas Caimanes	*	
French Antilles/Antillas Francesas	YES/SI	
Montserrat	*	
Netherlands Antilles/Antillas Neerlandesas		
Turks and Caicos/Islas Turcas y Caicos	*	
Dominica		
Saint Kitts and Nevis/San Kitts y Nevis		
British Virgin Islands/Islas Vírgenes Británicas		
IATA		
COCESNA	YES/SI	
IFALPA	YES/SI	
IFATCA	YES/SI	
ACI		
UK*	YES/SI	

*UK is in charge of UK Territories/UK está a cargo de los Territorios del UK

APPENDIX R

ACTION PLAN FOR THE RESOLUTION OF EACH ONE OF THE REGIONAL AIR NAVIGATION DEFICIENCIES

PLAN DE ACCIÓN PARA RESOLVER CADA UNA DE LAS DEFICIENCIAS REGIONALES DE NAVEGACIÓN AÉREA

State/Intl. Organization:

Estado/Org. Internacional: Date/Fecha:

ID	Deficiency/ Deficiencia	Corrective Action/ Acción correctiva	Date of Correction/ Fecha de corrección	Executing Body/ Organo Ejecutor	Difficulties encountered/ Dificultades encontradas
Identificación de la deficiencia usando el formato AREA-NUM-REG	**Descripción exacta de la deficiencia tal y como aparece en la Base de Datos**	**El Estado deberá informar la acción correctiva propuesta o que llevará a cabo, tomando en cuenta la acción ya descrita por la Secretaría**	**Fecha estimada para concluir la acción correctiva de la deficiencia, indicando al menos el año en que se finalizará**	**Responsable de llevar a cabo la acción correctiva**	**Mencionar cualquier dificultad encontrada o que se pueda presentar para la adecuada implementación de la acción correctiva.**
Identify the deficiency using the format AREA-NUM-REG	**Exact description of the deficiency as appears in the Databank**	**State must inform the proposed corrective action or to be carried out, taking into account the action described by the Secretariat**	**Estimated date for the conclusion of the corrective action of the deficiency, indicating at least the year in which it will be completed**	**Responsible of carrying out the corrective action**	**Indicate any difficulty encountered or that could appear for the adequate implementation of the corrective action**

Agenda Item 4: AVSEC

4.1 ICAO Universal Security Audit Programme

4.1.1 WP/18 was provided to the Meeting with an overview of recent ICAO developments in the Universal Security Audit Programme. It made reference to the total number of USAP audits as of 31 August 2005 presented in **Appendix A** to this part of the Report and the 46 audits conducted for 2005 in **Appendix B** to this part of the Report.

4.1.2 Reference was made to a secure website being created to compliment the information on the audit programme to access to the most up-to-date information on the USAP. The AVSEC Mechanism is available to assist States in strengthening of their AVSEC programmes particularly in the remedial phase following USAP missions.

4.1.3 The Meeting noted that the new Aviation Security Regional Officer (ASRO) primary responsibility was to maintain continuous liaison with the States, Territories, International Organizations, other appropriate organizations, regional civil aviation bodies and sub-regional bodies. A National AVSEC Point of Contact List was established for network purposes.

4.1.4 A recent analysis of the audit findings indicate that several of the areas where States are experiencing difficulties are related to changes stemming form Amendment 10 to Annex 17, which was adopted on 7 December 2001 and became applicable on 1 July 2002. Some of the Annex 17 Standards found to be lacking were the national policies to ensure effective oversight of aviation security such as Standards ***3.1.1*** *– NCASP;* ***3.4.4*** *– Quality Control;* ***3.4.5*** *– Surveys, Inspections and Test;* ***3.1.7*** *– National Training Programme;* ***3.3.1*** *– Aircraft Operators Security Programme* and other such as clear policies for achieving cooperation with other States on Aviation Security matters and the establishment of poor exercise of contingency arrangements.

4.1.5 The Eastern Caribbean for Civil Aviation Authority (ECCAA) Representative gave assurances that they were assisting member States to prepare for upcoming USAP visits in 2005 and 2006. The ECCAA Representative stated that, as a result of a project sponsored by the World Bank, they recently incorporated multi-modal legislation which included the Annex 17 Standards.

CONCLUSION 2/29 COMPLIANCE OF AVSEC PROGRAMMES

The Directors of Civil Aviation agree to review and update national policies to ensure effective oversight of Annex 17, Standards 3.1.1, National Civil Aviation Security Programme, 3.4.4, Quality Control, 3.4.5, Survey, Inspection and Test, 3.1.7 National Training Programme, and 3.3.1 Aircraft Operators Security Programme.

4.2 Regional AVSEC Activities

4.2.1 WP/19 presented by the Secretariat explained ICAO's recent AVSEC global and regional activities and developments. A list of AVSEC publications, training packages and courses were provided.

4.2.2 A brief history of the three previous GREPECAS AVSEC COMM meeting was provided. The fourth AVSEC COMM meeting was held in Montego Bay, Jamaica on 11-14 April 2005, involved proposals made to enhance aviation security from weaknesses identified by the AVSEC COMM questionnaire. Some of the most significant proposals were the creation of three Task Forces to address the implementation of 100% Hold Baggage Screening (HBS), Training and the Annex 17, Amendment 11. The HBS Task Force was established to provide States with technical assistance on HBS and a regional seminar/meeting is scheduled on 28 November 2005, in Monterrey, Mexico. At least thirty Member States from within the Americas are expected to participate in this seminar.

4.2.3 The ICAO/Canada Aviation Security Awareness Training Programme in the CAR/SAM Regions has resulted in 14 Sub-Regional Aviation Security Implementation Workshops affecting 23 States and 1 International Organization. Also, two Regional Aviation Security Audit Seminars were held in Kingston, Jamaica and Lima, Peru affecting 21 States and 4 International Organizations. To date, the Programme has provided 401 mostly Civil Aviation Officials with an awareness of their obligations under ICAO Annex 17, Aviation Security, and the ICAO USAP Audit Programme.

4.2.4 The OAS Inter-American Committee Against Terrorism (CICTE) was established to develop cooperation to prevent, combat and eliminate terrorist acts and activities within the Hemisphere. Through the efforts of the ICAO NACC Office and the AVSEC/COMM, OAS entered into agreement with ICAO to sponsor Aviation Security Fellowship Awards to OAS Members wishing to attend ICAO Aviation Security Training Events. They currently approved 30 Fellowships for Member States to attend the HBS Seminar/Meeting in Monterrey, Mexico on 28 November 2005. States have until 31 October 2005 to confirm their participation. So far, Dominican Republic, El Salvador, Honduras and Jamaica have responded.

4.2.5 Jamaica supported the working paper and encouraged all States to respond by the deadline to attend this important HBS seminar/meeting. The Secretariat recognized that the Jamaica Representative was the Chairman for the AVSEC COMM and volunteered to be the Rapporteur for the HBS Task Force.

Dangerous Goods Security

4.2.6 The USA provided IP/04 which is a summary of the regulatory requirements for Dangerous Goods Security as noted in ICAO Technical Instructions for the Safe Transport of Dangerous Goods by Air 2005-2006 Edition. In the wrong hands dangerous goods pose a significant security threat. The dangerous goods security requirements in the ICAO TIs and other national regulations aim to minimize the theft or misuse of dangerous goods that may endanger persons or property while permitting continued transportation of these essential products.

4.2.7 The United States has established regulations requiring shippers and operators to comply with the security requirements as prescribed in 49 CFR. The U.S. developed a website containing compliance information, a dangerous goods security awareness training programme and a risk analysis programme to help determine whether a security plan is needed. The training programme can be downloaded directly from the website http://hazmat.dot.gov/riskmgmt/rmsef/rmsef.htm.

Hold Baggage Screening

4.2.8 IP/07 was presented by the U.S. which indicated critical aviation security issues facing States is the quickly approaching deadline for 100 percent hold baggage screening, which is to be implemented by January 1, 2006. The requirement is a result of Amendment 10 to Annex 17 and the expectation is for countries to meet this requirement by employing realistic, reliable mechanisms for screening every bag that is loaded onto an originating international flight. The challenge facing States is to ensure that the most effective means of baggage screening is used to protect the traveling public. States should be encouraged to consider the *probability of detection* when evaluating the various means available to achieve 100 percent hold baggage screening.

4.2.9 The paper described the different methods of screening checked baggage which are physical search, canine, trace detection, conventional x-ray, advance technology and has adopted the explosive detection systems as a primary method of screening hold baggage screening.

4.2.10 The paper concluded that ensuring that a robust system for screening hold baggage is used for international flights is a challenge faced by all States as the ICAO 100 percent deadline approaches. The paper noted that States should consider that the *probability of detection* is critical to our quest for achieving a high level of security, a standard of equivalency for baggage screening, and, in the long-term, a global aviation network that is as fully and effectively protected as technology or methods allow.

ICAO UNIVERSAL SECURITY AUDIT PROGRAMME (USAP)
AUDIT ACTIVITY REPORT

PROGRAMME IMPLEMENTATION AS OF 31 AUGUST 2005

	State	Airports Audited	Date of Audit
1.	Albania	Tirana Rinas International Airport (TIA)	November/December 2004
2.	Algeria	Algiers Houari Boumediene International Airport (ALG)	December 2004
3.	Angola	Luanda 4 de Fevreiro Airport (LAD)	May 2005
4.	Armenia	Yerevan Zvartnots International Airport (EVN)	February 2005
5.	Austria	Vienna International Airport (VIE)	October 2003
6.	Bangladesh	Dhaka Zia International Airport (DAC)	October/November 2003
7.	Belarus	Minsk Airport (MSQ)	June 2005
8.	Benin	Cotonou Cadjehoun Airport (COO)	June 2005
9.	Bhutan	Paro International Airport (PBH)	October/November 2003
10.	Bolivia	La Paz El Alto International Airport (LPB)	March/April 2003
11.	Bosnia and Herzegovina	Sarajevo International Airport (SJJ)	August/September 2004
12.	Botswana	Gaborone Sir Seretse Khama International Airport (GBE)	November 2003
13.	Brazil	Rio de Janeiro International/Galeao-Antonio Carlos Jobim Airport (RIO)	June/July 2005
14.	Bulgaria	Sofia International Airport (SOF)	February 2003
15.	Cambodia	Phnom Penh Pochentong International Airport (PNH)	May 2003
16.	Cameroon	Douala International Airport (DLA)	February 2004
17.	Canada	Toronto Pearson International Airport (YYZ)	May 2005
18.	Cape Verde	Sal Amilcar Cabral International Airport (SID)	July 2004
19.	Chad	Ndjamena Airport (NDJ)	August 2005
20.	Chile	Santiago Arturo Merino Benitez Airport (SCL)	May 2005
21.	China	Bejing International Airport (BJS), Xian Airport (SIA) and Kunming Airport (KMG)	May 2004
22.	Colombia	Bogota El Dorado International Airport (BOG)	August/September 2005
23.	Comoros	Moroni International Prince Said Ibrahim Airport (HAH)	February 2005
24.	Costa Rica	San Jose Juan Santamaria International Airport (SJO)	February 2005
25.	Croatia	Zagreb International Airport (ZAG)	September 2004
26.	Cuba	Havana Jose Marti International Airport (HAV)	March 2004
27.	Cyprus	Larnaca International Airport (LCA)	September 2003

	State	Airports Audited	Date of Audit
28.	Djibouti	Djibouti International Ambouli Airport (JIB)	August/September 2004
29.	Egypt	Cairo International Airport (CAI)	July 2004
30.	El Salvador	San Salvador El Salvador International Airport (SAL)	August 2004
31.	Estonia	Tallinn International Airport (TLL)	August 2005
32.	Gabon	Libreville Leon M'Ba International Airport (LBV)	January 2004
33.	Gambia	Banjul International Airport (BJL)	November 2003
34.	Georgia	Tbilisi International Airport (TBS)	June 2004
35.	Ghana	Accra Kotoka International Airport (ACC)	August 2004
36.	Greece	Athens Eleftherios Venizelos International Airport (ATH)	June/July 2003
37.	Guatemala	Guatemala City La Aurora International Airport (GUA)	January/February 2005
38.	Guinea	Conakry International Airport (CKY)	June 2003
39.	Honduras	Tegucigalpa Toncontin International Airport (TGU)	March 2004
40.	Hungary	Budapest Ferihegy International Airport (BUD)	March 2005
41.	India	Delhi Indira Gandhi International Airport (DEL)	January 2005
42.	Indonesia	Soekarno-Hatta International Airport (CGK)	July 2004
43.	Israel	Ben-Gurion International Airport (TLV)	March 2004
44.	Italy	Rome Leonardo da Vinci (Fiumicino) Airport (ROM)	May 2005
45.	Jamaica	Kingston Norman Manley International Airport (KIN)	September 2003
46.	Jordan	Amman Queen Alia International Airport (AMM)	July 2005
47.	Kazakhstan	Almaty International Airport (ALA)	September 2004
48.	Kenya	Jomo Kenyatta International Airport (NBO)	June 2004
49.	Kyrgyzstan	Bishkek Manas International Airport (FRU)	October 2004
50.	Lao People's Democratic Republic	Vientiane Wattay International Airport (VTE)	January 2004
51.	Latvia	Riga International Airport (RIX)	July 2005
52.	Lebanon	Beirut International Airport (BEY)	May 2003
53.	Libyan Arab Jamahiriya	Tripoli International Airport (TIP)	March 2004
54.	Lithuania	Vilnius International Airport (VNO)	May 2003
55.	Madagascar	Antananarivo Ivato Airport (TNR)	January 2005
56.	Mali	Bamako-Senou International Airport (BKO)	November/December 2004

	State	Airports Audited	Date of Audit
57.	Mauritania	Nouakchott Airport (NKC)	April 2005
58.	Mexico	Mexico City International (MEX) and Guadalajara Miguel Hidalgo (GDL) Airports	January 2004
59.	Micronesia, Federated States of	Pohnpei International Airport (PNI)	June 2004
60.	Mongolia	Ulaanbaatar Buyant – Ukhaa International Airport (ULN)	November 2004
61.	Morocco	Mohammed V International Airport (CAS)	March 2004
62.	Myanmar	Yangon International Airport (RGN)	January/February 2004
63.	Namibia	Windhoek Hosea Kutako International Airport (ERS)	June 2005
64.	Nicaragua	Managua Internacional Augusto C. Sandino Airport (MGA)	August/September 2004
65.	Niger	Niamey International Airport (NIM)	August 2005
66.	Nigeria	Lagos Murtala Muhammed International Airport (LOS)	August 2004
67.	Pakistan	Karachi Jinnah International Airport (KHI)	August 2005
68.	Palau	Koror Babelthaob Airport (ROR)	April 2005
69.	Papua New Guinea	Port Moresby Jacksons International Airport (POM)	October 2004
70.	Paraguay	Asuncion Silvio Pettirossi International Airport (ASU)	December 2003
71.	Peru	Lima Jorge Chavez International Airport (LIM)	May 2004
72.	Philippines	Manila Ninoy Aquino International Airport (MNL)	June 2004
73.	Poland	Warsaw International Airport (WAW)	January 2004
74.	Republic of Korea	Incheon International Airport (ICN)	November 2004
75.	Rwanda	Kigali Kanombe International Airport (KGL)	September 2004
76.	Senegal	Dakar Leopold Sedar Senghor International Airport (DKR)	June 2003
77.	Serbia and Montenegro	Belgrade Airport (BEG)	January 2005
78.	Suriname	Paramaribo John A. Pengel International Airport (PBM)	July 2003
79.	Swaziland	Manzini/Matsapha International Airport (MTS)	November 2003
80.	Syrian Arab Republic	Damascus International Airport (DAM)	March 2004
81.	The former Yugoslav Republic of Macedonia	Skopje International Airport (SKP)	December 2004
82.	Togo	Lome-Tokoin International Airport (LFW)	June 2005
83.	Trinidad and Tobago	Port of Spain Piarco International Airport (POS)	June/July 2003
84.	Tunisia	Tunis-Carthage International Airport (TUN)	April 2004
85.	Turkey	Istanbul Ataturk International Airport (IST)	May/June 2004

	State	Airports Audited	Date of Audit
86.	Uganda	Entebbe International Airport (EBB)	November/December 2002
87.	United Republic of Tanzania	Dar-es-Salaam International Airport (DAR)	June/July 2004
88.	United States	New York John F. Kennedy International Airport (JFK)	April 2005
89.	Uzbekistan	Tashkent International Airport (TAS)	May 2004
90.	Vanuatu	Port Vila Bauerfield International Airport (VLI)	November 2004
91.	Venezuela	Caracas Simon Bolivar International Airport (CCS)	November/December 2004
92.	Viet Nam	Hanoi-Noi Bai International Airport (HAN)	March 2005

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ATTACHMENT B to State letter AS 8/16.24-05/15 Confidential

ICAO UNIVERSAL SECURITY AUDIT PROGRAMME (USAP)
AUDIT SCHEDULE

JANUARY – DECEMBER 2005

First Quarter 2005 (January to March)	**Second Quarter 2005 (April to June)**
Armenia (with ECAC) Comoros Costa Rica Guatemala Hungary (with ECAC) India Madagascar Serbia and Montenegro Viet Nam	Angola Belarus Benin Brazil Equatorial Guinea Italy Mauritania Namibia Palau Romania Russian Federation Spain Togo United States
Third Quarter 2005 (July to September)	**Fourth Quarter 2005 (October to December)**
Chad Colombia Democratic People's Republic of Korea Ecuador Estonia (with ECAC) Japan Jordan Latvia Niger Pakistan Zambia	Antigua and Barbuda Australia Eritrea France Luxembourg (with ECAC) Qatar Saint Kitts and Nevis Sudan Tonga Turkmenistan United Arab Emirates Zimbabwe

ATTACHMENT B to State letter AS 8/16.24-05/66 Confidential

ICAO UNIVERSAL SECURITY AUDIT PROGRAMME (USAP)
AUDIT SCHEDULE

JANUARY – DECEMBER 2006

First Quarter 2006 (January to March)	**Second Quarter 2006 (April to June)**
Argentina Bahrain Belgium Dominican Republic Iran, Islamic Republic of Malawi Malaysia Mauritius Mozambique Nepal Republic of Moldova Saudi Arabia Uruguay	Congo Grenada Kuwait Maldives Norway Romania Saint Lucia Saint Vincent and the Grenadines Seychelles Slovakia Slovenia Sri Lanka
Third Quarter 2006 (July to September)	**Fourth Quarter 2006 (October to December)**
Democratic Republic of the Congo Lesotho Netherlands New Zealand Oman Portugal Russian Federation San Marino Sao Tome and Principe South Africa Sweden Tajikistan Yemen	Barbados Brunei Darussalam Burkina Faso Cook Islands Denmark Germany Guinea-Bissau Guyana Samoa Singapore

Agenda Item 5: Other business

Economic Contribution of Civil Aviation

5.1 The Meeting noted that the economic impact of civil aviation on national economies, particularly those States/Territories dependent on aviation for their economies, had been mentioned at many events but never seriously analyzed. The Secretary pointed out that there was finally guidance from ICAO on this matter. This was the gist of WP/20.

5.2 The evaluation by ICAO of civil aviation's economic contribution included two main objectives:

a) assess the contribution of civil aviation in the global economy;

b) develop guidance material on assessment methodologies.

5.3 The results were published in ICAO Circular 292, *Economic Contribution of Civil Aviation*, Volume I – *Global Perspective* and Volume II – *Assessment Methodologies.* The executive summary of this circular is presented as the **Appendix** to this part of the Report.

5.4 The Directors noted that the guidance material could serve as a platform for States/Territories/International Organizations to evaluate civil aviation's contribution throughout a regional/local or national economy. In particular, during times of scarce funds but widening scope for aviation development, raising awareness on civil aviation's economic contribution becomes increasingly important for planners and decision makers in aviation financing and policy matters alike.

5.5 The latest estimates of the direct contribution compare reasonably well with the results of prior studies by ICAO. This is partially explained by the steep demand contractions of air travel in 2001 followed by two years of stagnation which had domino effects for the entire aviation industry and from which it is still recovering. The ramifications of these preceding years for the entire civil aviation business testify to its importance for local//regional and national economies.

5.6 The Directors agreed that the methodology provided by ICAO Circular 292 would serve as an excellent tool in obtaining financing or negotiating better loan conditions, particularly from public or foreign sources that may be attracted by the wider economic effects of a planned aviation infrastructure project or expansion of an existing facility.

5.7 The information presented was strongly supported by the Delegate from Cuba as a tool that had been expected for a long time and would be essential in State negotiations for funding aviation projects.

5.8 As a result, the Meeting adopted the following Conclusion:

CONCLUSION 2/30 ECONOMIC CONTRIBUTION OF CIVIL AVIATION

That, the Directors of Civil Aviation of the North America, Central America and the Caribbean, recognizing the important impact of civil aviation on their economies, resolve to:

a) use ICAO Circular 292, *Economic Contribution of Civil Aviation*, in support of efforts to define the contribution of civil aviation; and

b) use the results in obtaining financing for important civil aviation projects.

Activities of Technical Cooperation Projects

5.9 The Secretariat presented WP/30 which provided activities of Regional and National Technical Co-operation Projects in the NAM/CAR Regions.

5.10 ICAO Technical Co-operation Bureau has developed an increasing activity to achieve the safe, protected and sustained development of civil aviation through the provision of a considerable technical co-operation with its member States.

5.11 The Meeting noted that the Technical Co-operation Bureau manages an annual budget over the 200 million dollars, in more than 100 projects with States and some 25 regional projects. It has a staff of 56 employees and keeps an annual average of 360 international experts and more than 2,000 national experts.

5.12 The Meeting took note of an emphasis of certain ongoing projects and the status of activities of the National Projects for **Cuba, El Salvador, Guatemala, Jamaica and Mexico.**

5.13 In view of the above, the Meeting formulated the following Conclusion:

CONCLUSION 2/31 ACTIVITIES OF THE TECHNICAL CO-OPERATION PROJECTS IN THE NAM/CAR REGIONS

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

a) participate and contribute, if not already done so, to the budget of regional projects in their area of responsibility; and

b) analyze the importance of using ICAO technical co-operation national projects as a governmental tool to expand and facilitate the achievement of management results.

Master Strategic Plan

5.14 NI/34 was presented by COCESNA which provide advances made for the implementation of the COCESNA Strategic Plan for 2005-2009. The paper outlined the history, objectives, structure, and invited the Meeting to take note of this information.

Third NACC/DCAs Meeting

5.15 During the First Meeting of the NACC/DCAs, the delegate of St. Kitts and Nevis offered to host the Third Meeting. On this occasion, Dominican Republic and Jamaica also offered to host the Third North American, Central American and Caribbean Directors of Civil Aviation Meeting.

APPENDIX

EXECUTIVE SUMMARY

- The air transport industry has experienced rapid expansion along with the growth of the world economy, and the demand for air transport services is primarily driven by economic development. In turn, civil aviation acts as an economic catalyst for local/regional and national economies around the globe. The level of economic activity of the air transport industry is closely linked to the level of economic activity in markets and economies that the industry serves. Higher levels of economic activity go hand in hand with a growing demand for air transport, benefiting not only from expanding industries and trade but also from generally higher income and consumer spending. Air transport (airlines, airports and air navigation infrastructure) accommodates the needs of millions of individuals to travel and of business communities to have goods transported by air. In 2002, worldwide scheduled services carried over 1.6 billion passengers and 30 million tonnes of air freight and mail.

Volume I — Global Perspective

- Volume I of this circular emphasizes the importance of civil aviation in the world economy and provides an assessment of the contribution of civil aviation (in terms of global output and employment), followed by a profile of the major contributing civil aviation industries.

- Economic activity is the value of goods and services produced in an economy. In this study, economic activity includes the goods and services produced by civil aviation, and other industry groups affected by civil aviation. Economic activities that are directly attributed to civil aviation industries comprise those of airlines, other aircraft operators and affiliates, airports, air navigation services providers and affiliates, aerospace and other manufacturers as well as other industries and their affiliates.

- Airlines deliver air transport services, the final product of civil aviation industries, to their customers. It has been estimated that civil aviation industries generated a total **direct output** of $652 billion worldwide in 1998. When these values, which include intermediate inputs, are consolidated in order to eliminate the components of double counting, it is estimated that civil aviation contributed to the world economy some $370 billion in consolidated direct output in 1998, the production of which required employment of at least 6 million people along the supply chains of intermediate inputs and final demand.

- The full economic impact of civil aviation industries cannot be assessed without taking into account the indirect and induced impacts involving other related industries. **Indirect impacts** involve the transactions with related suppliers along the production chains. **Induced impacts** cover successive rounds of increased household spending that result from the direct and indirect impacts. In addition, an impact assessment may also include the off-airport expenditure of air transport users (passengers and freight forwarders) and related employment, which are referred to as **catalytic impacts**. These levels of economic activity can be viewed as having a cascading effect on the global economy. The output of the air transport component of civil aviation yields the direct impacts which in turn stimulate the indirect and ultimately the induced impacts as well as catalytic impacts. These direct economic activities have **multiplier effects** upon industries providing either aviation-specific and other inputs or consumer

products (goods and services). The air transport component of civil aviation is estimated to have generated a total output of $1 360 billion and 27.7 million jobs worldwide in 1998, representing about **4.5 per cent of the world output in terms of real gross domestic product** (GDP).

- The multiplier effects of air transport can be calculated as a ratio of the sum of catalytic, indirect plus induced demand effects to the direct demand effects, in terms of output and employment. It is estimated that each dollar of output produced in the air transport industry worldwide creates a demand of $3.25 output in other industries, and that each job in air transport creates 6.1 jobs in other industries.

Volume II — Assessment Methodologies

Part I. Economic Impact of an Airport

- Volume II of the circular describes the methodologies to assess the economic impact of civil aviation industries, in terms of output and employment. In order to demonstrate these methodologies, North American and European case studies are used as illustrative examples. Unfortunately, examples from developing countries were not available.

- The employment generated by an airport could play an important role for the local/regional economy concerned or, in the case of small countries, even for the national economy (particularly islands or land-locked countries). A well researched economic impact study can demonstrate the contribution that an airport makes to the economy concerned. This can be instrumental in obtaining financing or negotiating better loan conditions, particularly from public or foreign sources (such as governmental guarantees or development banks and funds), that may be attracted by the wider economic effects of either planned new aviation infrastructure or expansion of an existing facility.

- Part I of Volume II describes how to capture the economic contribution of an airport in the adjacent local/regional economy, using two approaches described as a core approach and an expanded approach. A core approach of an impact assessment captures economic activities of an airport in three dimensions: directly in servicing its customers; indirectly through the inter-industry trading and production necessary to provide the final goods and services; and induced impacts generated by increased household spending that result from direct and indirect impacts. The distinction between a core approach and expanded approach lies in their coverage of spin-off demand effects by air transport users. An expanded assessment incorporates the off-airport expenditure of airport users and the related employment as catalytic demand effects.

- This study uses input-output (I-O) methodology to quantify the output value of transactions that are associated directly or indirectly with civil aviation industries. I-O analysis enables the cascading demand effects generated by an airport to be tracked sequentially along the production process throughout an economy. I-O tables within a system of national accounts capture the supply and demand transactions, in terms of expenditures between industries on an annual basis.

- I-O tables may be readily available in States from their national accounting systems. While the process appears complex, once the corresponding matrices for external demand stimulus and the relevant sets of impact multipliers are determined, calculations can be executed with spreadsheet software. If impact multipliers can be obtained without applying I-O analysis, they can be used with expenditure and/or employment data to estimate the economic impact of civil aviation.

- When selecting an I-O framework for an impact assessment, it is important to consider the geographical coverage needed. A significant portion of the economic activities of an airport could occur in the local/regional economy. An airport survey can be used to gather direct output, labour income (wages) and employment data. For example, economic activities of 203 firms/organizations at **Hamburg Airport** were surveyed to obtain data on their annual expenditures and employment in the metropolitan region. Airport expenditures were converted into sales of supplier industries (local, regional or national).

- Another case study, at **Frankfurt Airport,** illustrates an economic impact assessment covering income and employment effects in both the regional and national economy, using a core approach. The results indicate that in 1998, Frankfurt Airport generated economic activities throughout Germany. For every DM earned at the airport and for every airport-based job, there were DM 2.01 earned and 1.77 jobs created throughout the national economy, including DM 1.26 earned and 1.29 jobs created in the regional economy.

- The impact multiplier concept provides a simple method of assessing economic impacts; however, this does not provide industry-by-industry distribution of demand effects. A study conducted by **Vancouver International Airport** demonstrates a core assessment, using direct employment data and impact multipliers to estimate the indirect and induced employment as well as output and value added impacts.

- Employment and income effects for **23 selected European airports** in terms of direct, indirect and induced effects, including multipliers, are reviewed. The income multiplier ranges from a low of 0.36 to a high of 2, whereas the employment multiplier ranges from a low of 0.28 to a high of 3.06. The variation in the multiplier value can be partly attributed to airport location, underlying assumptions and the scale of the benefiting economy. Based on the results for the 23 European airports, an indicative range of multiplier effects of airport employment were identified for international airports, medium/large airports and small regional airports.

- An example of an expanded assessment approach, which incorporates the off-airport expenditures as catalytic demand, is presented. The 1990 impact assessment of **Los Angeles International Airport** captured off-airport expenditures of airport users.

- The application of an expanded assessment, using total impact multipliers, is explained and illustrated, using an airport study conducted by the Department of Transportation, State of Colorado. This study follows procedures recommended by the Federal Aviation Administration (FAA) for economic impact analysis of airports, using RIMS II, a regional Input-Output modeling system that maps the flow of products and the interconnection of producers and consumers within the U.S. economy. It identifies the direct and catalytic output of **Colorado's 79 public-use airports**. These outputs together comprise an external demand stimulus which in turn created multiplier effects in the impacted local economies. Total impacts were also measured for the state-wide economy by type of industry.

Part II. Impact of Civil Aviation in a National Economy

- Whereas Part I of Volume II focussed on the economic impact of an airport, Part II describes how to explore the contribution of civil aviation throughout a national economy.

- Transportation Satellite Accounts (TSA), such as those jointly developed by the U.S. Departments of Transportation and Commerce, help assess the contribution of air transport to a national economy. These accounts consist of a **make** table and a **use** table (production and consumption accounts), a **direct requirements** table and a **total requirements** table. The direct requirement table shows the amount of commodity that is required by an industry to produce a dollar of the industries output. In the United States, air transport has a total industry output multiplier of 1.89 which implies that in order to deliver a one dollar increase in the final demand of air transport, a total industry output worth of $1.89 is produced. The TSA framework demonstrates that, in the evaluation of GDP, civil aviation's contribution is underestimated, since GDP considers the final demand for air transport services and excludes expenditures on intermediate inputs. Other multiplier effects are only accounted for in an impact assessment.

- The impetus of civil aviation in **the United States economy** has been selected as a case study which demonstrates the procedural steps of the expanded assessment phases, using RIMS II and its multipliers. It has been evaluated over a number of years by Wilbur Smith Associates, on behalf of the FAA, and focuses on the provision of airline services, general aviation activities, airport operations and acquisition of aircraft. Expenditures associated with business and leisure trips by air are taken into account. These direct and catalytic expenditures generated additional expenditures and jobs through the indirect demand of supply and induced demand effects. The results for the U.S. economy can be expressed as multiplier effects of the direct demand: every $1 of output produced and each job created by civil aviation in 2000 triggered another $4.69 of output and 6.86 jobs in many different industries.

- At the national level, the stimulating economic impact of civil aviation as job creator and contributor to economic growth is evident when airlines, airports, air navigation services providers and aerospace industries and their respective affiliates meet a growing direct demand for air transport services by expanding operations and fleets, ordering more inputs from suppliers, hiring more employees and thus increasing outputs at all levels. These direct economic activities have multiplier effects upon other industries throughout an economy. A wider or narrower spread of these multipliers will depend on the circumstances, notably the size of the industries associated with civil aviation and the assessment approach taken. For example, countries with significant aerospace manufacturing will show a wide spread, while those with limited air transport services may have a relatively narrow spread. Non-aviation travel and tourism businesses, such as hotels and restaurants, travel agencies, tour operators and retailers greatly benefit from trip-related expenses of airline passengers.