ICAO | International Civil Aviation Organization
North American, Central American and Caribbean Office

FIFTH NORTH AMERICAN, CENTRAL AMERICAN AND CARIBBEAN WORKING GROUP MEETING

NACC/WG/5

Final Report

Port of Spain, Trinidad and Tobago, 22-26 May 2017

List of Contents

***Election of Meeting Chairperson and Vice chairperson, Review and Approval of the
Meeting Agenda, Working Method and Schedule***

***Follow-Up on the Previous Conclusions and Agreements from NACC/WG, GREPECAS and
Other Related Matters***

2.1 *Review of the valid conclusions/decisions of NACC/WG meetings and the
ANI/WG/3 Meeting, and NACC/DCA and sub-regional DCA meetings*

2.2 *No Country Left Behind (NCLB) NACC Strategy progress achieved in air navigation
matters*

2.3 *Follow-up on CAR/SAM Planning and Implementation Regional Group (GREPECAS)
conclusions and project implementation*

2.4 *Review of the status of air navigation deficiencies reported in the GREPECAS Air
Navigation Deficiencies Database (GANDD)*

Implementation on Air Navigation Matters

3.1 *Global/Regional air navigation developments*

3.2 *Safety initiatives to be supported by ANS implementation*

3.3 *ANI/WG Progress on AIM, ATM and CNS*

3.4 *AGA and MET progress and other regional implementation groups*

| **Contents** | **Page** |

HISTORICAL

ii.1   **Place and Date of the Meeting**

The Fifth North American, Central American and Caribbean Working Group Meeting (NACC/WG/5) was held at the Trinidad and Tobago Civil Aviation Authority (TTCA) premises in Port of Spain, Trinidad and Tobago, from 22 to 26 May 2017.

ii.2   **Opening Ceremony**

Mr. Julio César Siu, Deputy Regional Director (DRD) from the North American, Central American and Caribbean (NACC) Office of the International Civil Aviation Organization (ICAO), provided opening remarks highlighting the NACC major achievements with the *Port-of-Spain Declaration*, the NAM/CAR Regional Performance-Based Air Navigation Implementation Plan (RPBANIP) targets and the ICAO NACC No Country Left Behind (NCLB) Strategy assistance to States. ICAO NACC Regional Office introduced its new Communications, Navigation and Surveillance (RO/CNS) and Air Traffic Management and Search and Rescue (RO/ATM/SAR) Regional Officers. It also thanked the Trinidad and Tobago Civil Aviation Authority (TTCAA) for hosting the meeting.

Mr. Francis Regis, TTCAA Director General of Civil Aviation (Ag.), thanked the regional implementation progress achieved in the NAM/CAR Regions and welcomed the participants. Captain Thomas E. Lawrence, Chairman of the TTCAA Board, welcomed the participants, informed of the TTCAA implementation priorities to support aviation and officially opened the meeting.

ii.3   **Officers of the Meeting**

The NACC/WG/5 Meeting was chaired by Mr. Rohan Garib, TTCAA Executive Manager Air Navigation Services. Mr. Raul Martinez (RO/AIM) served as Secretary of the Meeting, assisted by Mr. Julio César Siu (DRD), Mrs. Mayda Avila (RO/CNS) and Mr. Eddian Mendez (RO/ATM/SAR), all from the ICAO NACC Regional Office.

ii.4   **Working Languages**

The working languages of the Meeting were English and Spanish. The working papers, information papers and presentations of the meeting were available to participants in both languages.

ii.5   **Schedule and Working Arrangements**

It was agreed that the working hours for the sessions of the meeting would be from 09:00 to 16:00 hours daily with adequate breaks. Ad hoc Groups were created during the Meeting to do further work on specific items of the Agenda.

ii.6   **Agenda**

Agenda Item 1   **Election of Meeting Chairperson and Vice chairperson, Review and Approval of the Meeting Agenda, Working Method and Schedule**

Agenda Item 2   **Follow-Up on the Previous Conclusions and Agreements from NACC/WG, GREPECAS and Other Related Matters**

      2.1   Review of the valid conclusions/decisions of NACC/WG meetings and the ANI/WG/3 Meeting, and NACC/DCA and sub-regional DCA meetings

      2.2   No Country Left Behind (NCLB) NACC Strategy progress achieved in air navigation matters

      2.3   Follow-up on CAR/SAM Planning and Implementation Regional Group (GREPECAS) conclusions and project implementation

      2.4   Review of the status of air navigation deficiencies reported in the GREPECAS Air Navigation Deficiencies Database (GANDD)

Agenda Item 3   **Implementation on Air Navigation Matters**

      3.1   Global/Regional air navigation developments

      3.2   Safety initiatives to be supported by ANS implementation

      3.3   ANI/WG Progress on AIM, ATM and CNS

      3.4   AGA and MET progress and other regional implementation groups

           3.4.1   AGA progress

           3.4.2   MET progress

           3.4.3   MEVA and Eastern Caribbean Civil Aviation Technical Group (E/CAR/CATG), Eastern Caribbean Aeronautical Fixed Service Network Technical Group (E/CAR AFS NTG) Meeting reports

      3.5   NAM/CAR Regional Performance-Based Air Navigation Implementation Plan (RPBANIP) review – Aviation System Block Upgrade (ASBU) implementation progress

      3.6   Review of regional air navigation performance indicators and metrics

      3.7   National Plan Reports on air navigation implementation

Agenda Item 4   **Regional Cooperation and Training Matters to Support Implementation**

> 4.1   Review of Regional Project: RLA/09/801 *Multi Regional Civil Aviation Assistance Programme (MCAAP)*
>
> 4.2   Progress on training matters for ANS implementation: Meeting of Directors of Civil Aviation Training Centres in the NAM/CAR Regions (NAM/CAR/CATC/WG/3)

Agenda Item 5   **NACC/WG Work Programme Until 2020**

Agenda Item 6   **Other Business**

ii.7   **Attendance**

          The Meeting was attended by 11 States/Territories from the NAM/CAR Regions, 4 International Organizations and 3 representatives from the industry, totalling 47 delegates as indicated in the list of participants.

ii.8   **Conclusions and Decisions**

          The Meeting recorded its activities as Draft Conclusions and Decisions as follows:

DRAFT
CONCLUSIONS: Activities requiring endorsement by the Directors of Civil Aviation of North America, Central America and Caribbean (NACC/DCA).

DECISIONS: Internal activities of the NACC Working Group (NACC/WG).

          An executive summary of these conclusions/decisions is presented in **Appendix A** to this report.

LIST OF DRAFT CONCLUSIONS

LIST OF DECISIONS

ii.9   **List of Working and Information Papers and Presentations**

Refer to the Meeting web page:
https://www.icao.int/NACC/Pages/meetings-2017-naccwg5.aspx

		WORKING PAPERS		
Number	**Agenda Item**	**Title**	**Date**	**Prepared and Presented by**
WP/01REV	1	Review and Approval of the Meeting Agenda, Working Method and Schedule of the Meeting	18/05/17	Secretariat
WP/02	2.1	Review of the Valid Conclusions/Decisions of NACC/WG Meetings	18/05/17	Secretariat
WP/03	2.1	Review of the valid conclusions/decisions of ANI/WG Meetings	18/05/17	Secretariat
WP/04	2.3	Follow-up on CAR/SAM Planning and Implementation Regional Group (GREPECAS) Conclusions and Project Implementation	11/05/17	Secretariat
WP/05	2.4	Review of the Status of Air Navigation Deficiencies Reported in the GREPECAS Air Navigation Deficiencies Database (GANDD)	19/05/17	Secretariat
WP/06	3.4.2	Need to Strengthen the GREPECAS Aeronautical Meteorology Programme in the CAR Region	18/05/17	Cuba
WP/07	3.1	NAM and CAR/SAM e-ANP Development	15/05/17	Secretariat
WP/08	3.2	Regional Aviation Safety Group — Pan America (RASG-PA) Update	19/05/17	Secretariat
WP/09	3.3	Progress of the NAM/CAR Air Navigation Implementation Working Group (ANI/WG)	21/04/17	ANI/WG Chairman
WP/10REV	3.3	AIDC Task Force Progress Report	22/05/17	ANI/WG AIDC Task Force Rapporteur
WP/11	3.3	Progress Report on AIM TF Work Programme	10/04/17	ANI/WG AIM Task Force Rapporteur
WP/12	3.3	Progress Report on AMHS Task Force Work Programme	12/04/17	ANI/WG AMHS Task Force Rapporteur
WP/13	3.3	Progress Report on PBN TF Work Programme	19/04/17	PBN Task Force Rapporteur
WP/14	3.3	Preliminary Progress Report by ATFM Task Force	03/05/17	ATFM Task Force Rapporteur
WP/15	3.3	Progress Report on ADS-B Task Force Work Programme	17/04/17	ADS-B Task Force Rapporteur

WORKING PAPERS

Number	Agenda Item	Title	Date	Prepared and Presented by
WP/16REV	3.3	Progress Report on ASBU Ad hoc Group Work Programme	26/04/17	ASBU Ad hoc Group Rapporteur
WP/17	3.3	ATFM Implementation in the CAR/SAM Regions	16/05/17	IATA
WP/18	3.3	Frequency Finder Application	16/05/17	Secretariat
WP/19	3.3	Follow up to the PBN Harmonization, Modernization and Implementation initiative and other related airspace optimization implementations	17/05/17	IATA
WP/20	3.4.1	AGA Progress Report	27/04/17	Secretariat
WP/21	3.4.2	MET Progress Report	12/05/17	Secretariat
WP/22	3.5	Need to Adopt Independent Formats to Report the Progress of the Implementation of Regional Air Navigation Targets and Improvements by Aviation System Blocks (ASBU)	27/04/17	Cuba
WP/23	3.4.3	MEVA Technical Management Group (TMG) Report	19/04/17	MEVA TMG Rapporteur
WP/24	3.4.3	Eastern Caribbean Civil Aviation Technical Group (E/CAR/CATG) Meeting Report	09/05/17	E/CAR/CATG Rapporteur
WP/25	3.4.3	Eastern Caribbean Aeronautical Fixed Service Network Technical Group (E/CAR AFS NTG) Meeting Report	03/05/17	E/CAR/NTG Rapporteur
WP/26	3.5	Progress on the Alignment of Air Navigation Plans with the Global Air Navigation Plan and ASBU	17/05/17	Secretariat
WP/27	3.5	Progress Report of the Scrutiny Working Group (GTE)	06/04/17	GTE Rapporteur
WP/28	3.6	Preview of Regional Air Navigation Performance Indicators and Metrics	23/05/17	Secretariat
WP/29	4.1	Progress Report and Future Activities Proposed for the Technical Cooperation Regional Project– Multi-Regional Civil Aviation Assistance Programme (MCAAP) (RLA/09/801)	27/04/17	Secretariat
WP/30	4.2	Report of the NAM/CAR/CATC/WG/3 Meeting	27/03/17	Secretariat
WP/31	5	NACC/WG Work Programme Until 2020 and Review of the Terms of Reference (ToRs) and Work Programme of the NACC/WG	17/05/17	Secretariat
WP/32	3.5	Proposed Amendment of the RPBANIP	21/04/17	Canada and United States

		INFORMATION PAPERS		
Number	**Agenda Item**	**Title**	**Date**	**Prepared and Presented by**
IP/01REV. 2	---	List of Working, Information Papers and Presentations	23/05/17	Secretariat
IP/02	2.1	Review of the Valid Conclusions/Decisions of NACC/DCA and Sub-regional DCA Meetings	19/05/17	Secretariat
NI/03	3.7	Avances de Navegación Basada en la Performance (PBN) en México – *Available only in Spanish*	19/05/17	Mexico
NI/04	3.3	Implementación de la Vigilancia Dependiente Automática – Radiodifusión (ADS-B) en México – *Available only in Spanish*	19/05/17	Mexico
IP/05	3.3	CANSO ATFM Data Exchange Network for the Americas (CADENA)	21/04/17	CANSO
IP/06	3.7	Automatic Dependent Surveillance-Broadcast (ADS-B) OUT; Ensuring Preparedness for the 2020 Equipage Mandate	21/04/17	United States
IP/07	3.5	ASBU Block 0 Element Comparison between the 4th and 5th Editions of the GANP	24/04/17	United States
IP/08REV	3.5	United States Implementation of the Aviation System Block Upgrades (ASBU) Block 0 Modules Status Adjusted for the 5th Edition Global Air Navigation Plan (GANP)	09/05/17	United States
IP/09	3.1	Global Air Navigation Plan (GANP) Fifth Edition Developments	11/05/17	Secretariat
IP/10	3.3	Need to Have a Global Navigation Satellite System (GNSS) Implementation Group	18/05/17	Cuba

PRESENTATIONS

Number	Agenda Item	Title	Presented by
1 REV	2.2	No Country Left Behind (NCLB) NACC Strategy Progress Achieved in Air Navigation Matters	Secretariat
2	3.3	NAM/CAR Search and Rescue Civil and Military Coordination	Secretariat
3	3.3	Space-based ADS-B Implementation Progress	Aireon
4	3.2	Safety First – ICAO Global Safety Updates	Secretariat
5	6	ICAO NACC Commitment with Caribbean States/Territories Working Together with CASSOS 2017 NCLB Priority	Secretariat
6	3.3	AIDC Implementation Factors to Take into Account Before Connecting an AIDC Channel	Secretariat
7	3.3	Progress Report of the Scrutiny Working Group (GTE)	GTE Rapporteur
8	6	Why SWIM?	United States

DISCUSSION PAPERS

Number	Agenda Item	Title	Date	Prepared and Presented by
DP/01	3.3	ANI/WG AMHS Implementation Task Force Progress Report	24/05/17	AMHS Task Force Rapporteur
DP/02	3.3	ANI/WG ATFM Implementation Task Force Progress Report	24/05/17	ATFM Task Force Rapporteur
DP/03REV	3.3	AIM Implementation Task Force Progress Report	25/05/17	AIM Task Force Rapporteur
DP/04	3.3	AIDC Implementation Task Force Progress Report	24/05/17	AIDC Task Force Rapporteur
DP/05	3.3	ASBU Ad hoc Group Progress Report	24/05/17	ASBU Task Force Rapporteur
DP/06REV	3.3	PBN Implementation Task Force Progress Report	24/05/17	PBN Task Force Rapporteur
DP/07	3.3	ADS-B Implementation Task Force Progress Report	24/05/17	ADS-B Task Force Rapporteur
DP/08	3.3	Search and Rescue Report	24/05/17	Ad hoc SAR Task Force Rapporteur

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Agenda Item 1   **Election of Meeting Chairperson and Vice chairperson, Review and Approval of the Meeting Agenda, Working Method and Schedule**

1.1   The Meeting elected as Chairperson Mr. Rohan Garib, Trinidad and Tobago, and as Meeting Vice-Chairperson, Mr. Julio Cesar Mejia Alcantara, Dominican Republic.

1.2   The Secretariat presented and reviewed the WP/01REV inviting the Meeting to approve the provisional agenda, working method and schedule, and referred to IP/01REV2 with the list of associated documentation and presentations. The Meeting approved the agenda, working method and schedule as presented in the Historical section of this report.

Agenda Item 2   **Follow-Up on the Previous Conclusions and Agreements from NACC/WG, GREPECAS and Other Related Matters**

2.1   **Review of the valid conclusions/decisions of NACC/WG meetings and the ANI/WG/3 Meeting, and NACC/DCA and sub-regional DCA meetings**

2.1.1   Under WP/02, the Meeting reviewed the valid conclusions from previous NACC/WG meetings, including the 15 conclusions from the NACC/WG/4 meeting. As a result of the review, all these conclusions were superseded or completed due to the progress achieved by the ANI/WG, highlighting the following:

- **Conclusion NACC/WG/4/3**: IATA will conduct the respective fuel saving/CO_2 emission reduction assessment, once the ATS Route Proposal for Amendment (PfA) planned for August 2017 is implemented.
- **Conclusion NACC/WG/4/7**: The AIM TF will review and propose specific activities for supporting the AIS to AIM transition implementation.
- **Conclusion NACC/WG/4/15**: Superseded by the work to be conducted by the ASBU TF, within the ANI/WG mechanism.
- **Conclusion NACC/WG/4/10**: Superseded by the following:

2.1.2   Similarly, under WP/03, the ANI/WG Chairman presented a review of the valid conclusions/decisions from the Third NAM/CAR Air Navigation Implementation Working Group (ANI/WG/3) Meeting. All these ANI/WG conclusions and decisions were completed or superseded, as detailed:

- Conclusion ANI/WG/2/4: Completed. Idem Conclusion NACC/WG/4/3
- Conclusion ANI/WG/3/1: Completed. ICAO State Letter, NACC65523 dated 23 March 2017 refers. A detailed description of the progress of RPBANIP Targets is available at: http://www.icao.int/NACC/Pages/Implementation-Targets.aspx
- Conclusion ANI/WG/3/2: still valid
- Conclusion ANI/WG/3/3: superseded by Conclusion NACC/WG/5/2
- Conclusion ANI/WG/3/4: Completed. The ATS Routes PFA under CAR/SAM eANP Volume II is planned to be implemented for August 2017.
- Conclusion ANI/WG/3/5 letter b): still valid
- Conclusion ANI/WG/3/6: superseded by Conclusion NACC/WG/5/11 – AMHS TF
- Conclusion ANI/WG/3/7: completed by Haiti.

2.1.3   Through IP/02, the Meeting noted and followed-up on the valid conclusions of the North American, Central American and Caribbean Civil Aviation Directors Meeting (NACC/DCA) and of other sub-regional Civil Aviation Directors Meetings.

2.2   No Country Left Behind (NCLB) NACC Strategy progress achieved in air navigation matters

2.2.1   Under the Presentation 1, the Secretariat provided a follow-up to the NACC No Country Left Behind (NCLB) Strategy highlighting:

- the challenges and the regional solutions being implemented;
- the status of the strategy with almost 100% of the States in Phase 4; and
- the tailored States' action plans resulting from the NCLB Multidisciplinary Technical Assistance Missions (TEAMs).

2.2.2   The up-to-date achievements of the NACC NCLB Strategy in the resolution of Air Navigation Services (ANS) deficiencies, the aerodrome certification progress, the successful assistance in the Universal Safety Oversight Audit Programme (USOAP) Effective Implementation (EI) improvement, the third party funding activities, the State Champion State concept; among other main areas of assistance were presented. The commitment of ICAO to enhance States air transport systems and Regional Safety Oversight Organizations (RSOOs) and collaboration was emphasized, recalling that the Caribbean States/Territories are a NACC 2017 NCLB Strategy priority. The Meeting thanked ICAO for the results and the effective assistance provided, urging States to continue their commitment with ICAO.

2.2.3   The ICAO NACC Regional Office informed that the NCLB performance results and achievements will be presented to the NACC/DCA/7 meeting in September 2017, including the NACC/WG progress and operational benefits accomplished and their positive impact in the States/Region aviation safety and efficiency.

2.3   Follow-up on CAR/SAM Planning and Implementation Regional Group (GREPECAS) conclusions and project implementation

2.3.1   Under WP/04 the Meeting was informed of the valid conclusions/decisions of the Fourth Meeting of the Programmes and Projects Review Committee (PPRC/4) (see Appendix to WP/04). The Meeting took note that:

- deficiencies in the NACC States have been resolved and mitigated in an effective matter through the tailored action plans and the hands-on assistance by the ICAO NACC NCLB Strategy;
- IATA submitted to the NACC Regional Office recent ANS proposed deficiencies;
- NACC NCLB Strategy is supporting the implementation of aerodrome certification with an ICAO SAFE Fund Project and joint ICAO/ACI/FAA assistance; and
- the NACC implementation groups have taken actions to support GREPECAS projects.

2.3.2   The Secretariat recalled the Meeting that all the progress informed by the implementation groups and the NACC/WG will be reported to the GREPECAS/18 meeting.

2.4   **Review of the status of air navigation deficiencies reported in the GREPECAS Air Navigation Deficiencies Database (GANDD)**

2.4.1   Under WP/05, the Secretariat reviewed the status of GANDD deficiencies, noting that the NACC NCLB Strategy has supported and assisted the States in resolving more effectively the deficiencies, resolving 61 deficiencies from 2016 to 2017:
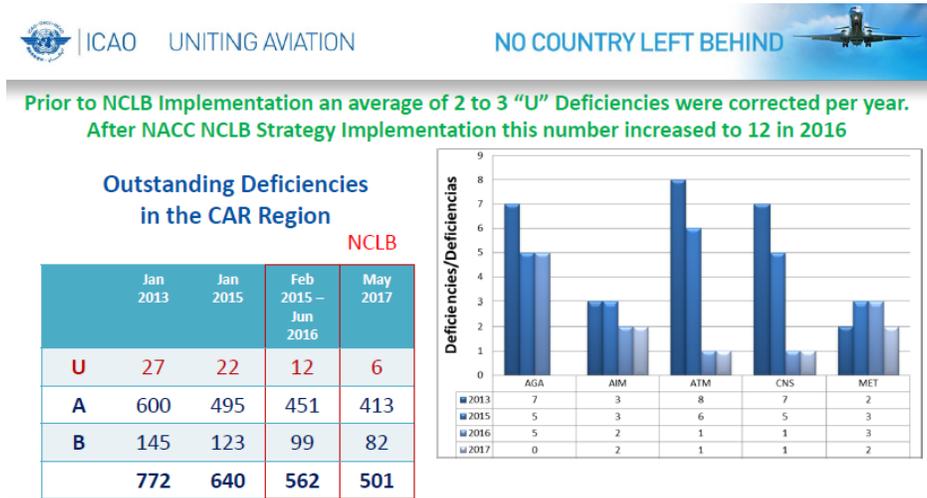
2.4.2   The Meeting took note of the remaining valid deficiencies as follows:
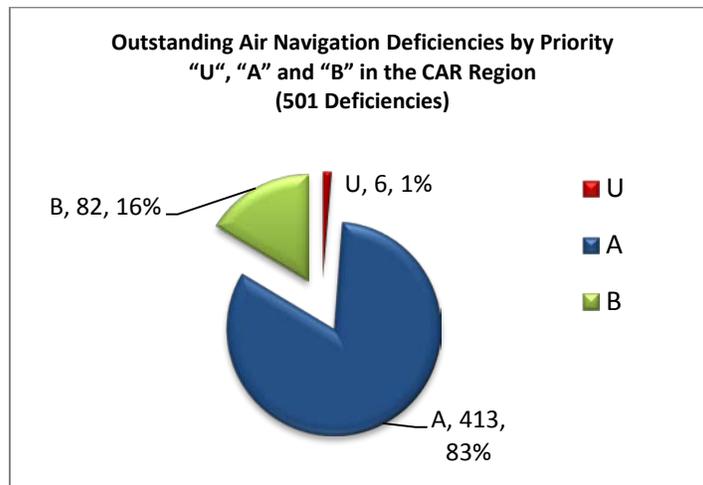
2.4.3   Similarly, the Secretariat presented a summary of the common deficiencies of States and potential solutions, grouped in the different areas: CNS, AGA, MET, AIM, ATM and SAR, for the Meeting to identify common solutions that can be achieved. In this regard, the Meeting agreed on formulating the following Draft Conclusion:

DRAFT CONCLUSION
NACC/WG/5/1   **RESOLUTION OF GANDD DEFICIENCIES**

That, in order to seek solutions for solving their GANDD valid deficiencies, NAM/CAR States:

a)   consider the common deficiencies and potential solutions provided by ICAO (WP/05); and

b)   provide ICAO update of these deficiencies by **31 December 2017**, including the applicable evidence of their solution

Agenda Item 3   **Implementation on Air Navigation Matters**

        3.1   **Global/Regional Air Navigation Developments**

3.1.1   Under WP/07, the Secretariat presented the progress and status of implementation of the electronic Air Navigation Plan (e-ANP) for the CAR/SAM Regions and the e-ANP for the NAM Region, highlighting the following:

- CAR/SAM Volume I is available at the ICAO NACC Regional Office website at: http://www.icao.int/NACC/Pages/namcar-e-ANPV1.aspx
- The latest activities for the approval of the CAR/SAM e-ANP Volume II concluded with the reception of final comments from States on 21 April 2017. CAR/SAM e-ANP Volume II will be available at the ICAO NACC Regional Office website by end of May 2017.
- The postponement of the development of the CAR/SAM e-ANP Volume III, due to the changes to be introduced by ICAO in the Global Air Navigation Plan (GANP) 2019 (sixth edition). The current draft Volume III had to be aligned accordingly. With this situation, the States are urged to continue using the NAM/CAR Regional Performance-Based Air Navigation Implementation Plan (RPBANIP) for drafting their National Air Navigation Plans.

3.1.2   For the NAM Region, Canada and United States, ICAO had completed the Volume I of the NAM e-ANP, which is going through the approval process by ICAO and shall be approved by June 2017. The NAM States agreed on a draft Volume III, and to prepare a draft for Volume II for a later date. Considering the approval of the CAR/SAM Vol II, the following draft conclusion was agreed:

DRAFT CONCLUSION
NACC/WG/5/2   **APPROVAL OF CAR/SAM e-ANP VOLUME II - UPDATE OF GANDD DEFICIENCIES**

> That, considering the approval of the CAR/SAM e-ANP Volume II, States and ICAO review the field of references in air navigation deficiencies in the GANDD before the NACC/DCA/7 Meeting.

3.1.3   Under IP/09, the Meeting recalled the updates in the new 5th edition of the GANP and the objectives and purposes of the current RPBANIP.

3.2 Safety Initiatives to be Supported by ANS Implementation

3.2.1 Under WP/08, the Secretariat presented an update about the Pan American Regional Safety Status, and the Regional Aviation Safety Group–Pan America (RASG-PA) work programme.

3.2.2 The seventh edition (draft) of the RASG-PA Annual Safety Report (ASR) reveals that the top three risk areas in Pan America continue to be Runway Excursion (RE), Controlled Flight Into Terrain (CFIT), and Loss of Control In-Flight (LOC-I). Mid-Air Collision (MAC) is a risk area of interest that was added to the list for further investigation.

3.2.3 Pan America faces many challenges to improve safety levels. Therefore, a close coordination of activities with the CAR/SAM Regional Planning and Implementation Group (GREPECAS) and its contributory bodies, ICAO Headquarters, and respective Regional Safety Oversight Organizations (RSOOs) is fundamental to avoid redundancy and to optimize the use of resources.

3.2.4 The Meeting agreed on the importance for States and Air Navigation Service Providers (ANSPs) to take advantage of RASG-PA data analysis and link.

3.2.5 Under P/04, the Secretariat informed the Meeting that the 39th Session of the ICAO Assembly conducted in 2016 has resulted in the adoption of new versions of (GANP and ICAO Global Aviation Safety Plan (GASP) that seek to have a more integrated and harmonized aviation planning and implementation, in both, safety and air navigation matters at a regional and State level. In this regard, the Secretariat presented for consideration of the States several valid updates on safety:

- States to establish a national safety plan, including priorities and targets consistent with the regional safety plan in line with the GASP objectives, including the global aviation safety roadmap, and based on their operational safety needs.
- States are urged to continue the implementation of the State Safety Programme (SSP) and report on progress using the SSP Assessment Tool on iSTARS and completing the Universal Safety Oversight Audit Programme (USOAP) SSP-related Protocol Questions (PQs) self-assessments on the On-Line Framework (OLF).
- States are urged to fulfil their obligations under the USOAP Continuous Monitoring Approach (CMA) Memorandum of Understanding (MoU) and to take actions/NCLB commitment to provide up-to-date information on their safety oversight systems, with particular attention to:

a) States with a Significant Safety Concern (SSC), focusing on implementing sustainable corrective actions to resolve the SSC with a high priority;
b) update the content and implementation progress of their Corrective Action Plans (CAPs) on the OLF;
c) complete the self-assessment of the PQs on the OLF;
d) request assistance from the ICAO NACC Regional Office/NCLB Strategy; and
e) inform the ICAO Regional Office once significant updates have been made on the OLF.

• States to endorse in the upcoming Global Air Navigation Industry Symposium (GANIS)/Safety and Air Navigation Implementation Symposium (SANIS) event in December 2017, the implementation of the global strategy and action plan to improve RSOOs and the establishment of a Global Aviation Safety Oversight System (GASOS).

• ICAO NACC and SAM Regional Offices and RASG-PA will update the regional safety targets for the NAM/CAR/SAM Regions based on the proposed new GASP (2020 – 2022) global safety targets.

3.2.6. Under P/07 and WP/27, the Rapporteur of the GREPECAS Scrutiny Working Group (GTE) presented its work since 2011. After the Reduced Vertical Separation Minimum (RVSM) implementation, the Monitoring Agency for the CAR/SAM Regions (CARSAMMA) and the Scrutiny Working Group Scrutiny (GTE) analysed the occurrences of Large Height Deviation (LHDs) and carried out the Safety Assessment in compliance with the ICAO Doc 9574 - *Manual on a 300 m (1 000 ft) Vertical Separation Minimum Between FL 290 and FL 410 Inclusive*.

3.2.7 During the 2011-2014 period there was a gradual increase in LHD events. The assessment showed that over 90% of LHD events were coordination errors between adjacent ATC units. A new safety assessment methodology was implemented. A new manual with safety assessment methodology was developed (CARSAMMA Manual).

3.2.8. The GREPECAS GTE presented graphic results of the region performance related to LHDs, and the progress achieved by NACC States:

LHD – Safety Hot spots (high occurrences) shown in red dots

3.2.9   Among LHDs reduction factors were mentioned Radar data sharing and effective implementation of Air Traffic Services (ATS) Inter-facility Data Communication (AIDC).

3.2.10   Given the impact on operational safety that cross boundary Flight Information Regions (FIRs) coordination presents, that a safety case be elevated by ICAO to encourage the implementation of AIDC or alternate strategies in the region, in order to mitigate the risk of LHDs.

3.3   ANI/WG Progress on AIM, ATM and CNS

3.3.1   Under WP/09, the ANI/WG Chairman presented the progress achieved by the NAM/CAR Air Navigation Implementation Working Group (ANI/WG) since their Third Meeting (ANI/WG/3), including the approved action plans (**Appendix B** refers).

3.3.2   The Meeting recalled the objective of the ANI/WG, to consolidate the existing sub-regional working groups, reduce the number of meetings, avoid duplication, expedite work progress and improve regional harmonization focused on the air navigation fields of Air Traffic Management (ATM), Communications, Navigation and Surveillance (CNS) and Aeronautical Information Management (AIM).

3.3.3.   The ANI/WG in accordance with its Terms of Reference (ToRs) works with all the implementation sub-regional groups. The Meeting recalled that during the ANI/WG/03 meeting, a review of the implementation activities and their follow-up was carried out, the update of the ANI/WG Task Forces respective action plans was approved, and delays and inconveniences faced for the execution of said plans were identified.

3.3.4   Since the ANI/WG/03 meeting, the concerns and planned activities were identified for Task Forces of Automatic Dependent Surveillance – Broadcast (ADS-B), Aeronautical Message Handling System (AMHS), AIDC, Performance-Based Navigation (PBN), Aeronautical Information Management (AIM), Air Traffic Flow Management (ATFM). During the meeting the different Task Forces discussed their activities that had been done, the new objectives and action plans for the future.

AIDC Task Force Progress Report

3.3.5   Under WP/10REV, the Meeting was informed of the Air Traffic Services (ATS) Interfacility Data Communication (AIDC) Task Force (TF) progress since the last ANI/WG/3 meeting in 2016:

- The Filed Flight Plan (FPL) Monitoring Group held a face to face meeting in April 2016, after the ANI/WG/3 meeting and four teleconferences.
- A regional position for flight plan processing was discussed, but compliance with said proposal would be difficult taking into account the current level of flight plan errors. This position would allow operators to file flight plans depending on the level of correctness achieved.

- Two virtual meetings with operators and ANSPs were scheduled, in order to discuss mitigation measures with the main contributors to flight plan errors.
- A data collection started since April 2017, to check how the latest measures have resulted. For this phase, one hour samples will be taken two or three times a day, and the total flight plans processed during those periods will be recorded. The results will be presented by June 2017.

3.3.6   The Meeting approved the AIDC Task Force and FPL Monitoring Group updated Work Programme (**Appendix C** refers).

3.3.7   Complementary, under DP/04, the AIDC TF reported the following relevant updates:

- COCESNA agreed to send an estimated date for the removal of converters in Costa Rica, Belize y Honduras.
- The impact of erroneous flight plans and the implementation of AIDC in the reduction of LHDs in the region were presented by the GTE during the meeting.
- The ability of States to process flight plans was discussed, pointing out that the personnel is not always ideally trained, and that contributes to the error rate of flight plans.
- COCESNA expressed that due to errors identified in the flight plans, regional training on FPL matters will be provided by COCESNA to Central American AIS/Air Traffic Services Reporting Office (ARO) office personnel.
- Curaçao and Dominican Republic have identified the need for training in the flight plan, with the common goal of minimizing regional errors in flight plans.

3.3.8   The GREPECAS GTE commented that radar data sharing is another important issue that contributes to the reduction of LHDs.

3.3.9   The meeting congratulated the AIDC TF for the progress accomplished and agreed on the following:

DECISION
NACC/WG/5/3   **ARO REGIONAL TRAINING FOR FLIGHT PLANS**

That, in order to support the mitigation actions to avoid the flight plan errors the ANI/WG AIM Task Force develop the standard Air Traffic Services Reporting Office FPL training requirements for regional training centres to serve as a basis for this training by **30 August 2017**, based on ICAO Doc 7192- *Training Manual* AN/857, Part E-3.

DECISION
NACC/WG/5/4   **PROCEDURE FOR HOMOGENEOUS ISSUANCE OF FLIGHT PLANS**

That, in order to reduce the causes of errors in flight plans, the Task Force AIDC develop a procedure for the homogeneous issuance of flight plans applicable for the NAM/CAR Regions with the goal of possibly including it in ICAO Doc 7030 - *Regional Supplementary Procedures* by **31 October 2017**.

3.3.10   The Meeting was informed that through its respective training centres, Dominican Republic and COCESNA are planning a set of FPL oriented courses to refresh and ensure the compliance with ICAO FPL Standards and Recommended Practices (SARPs). In this regard the Meeting agreed on the following draft conclusions:

DRAFT CONCLUSION
NACC/WG/5/5   **REFRESHER TRAINING ON ICAO FPL COMPLIANCE**

That, in order to support the mitigation actions to reduce the errors in FPLs and to promote the regional collaboration on training provision:

a)   Dominican Republic and COCESNA inform by **15 June 2017**, the 2017 scheduled FPL trainings for its respective promotion to other States as allowed by Dominican Republic and COCESNA; and

b)   training centres to schedule for 2018 the FPL training on their course catalogue.

DRAFT CONCLUSION
NACC/WG/5/6   **AIDC IMPLEMENTATION FOR RISK MITIGATION OF LHDs**

That, considering the impact in safety due to the implementation of AIDC on those safety hot spots identified by GREPECAS GTE:

a)   the ANI/WG Chairman prepare a safety case on the lack of or erroneous FPLs by **July 2017**; and

b)   States and Territories having the capability to implement AIDC in their ATC systems, implement it as a strategy (procedure) in the region, in order to mitigate the risk of LHDs, and update and send their implementation plans to ICAO by **30 November 2017**.

3.3.11   Similarly, sharing radar data is one of the good practices identified by the GREPECAS GTE having a direct impact on the safety of regional operations.

3.3.12   Under P/06, the Secretariat provided recommendations for planning and implementing an AIDC service, including:

      a)   the factors to consider before performing a NAM/AIDC connection; and
      b)   other important operating factors.

3.3.13   Under P/07, the GREPECAS GTE explained how the AIDC implementation and the radar data sharing between FIR improve safety in coordination of the air control operations in the region. The Meeting discussed the need to improve the radar data sharing to minimize the failures in the operation coordination between FIRs. In this sense, the Meeting agreed the following draft conclusion:

DRAFT CONCLUSION
NACC/WG/5/7   **RADAR DATA SHARING FOR IMPROVING SAFETY OF OPERATIONS**

That, to improve the safety of operations on the safety hot spots identified by the GREPECAS GTE, Curaçao-Dominican Republic-Jamaica, COCESNA-Ecuador, Mexico-Cuba begin to share radar data with the adjacent FIRs as soon as possible providing their action plan for this purpose to the ANI/WG by **31 October 2017.**

AIM Task Force Progress Report

3.3.14   Under WP/11 and DP/03, the Aeronautical Information Management (AIM) Task Force Rapporteur presented the main progress and improvements to the work programme of the AIM Task Force since the ANI/WG/3 meeting. The revised ToRs, membership and work programme are presented in **Appendix D**.

3.3.15   The AIM TF discussed the needs of AIM personnel training, licensing, refresher training cycles, training centres in the region, AIM curriculum Draft Doc 9991 (and ICAO Doc 7192-AN/857, Part E-3 (preliminary edition)), therefore proposed an Action plan 2017-2021 (**Appendix E** refers). Considering the involvement of AIM personnel in FPL matters and the needs indicated in AIM, the Meeting agreed on the following draft conclusion:

DRAFT CONCLUSION
NACC/WG/5/8   **AIM AND FPL IMPLEMENTATION MEETING**

That, in order to review, organize and explore the solutions for improving AIM implementation and adopt FPL mitigation solutions, States and Territories:

a)   participate in the AIM and FPL Implementation meeting (4th quarter 2017 in ICAO NACC Regional Office) including a Quality Management System (QMS), System Wide Information Management (SWIM), Aeronautical Information Exchange Model (AIXM)/WIXM and implementation matters for Phase 1 and continuation of Phase 2 and 3 of the AIM transition in the SWIM context;

b)   review and schedule the AIM required actions in accordance with the 2017-2021 action plan; and

c)   participate actively in the AIM Task Force.

AMHS Task Force Progress Report

3.3.16   Under WP/12, the progress achieved by the Aeronautical Message Handling System (AMHS) Task Force since its creation in the ANI/WG/1 Meeting was presented. Following the work programme of the Task Force and its deliverables, the Meeting took note of the results for these deliverables and recommendations for improving the Task Force performance and coordination.

3.3.17   The AMHS Task Force was formed in order to streamline activities related to air navigation implementation activities. Implementation of AMHS shall be completed in accordance with the Regional AMHS Implementation Plan (**Appendix F** refers). The ToRs were revised to update existing membership.

3.3.18   The AMHS Task Force also updated the NAM/CAR IP addressing scheme to include /30 IP for US-Jamaica; US-Panama; and US-Bermuda links. In this regard ICAO NACC Office has updated the Internet Protocol (IP)v4 addressing scheme (Version 2.XX) (**Appendix G** refers).

3.3.19   Since the last AMHS TF meeting, Cuba, Sint Maarten, Trinidad and Tobago and COCESNA have successfully transitioned from Aeronautical Fixed Telecommunication Network (AFTN) to AMHS. With these interconnections the RPBANIP Target for AMHS Interconnection was accomplished.

3.3.20   The list of active Task Force Members depicted below was revised and updated accordingly:

State	Point of Contact	Email
Cuba	Carmen de Armas	carmen.dearmas@iacc.aivanet.cu
	Carlos Jiménez Guerra	carlosm.jimenez@iacc.avianet.cu
Dominican Republic	Fernando Casso	fernando.casso@idac.gov.do
Trinidad and Tobago	Veronica Ramdath	vramdath@caa.gov.tt
United States	Dulce M. Rosés	dulce.roses@faa.gov
	Al O'Neill	al.oneill@faa.gov
COCESNA	Reybin Sanabria	Reybin.sanabria@cocesna.org

3.3.21   The Meeting was informed of the task on testing the transmission of XML data through AMHS system and agreed that this task should be revised, and agreed to coordinate with States that have already implemented AMHS and are willing and able to initiate required procedures for testing XML over AMHS. Suggested coordination is initiated with Cuba, Dominican Republic and United States. In this regard the following conclusion was formulated:

DRAFT CONCLUSION
NACC/WG/5/9   XML TESTING OVER AMHS

That, in order to test the XML capacity of the CAR regional networks, Cuba, Dominican Republic and United States coordinate for XML testing over AMHS reporting their progress by **30 December 2017.**

PBN Task Force Progress Report

3.3.22   Under WP/13, the progress achieved by the Performance-Based Navigation (PBN) Task Force was presented. During the ANI/WG/3 meeting, many PBN concerns were identified as limitations and concerns expressed by most States. There was a general consensus on the fact that training is required for the successful implementation of PBN, including Aviation System Block Upgrade (ASBU) Training, PBN Implementation workshops/training, and follow-up training as required. As a response, the ICAO NACC Regional Office held the Regional and National Air Navigation Performance Framework/ASBU Implementation Workshop for the NAM/CAR Regions (Mexico City, Mexico, 22 - 26 August 2016).

3.3.23   Successful Basic Area Navigation (RNAV 5) live trials were held within PIARCO's Continental en-route airspace in July 2016, with the participation of major airline operators. Results from the trials showed savings in fuel, time and increased operational efficiency.

3.3.24   The Second ICAO/IATA/CANSO PBN Harmonization, Modernization and Implementation Meeting for the Caribbean (CAR) Region was held in San Jose, Costa Rica, from 7 to 9 December 2016.

3.3.25   The Meeting discussed relevant actions on the Proposal for Amendment implementation. Letters of Agreement (LoAs) for the coordination and operational procedures between the air traffic control facilities continue to be negotiated and signed. As discussions have now included Flight Information Regions (FIRs) of States in the ICAO South American (SAM) Region, States and ANSPs have agreed to further review and introduce applicable longitudinal separation minima of 40 NM or 20 NM between transferred air traffic operating in the FIRs of the CAR Region and adjacent FIRs of the SAM Region.

3.3.26   In order to have better coordination and harmonization within the sub-regions, the ANI/WG PBN Taskforce selected regional champions.

3.3.27   Complementary under DP/06REV, the PBN Task Force (PBN TF) presented additional updates to the progress of its work programme. The PBN TF also engaged in discussion relating to issues such as:

- •   PBN Task Force TORs
- •   PBN Task Force Points of Contact (POCs)
- •   PBN Task Force action plan
- •   Progress and activities accomplished from ANI/WG/03 to date
- •   Training needs
- •   Assistance required from ICAO

3.3.28   The Meeting agreed that in order to obtain the current status of effective PBN implementation within the region, a new PBN survey should be conducted with all States/Territories/International Organizations by the end of September 2017. The RO/ATM of ICAO NACC Regional Office commented that he will conduct this survey as part of his familiarization with Points of Contact (PoCs) from each State/Territory /International Organization.

3.3.29   Although the upper airspace PBN route re-design has already begun, it was reported that attention was required in the Lower Airspace/Terminal Airspace (TMA's). The connectivity between the upper airspace and lower airspace designs require specific collaborative workshops between relative ANSPs and stakeholders.

3.3.30   Reviews of the Work Programme, ToRs and Points of Contact were conducted and are attached as **Appendix H** to this report.

3.3.31   The PBN Taskforce had the following recommendations:

- •   States/Territories/International Organizations need to continue engaging in the Collaborative Decision Making (CDM) process with all stakeholders when re-designing their airspace.
- •   States/Territories should continue to provide data to ICAO NACC Regional Office and the PBN Task Force on developments in their airspace.

- States/Territories/International Organizations should continue to participate in the Regional project to harmonize the upper level airspace routing structure among the NAM/CAR/SAM Regions.
- States/Territories/ International Organizations should take advantage of the PBN Go Team Missions provided by the ICAO NACC Regional Office.
- States/Territories/ International Organizations should ensure that suitably trained/qualified personnel should attend workshops/meetings relating to airspace design.
- States/Territories/ International Organizations should ensure that regular meetings are held with airline operators and other stakeholders in order to ensure the effectiveness of PBN implementation initiatives.
- PBN Task Force TELCONS to be held during the first week of every month.

3.3.32   In this regard the following draft conclusions were formulated:

DRAFT CONCLUSION
NACC/WG/5/10   **ANALYSIS OF CURRENT PBN IMPLEMENTATION STATUS IN THE NAM/CAR REGIONS AND MEASUREMENT OF ITS EFFECTIVENESS**

That, in order to determine the current state of PBN implementation in the NAM/CAR Regions, the roadblocks to implementation and identify improvement initiatives for PBN implementation:

a)   the PBN Task Force develop a PBN survey form and submit it to ICAO by **30 June 2017**; and

b)   the ICAO NACC Regional Office conducts the PBN survey with NAM/CAR States/Territories/International Organizations by **30 September 2017**; reporting the results to PBN Task Force by **31 October 2017**.

DRAFT CONCLUSION
NACC/WG/5/11   **EFFECTIVENESS OF PBN AIRSPACE HARMONIZATION MEETINGS**

That, in order to improve the effectiveness of the PBN Airspace harmonization workshops/meetings/teleconferences, NAM/CAR States/Territories/International Organizations, by the ANI/WG/5 meeting:

a)   ensure that suitably trained/qualified personnel should attend workshops/meetings relating to airspace design; and

b)   ensure that human and financial resources are provided to ensure that PBN implementation objectives are achieved.

DRAFT CONCLUSION

NACC/WG/5/12   **ANALYSIS OF CURRENT PBN IMPLEMENTATION STATUS IN THE NAM/CAR REGION AND MEASUREMENT OF ITS EFFECTIVENESS**

That in order to determine the current state of PBN implementation in the NAM/CAR Region, determine the roadblocks to implementation and identify ineffective initiatives utilized on past PBN projects:

a)   PBN Task Force develops and submit a PBN survey form to the ICAO NACC ATM RO by **30 June 2017**;

b)   ICAO NACC Regional Office conducts surveys with NAM/CAR States/Territories/International Organizations by **30 September 2017**; and

c)   ICAO NACC Regional Office provides results of survey to PBN Taskforce by **October 2017**.

DRAFT CONCLUSION

NACC/WG/5/13   **CDM WITH STAKEHOLDERS**

That, in order to improve the effectiveness of the PBN Airspace implementation, NAM/CAR States/Territories/International Organizations engage in regular CDM meetings with the airline operators and other stakeholders.

DRAFT CONCLUSION

NACC/WG/5/14   **FEASIBILITY STUDY ON THE ESTABLISHMENT OF A FLIGHT PROCEDURE PROGRAMME (FPP) WITHIN THE NAM/CAR REGION**

That, taking into consideration ICAO Assembly Resolution A39 – 14, where States are urged to utilize FPPs for PBN implementation, the PBN Task Force in collaboration with the ICAO NACC Regional Office:

a)   conduct a survey which identifies which States/Territories require assistance in procedure design;

b)   identify the resources required for the establishment of a FPP within the region; and

c)   provide a report to the ANI/WG/4 (2018), with appropriate recommendations.

3.3.33   Under WP/19, IATA presented follow up proposals to the PBN implementation and airspace related subjects in the Region:

- The different traffic growth studies show that the increase in demand expected for NAM/CAR/SAM Regions can cause a domino effect, affecting many States and could cause delays and consequential losses to the users and, in addition, a work overload in the Air Traffic Control (ATC) units, in the absence of sufficient management units for the capacity and demand balancing.
- To keep the desired harmonization and goals, constant and periodic tracking of the progress, achievements and challenges for stakeholders is required. Proposed tracking metrics are not only intended to capture information about the mentioned initiatives, but also to provide a general and clear overview of other important implementations for flight operation in the regional airspaces, that should also be part of the coordinated /harmonised implementation.
- With regard to the Proposal for Amendment 1 (PfA1), there are quantitative and qualitative benefits that could be estimated. However, for quantitative values it is necessary to have at least the final PfA1 version approved.
- As for the approach procedure naming convention changes (Cir 336 — *Area Navigation (RNAV) to Required* Navigation *Performance (RNP) Instrument Approach Chart Depiction*), although the implementation plan is for the year 2022, the working paper considered of great importance that both States and airspace users have the full picture in advance and the regional vision regarding the implementation of such changes, as well as proposed mitigation actions to achieve a coordinated implementation.
- With regard to the amendment to the Doc 4444 – *ATM — Air Traffic Management*, due to the importance of standardized ATC phraseologies, it is expected that the Civil Aviation Authorities of the region will implement appropriate measures to inform airspace users under their responsibility about the changes.

3.3.34   The IP/10 presented a proposal of a Global Navigation Satellite System (GNSS) implementation group. For some years, ICAO has been engaged in the task of perfecting GNSS. The implementation of the PBN procedures achieves an effective application of the use of GNSS and the development of the ASBU.

3.3.35   A proposal would be the achievement of a regional GNSS monitoring system to ensure the availability and reliability of this service instead of each State managing separately with the various existing suppliers, which would give much greater guarantee for the safety of air operations in our region. The Secretariat commented that in the ANI/WG/02 meeting the company DW presented a service application on RAIM Prediction for monitoring GNSS. Dominican Republic informed it is in process of installing a Ground-Based Augmentation System (GBAS) for the Punta Cana airport. It is currently in the sensors installation and procedures designs phase during this year. The implementation will begin early 2018. In this regard the Meeting formulated the following decision:

DECISION
NACC/WG/5/15   **ANALYSIS FOR GNSS MONITORING FOR PBN OPERATIONS**

That, in order to determine the cost-effectiveness and benefits of implementing a GNSS monitoring service to support PBN operations in the region, the PBN TF analyses this GNSS monitoring request and report back to the ANI/WG by **31 December 2017.**

ATFM Task Force Progress Report

3.3.36   The WP/14 was presented on behalf of the Air Traffic Flow Management (ATFM) Rapporteur, detailing the progress achieved by the ATFM Implementation Task Force (TF) since its previous progress report.

3.3.37   The ATFM TF has held 3 web meetings since June 2016. The meetings have included information on the United States regular Caribbean teleconferences to encourage participation from the TF ANSPs. These web conference meetings included briefings by the TF members and discussions on benefits of sharing traffic data for Cuba and Jamaica. Additional traffic data is now also being shared with Dominican Republic, Mexico and COCESNA for improved collaboration, transparency and greater coordination between the ANSPs. The web conferences also discussed the System Wide Information Management (SWIM) Data exchange process with Trinidad and Tobago, ATFM basic training, and NAM/CAR survey topics.

3.3.38   The focus for 2017 includes continued sharing of best practices, information on demand and capacity balancing methodology, and developing a regional pre-tactical web conference for all ANSPs and stakeholders to participate and share information. With the increased information on demand available to ANSPs, States can better identify their constraints, implement flow management programs, improve their arrival and departure rates and increase their capacity within their airspace and airports.

3.3.39   The ATFM TF is developing a two-day ATFM 101 Training course for the region. Materials will include a general overview of flow management, components of traffic management system and collaborative decision-making. Since the ATFM TF held its first monthly web-conference in March 2016, participation has increased and resulted in stronger collaboration between the States. Discussions during the calls have expanded to include ATFM tools and meteorological products in the region and the need for ANSPs to share information on air traffic demand and capacity numbers for regional airports, sectors and airspace.

3.3.40   Under DP/02, the Meeting reviewed additional updates to the work emanated from the activities of the ATFM Task Force.

3.3.41   During the working sessions, the ATFM TF members reviewed the ATFM TF ToRs (DP/02 Appendix A) and the NAM/CAR ATFM Task Force Work Programme (DP/02 Appendix B) and held discussions regarding the objectives on the development, improvement and implementation of ATFM. The ATFM Task Force discussed the possible items for the work programme such as analyse 2016 survey questions and develop 2017 Survey; to review CAR/SAM Concept of Operations (CONOPS) and CAR/SAM ATFM Manual and provide updates to GREPECAS as needed. It was agreed that work programme needed to be revised to reflect different levels of ATFM implementation for Member States, taking into consideration their individual needs and capabilities. It was noted that the Meeting comprised of very few task force members, and that the items discussed in this work session will need to be circulated and discussed with the remaining ATFM TF members at the next quarterly TF web meeting. The following decision was formulated:

DECISION
NACC/WG/5/16   ATFM TASK FORCE TERMS OF REFERENCE AND WORK PROGRAMME

That, in order to keep the ANI/WG informed, the ATFM TF shall present to the ANI/WG Chairman and ICAO the valid Terms of Reference and work programme of the ATFM TF by **30 July 2017**.

3.3.42   The ATFM Task Force discussed ways to increase participation from States that do not have high traffic demand yet feeding into the major traffic flow in the region, in order to improve overall regional traffic flow management. The Task Force also addressed the need to identify major traffic flow areas in States and proposed defining 2 levels of ATFM implementation for Member States, taking into consideration their individual needs and capabilities.

3.3.43   ICAO homogeneous traffic flow areas are already identified within airspace optimization in the ICAO CAR/SAM CONOPS Document. The ATFM TF and ICAO can utilize this information to identify major traffic flow areas in each state and level of ATFM services that may be required in the two levels:

1.   Level 1 requires active ATFM participation
2.   Level 2 requires collaborative regional ATFM participation and support services to level 1 States

Requirements for all ATFM TF Stakeholders

ATFM TF Requirements
•   ATFM Task Force will develop Letters of Agreement (LoAs) template for States consideration.
•   Coordinate LoAs template with CANSO Air Traffic Flow Management Data Exchange Network for the Americas (CADENA) to ensure harmonization.
•   Establish training recommendations for Level 1 and 2 States.

Level 1 States Requirements
•   Determine and declare capacities.
•   Develop requirements needed for an ATFM structure within each Area Control Centre (ACC).
•   States to develop and sign LoAs with adjacent FIRs.
•   Perform demand/capacity analysis annually and implement all tasks specified in ICAO Doc 9971 - *Manual on Collaborative Air Traffic Flow Management* which includes strategic, pretactical, tactical and post analysis.
•   Participate in all teleconferences.

Level 2 States Requirements
•   Determine and declare capacities.
•   Define ATFM related responsibilities.
•   Develop LoAs with adjacent FIRs.
•   Participate in teleconferences as needed

3.3.44   The Task Force discussed the following activities as possible items for the work program:

•   Analyse 2016 survey questions and develop 2017 survey.
•   Review CAR/SAM CONOPS and CAR/SAM ATFM Manual and provide updates to ICAO GREPECAS as needed.
•   Develop a Standard Operating Procedure (SOP) template for ANSPs tailored for Level 1 and Level 2 needs.
•   Each ANSP should have harmonized SOPs based on its ATFM CONOPS.
•   Conduct annual ATFM Task Force End of Year meeting to review/report on activities.
•   Revise the NAM/CAR ATFM TF work plan.

3.3.45   Under WP/17, IATA presented a proposal to improve the ATFM implementation process in the region, including the need of immediate cancelling of the Notices Distributed by Means of Telecommunication (NOTAMs) related to severe flow restriction imposed in some FIRs, impacting severely the airlines efficiency and, potentially, affecting safety in the involved airspaces. IATA commented that the States that have not yet implemented a minimum ATFM service, are the States that issue more NOTAMs establishing flow control with entrance and exit restrictions in the different FIR bordering points, producing a domino effect that affects other neighbouring FIRs and some of them without radar equipment, which causes an impact, not only on the capacity but also in safety.

3.3.46   Due to the negative impact on safety when using extreme flow restrictions, the Meeting and IATA stressed the need to avoid the use of NOTAMs as an empiric/static ATFM measure and recommend the application of the contingency plans published in case of disruption or the ATS/CNS services.

3.3.47   In this regard, it was noted that ATFM measures were specified in ICAO Doc 9971 - *Manual on Collaborative Air Traffic Flow Management*, and do not include the use NOTAMs. The NOTAM must be considered as a contingency measure and not as an ATFM measure. In order to implement an effective set of ATFM measures, as per ICAO Doc 9971, some actions are suggested to be incorporated to the ATFM Programme. Taking into consideration the information provided in this working paper, it is suggested that a CAR/SAM ATFM workshop be held in 2017, in order to harmonize all States activities in the Strategic, Pre-tactical, tactical and Post-operations phases of ATFM, including ATFM planning and operational management, ATFM messages, etc.

ADS-B Task Force Progress Report

3.3.48   Under WP/15, the progress of the ANI/WG Task Force of Automatic Dependent Surveillance - Broadcast (ADS-B) since its creation at the First NAM/CAR Air Navigation Implementation Working Group (ANI/WG/1), was presented.

3.3.49   Activities undertaken by the Task Force of ADS-B ANI/WG:

- COCESNA informed on progress made in the implementation of ADS-B and to continue its testing through its two already installed ADS-B receptors (Cerro de Hula and El Coco Island), the updating of all of its Secondary Surveillance Radar (SSR) systems to have ADS-B message reception capability, and the planned acquisition of more ADS-B receptors to be installed through 2018 and 2019 in other places in Central America.
- AIREON presented progress in the implementation of satellite-based ADS-B, demonstrating the system's ability to have surveillance systems in areas not yet covered with current technologies such as oceanic, mountainous, remote and other. This system will increase aerial safety and the ability to perform efficiencies in airspace, provided by the ADS-B in these areas and others that are of interest to the States.
- Dominican Republic is in the process of initiating trials, and it requested ICAO to be incorporated into the project to supply a receiving station, which has not yet been implemented.
- Cuba reported the conclusion of the implementation of an Multilateration (MLAT) system in Havana, in addition to the one already installed since last year in Varadero, Cuba, for the deployment of facilities that had the requirements for guaranteed energy supply and efficient communications links, some property of ANSP and others from the service provider of the State mobile network, which facilitates and reduces their implementation.
- IATA recommended using the results of the PBN TF in the definition of requirements of certain routes, in order to ensure the implementation of the different ATS surveillance systems in them (according to the operational need identified by the PBN TF), which should be analysed in depth in order to apply it in the implementation strategies of the surveillance systems, as well as in those places that are already identified as not having radar coverage to promote solutions based on sharing radar or in the implementation of ADS-B or MLAT.

- Trinidad and Tobago plans to upgrade their ADS-B receiver to receive all versions of ADS-B messages, planned for 2018. The goal is to use it for operational aspects.
- France reported the installation of five ADS-B receivers, specifically in French Guyana, this year due to the need to have a surveillance system in their flight region as they do not currently have SSR systems. In the specific case of French Guyana, ADS-B (European Standard) implementation planning expects to achieve 10NM operational changes at the end of the validation, certification (CNS) process, as well as ATC training not before 2020. By 2018 it is expected to have the integration of the ASTERIX CAT 21 to the control centre.
- Mexico reported the installation of 10 ADS-B stations at strategic locations to feed data ADS-B (DO-260 and DO-260A and Asterix CAT 21) for the systems of the existing four ACC.

3.3.50   Complementary, under DP/07, the Task Force proposed that there are currently no regional monitoring group and deficiencies in current monitoring services need to be reviewed. The Meeting agreed to change the name of the ADS-B Task Force, to: Surveillance Systems Implementation Task Force (SUR-TF). The Task Force will have new ToRs. The following decision and draft conclusions were formulated:

DECISION
NACC/WG/5/17   **SURVEILLANCE SYSTEMS IMPLEMENTATION TASK FORCE: TERMS OF REFERENCE AND WORK PROGRAMME**

That, in order to keep the ANI/WG informed, the Surveillance Systems Implementation Task Force shall present to the ANI/WG Chairman and ICAO its valid Terms of Reference and work programme by **30 July 2017**.

DRAFT CONCLUSION
NACC/WG/5/18   **PREPARATION OF STATES FOR THE IMPLEMENTATION OF ADS-B**

That, in order to enhance the regional efforts for implementing ADS-B, States/Territories in the NAM/CAR Regions:

a)   take into account the proximity of the agreed implementation date of 2020 and the impact of this implementation for the successful accomplishment of the goals of several modules of the ASBU;

b)   accelerate the development and publication of national regulations for the use of ADS-B; and

c)   adopt 1 January 2020 as ADS-B implementation date in their implementation plans to finalize operational implementation of ADS-B OUT.

3.3.51   The Task Force (SUR-TF), taking into account the deficiencies identified in the surveillance coverage of some of the FIRs in the region, recommends to urge Member States that have not done so to begin immediately the steps to eliminate these deficiencies, either through the use of surveillance data sharing in all areas that are still insufficient or not available of these services that this sharing is feasible, or with the implementation of the new surveillance systems already available.

3.3.52   Under the NI/04, Mexico provided information regarding the current situation of the ADS-B implementation, as well as the current status of implementation, lessons learned and implementation recommendations. Mexico has acquired 10 sensors to be installed throughout the national territory in order to have coverage in areas in which radar detection has problems, likewise, a node was acquired for the radar data processing system capable of processing surveillance data from different sources or Multisensor to have the capacity to support and display ADS-B sensors.

3.3.53   Under P/03, AIREON presented the ADS-B Space based service, providing a system overview, Space-based ADS-B Concept. The application of the ADS-B though Iridium next constellation, AIREON system implementation status and ANSPs implementation of Space-based ADS-B.

ASBU Ad hoc Group Progress Report

3.3.54   Under WP/16, the progress achieved by the Aviation System Block Upgrade (ASBU) Ad hoc Group was presented, that since its creation in the ANI/WG/2 Meeting; the note included the results for the deliverables and recommendation for improving the group function and coordination and the proposal to transform it in a Task Force Group and approved by the Meeting that the ANI/WG ASBU Ad hoc Group as an ASBU Task Force.

3.3.55   The first task for the new Ad hoc group was to consider the revised Air Navigation Reporting Form (ANRF) for the region. The ANRF is designed for States to report on their implementation status of the ASBU modules/elements. The Ad hoc group tailored the ANRFs to the region and seven States and Territories submitted the ASBU B0 ANRFs as of 20 April 2017 and are available on the ICAO NAM/CAR Regional Office webpage at: http://www.icao.int/NACC/Pages/regional-group-asbu.aspx. The ICAO NAM/CAR Regional Office developed an ASBU Ad Hoc Group page where the States/Territories ANRFs could be accessible to members. WP/16 -Appendix B shows a screenshot of the website.

3.3.56   During the discussions it was mentioned that it is important to note that Global Air Navigation Plan (GANP) fifth edition, ASBU, Air Navigation (AN) targets, electronic ANP (e-ANP), the ICAO NAM/CAR RPBANIP and ANRF are interrelated. The Ad hoc Group worked via conference calls and e-mail messages resulting in:

- • review and follow up on AN targets to inform the NACC/DCA/6 Meeting;
- • developing comments and recommendations to improve the AN target website/ANRF/etc.; and
- • support and developing materials to present to the ASBU implementation Workshop in August 2016.

3.3.57   The ASBU Ad hoc Group recommended that the RPBANIP and the ANRF be updated and incorporate changes resulting from the 5th edition of GANP.

3.3.58   The Meeting commented that the ASBU Workshop that was provided by the ICAO HQ from 22 to 26 August 2016 at the ICAO NACC Regional Office. The workshop focused on informing States on the Performance Based Decision Making Methodology. The workshop also provided information on how States may utilize a step-by-step process to evaluate the ASBU elements analysis and implementation status as well as how to fill in the ANRFs also it was recommended that the ICAO NACC Regional Office provide more assistance and support to States/Territories to gain more familiarity with the GANP and as they plan to implement B0 elements.

3.3.59   Complementary under DP/05, the ASBU Ad hoc group informed on its work and recommendations as follows:

a)   The NACC metrics and targets for ASBU Block 0 Elements were presented.
b)   The ASBU TF website hosted by the ICAO NACC RO was introduced.
c)   Requested the approval of ASBU Ad hoc Group to become the ANI/WG ASBU Task Force.
d)   Recommended to accept the "NAM ASBU Handbook" (the 5th edition or 2016 version) as the NACC ASBU Handbook.
e)   Recommended that the States/Territory be supported to prepare the State Air Navigation Plan (ANP) that is based on RPBANIP and GANP/ASBU.
f)   Provided the ICAO NACC Block 0 Implementation Status Summary Table that should be feedbacked to the RPBANIP.
g)   Support the ASBU B1 module introduction in the regional planning.
h)   Work on the update of the RPBANIP with ICAO.

3.3.60   Also it was considered that the States´ ANP shall provide the baseline to identify the regional needs that will, at the same time, turn into the baseline to progressively update the RPBANIP in a collaborative context; having the ANRFs as a tool to measure the progress in the execution of the plans in the form of impact of the implementations or deviations from the plan, the ASBU Ad hoc Group recommends in addition:

a)   Enhance the ICAO NACC RO hosted ASBU TF website (review the ASBU Handbook) by providing the access to the templates such as the 5th edition ANRFs and implementation status summary table; providing the depository of State specific information only to the relevant States/Territory; and providing visual assistance to identify which State/Territory has submitted the information; and
b)   Set the NACC metrics and targets for ASBU Block 0 Elements collaboratively with ICAO.

3.3.61   Due to the above, the Meeting agreed to transform the ASBU Ad hoc Group to the ASBU TF, formulating the following decision:

DECISION
NACC/WG/5/19   **ASBU TASK FORCE: TERMS OF REFERENCE, MEMBERSHIP AND WORK PROGRAMME**

That, in order to keep the ANI/WG informed:

a)   the ASBU Task Force present to the ANI/WG Chairman and ICAO its valid Terms of Reference and work programme by **30 July 2017**; and

b)   the ICAO NACC Regional Office submit a State Letter requesting the membership once ASBU TF Terms of Reference and work programme are available.

3.3.62   The Meeting thanked Mrs. Betty Castaing for her outstanding work as Rapporteur of the ASBU Ad hoc Group. The Meeting also welcomed Mrs. Midori Tanino as the new Rapporteur for the ASBU TF. Mr. Marco Vidal, in representation of IATA, confirmed their support and participation to the ASBU TF.

Frequency Finder Application

3.3.63   Under WP/18, the Secretariat explained the following aspects in the assignment of frequencies:

1.   Aeronautical services are supported by Communications, Navigation, and Surveillance (CNS) systems that base their operations on the radio spectrum.
2.   Many of these services suffer problems caused by noise, interference that could cause degradation in communications and the information that they provide.
3.   ICAO had been supporting States, doing the frequency assignation through manual ways, and recently, has been developing software to support the frequency assignment management of the CNS systems.
4.   The assignment of aeronautical frequencies is a task that has generally been done manually, which it is time and effort demanding. This manual work increases the probability of making mistakes.

3.3.64   ICAO developed a software application that supports the assignment of frequencies in five different modules, two of them are complete:

1.   Very High Frequency (VHF) air-ground communications (Distance-Based Separation (DBS)-AM, VDL Mode 2 and VHF Digital/Data Link (VDL) Mode 4)
2.   VHF navigation (Instrument Landing System (ILS), VHF Omnidirectional Radio Range (VOR), Ground-Based Augmentation System (GBAS), VDL mode 4)
3.   Non-Directional (radio) Beacon (NDB)
4.   High Frequency (HF) air-ground communications
5.   Allocation of codes for S mode secondary radars

3.3.65   The Secretariat recommended the Meeting to designate technical staff to participate in the CAR Workshop on the Use of the New ICAO Frequency Finder Tool that will take place in Mexico City, Mexico in October 2017.

Search and Rescue Ad hoc Group

3.3.66   Under P/02 and DP/08, the Secretariat made a presentation regarding the status of the NAM/CAR Search and Rescue implementation and Civil-Military Coordination. The presentation highlighted that the NACC States have been active in SAR matters for the past several years; however, much work remains to be done. As an example of good practices, and proper investment, is the recently inaugurated Trinidad and Tobago A-SAR and AN-SEC Operations centre, at the Ramesh Lutchmedial Building.

3.3.67   In contrast, the Effective Implementation (EI) of the SAR related PQs shows a different scenario throughout the region. With a regional EI for the ANS field of 60.52%, the EI for SAR is 53.25%. This shows that a regional effort in the SAR area is urgently needed.

3.3.68   The NAM/CAR/SAM Search and Rescue (SAR) Implementation and Civil-military Coordination Meeting held in Trinidad and Tobago, (25-28 October 2016) noted needed attention for successful Annex 12 – *Search and Rescue* requirements, especially in terms of training, harmonization of SAR regulations and standard procedures, signing of appropriate letter of agreements and the provision of adequate resources to support SAR.

3.3.69   The presentation introduced to the consideration of the Meeting a proposal to guide the SAR implementation through the creation of a Task Force under the ANI/WG.

3.3.70   The Meeting noted that the SAR activities are not properly addressed under the current structure, and deferred to an Ad hoc group the issue, to provide recommendations.

3.3.71   The Ad hoc group considered that a SAR Implementation Task Force should be formed in order to streamline related air navigation implementation activities. This Task Force shall improve SAR efficiency and regional coordination, as well as update and report progress to the ANI/WG based on the action plan for these tasks.

3.3.72   The Task Force should be responsible for:

   a)   work programme management;
   b)   supporting States with implementing an effective SAR system;
   c)   periodically requesting statistics from States to monitor implementation status;
   d)   harmonizing A-SAR services through resource sharing and the exchange of technical expertise; and
   e)   providing assistance to States to satisfy ICAO's USOAP Audits and States Regulatory Oversight Audits.

3.3.73   The Task Force should:

   a)   present its work programme containing activities in terms of objectives, responsibilities, deliverables and timelines;
   b)   avoid duplicating work within the ANI/WG and maintain close coordination among the existing entities to optimize use of available resources and experience;
   c)   designate, as necessary, Ad hoc groups to work on specific topics and activities and organize clearly defined tasks and activities;
   d)   coordinate tasks to maximize efficiency and reduce costs via electronic means including emails, telephone and teleconference calls, and convene meetings as necessary; and
   e)   report on and coordinate the progress of assigned tasks to the ANI/WG.

3.3.74   The Meeting noted that, even if it was agreed on the need to establish the Task Force, for this to be effective other organizational tasks needed to be completed. Among those were cited drafting of ToRs, identify membership and Rapporteur, for which it would be required to identify activities related to Key Performance Indicators (KPIs) from ASBU and RPBANIP.

3.3.75   Accordingly, it was agreed to present the preliminary results of this tasks to the upcoming NACC/DCA/7 meeting to formalize the creation of this Task Force, as well to engage high level commitment for this activities.

3.3.76   The Meeting agreed to nominate Mr. Rohan Garib as the Ad hoc group Rapporteur to complete the preliminary work to be presented to the NACC/DCA/7 meeting. The following decision was formulated:

DECISION
NACC/WG/5/20   **SAR AD HOC GROUP TASK**

           That, in order to seek the feasibility and cost-effectiveness of forming a dedicated Task Force on SAR, the SAR Ad hoc Group to draft the ToRs and preliminary work to be presented to the NACC/DCA/7 meeting.

3.4 AGA and MET progress and other regional implementation groups

3.4.1 AGA progress

3.4.1.1   Under WP/20, the Secretariat presented to the Meeting the main activities that the ICAO NACC Regional Office performed in the Aerodromes Field (AGA) aligned with the regional objectives of the RPBANIP and provided information on the goals and performance indicators to be accomplished in the aerodrome certification process in the CAR Region. The status of aerodrome certification in the CAR Region shows from a total of 154 international aerodromes, 70 aerodromes already certified. The number has increased from 43 aerodromes certified representing 28% (reported during the NACC/WG/4) to 70 aerodromes certified up to date showing 45% of the total. In addition a number of CAR Region aerodromes have either started the certification process or plan to initiate the process in the short-term.

3.4.1.2   The Meeting was informed that the goals and performance indicators to be accomplished in aerodrome certification in the CAR Region are the following:

- •   Increase the number of international certified aerodromes based on aerodrome certification plans provided by States of selected aerodromes
- •   Provide training to personnel in charge of the aerodrome certification process and continuous monitoring tasks
- •   Develop and implement guidelines including checklists for aerodrome inspectors to conduct internal audits and aerodrome inspections

3.4.1.3   The aerodromes to be considered for its certification in the short, medium and long-term were determined based on the information provided by States in the CAR Regional Aerodrome Certification Implementation Plan (CRACIP) available in:
http://www.icao.int/NACC/Pages/ES/edocs-aga_ES.aspx. In this regard the Meeting agreed on the following conclusion:

DRAFT CONCLUSION
NACC/WG/5/21   **CAR AERODROME CERTIFICATION PLAN**

That, in order to support and assist States/aerodromes in the CAR aerodrome certification process, the CAR States/Territories should send the ICAO NACC Regional Office a Plan for the certification of their aerodromes, by **15 August 2017**.

3.4.2 MET progress

3.4.2.1   Under WP/21, the Secretariat presented the progress achieved concerning the air navigation (MET) targets through the results of the main activities developed in the region and introduced the emerging implementation challenges as inputs for the updating of the NAM/CAR Regional Performance Objectives (RPO) from the RPBANIP.

3.4.2.2   In accordance with the MET Regional Performance Objectives (RPOs), ICAO has been conducting and organizing events and meetings to facilitate the States participation in the implementation of the different tasks and serving as a link and coordination with the World Meteorological Organization (WMO) for a joint effort in achieving the operational benefits foreseen in the RPBANIP. Among such activities:

- The WMO - Regional Association IV (RA IV) sponsored the Workshop on Aeronautical Competencies and Significant Meteorological Information (SIGMET), from 25 to 27 August 2015 The workshop was developed to assist RA IV members to improve their SIGMET practices, resolve related deficiencies, and to progress the competency assessment of the aeronautical meteorological forecasters.
- Upon request of the ICAO NACC Regional Office and in coordination with the ICAO SAM Regional Office, the Washington Volcanic Ash Advisory Centre (VAAC), launched two periodic tests of volcanic ash SIGMETs, named FICTITUS exercise on 12 and 13 December 2015 and 16 December 2016.

3.4.2.3   The most significant findings of these tests were: mistakes in headers and numeration, intermittence in AMHS terminals, omission in coordination procedures; the recurring volcanic ash tests permit to verify the communication channels and the suitability of the information, its frequency, format, and content; however, the current design of the exercise does not review the preparation and the operative response in terms of planning, processes, and procedures of the operators and air traffic services, in accordance with the objectives and concepts formulated in Doc 9766 - *Handbook on the International Airways Volcano Watch* (IAVW).

3.4.2.4   The Meeting/Workshop on ATM, AIM and MET coordination, 26 to 28 July 2016, was held to analyse the mechanisms established by States to ensure the access and exchange of aeronautical and meteorological information services in support of Air Traffic Management (ATM) and Air Traffic Flow Management (ATFM) under contingency conditions. As part of the ICAO NACC Regional Office No Country Left Behind Strategy (NCLB), several teleconferences and some technical assistance missions allowed Belize, Costa Rica, Guatemala and Honduras to establish an Action Plan for the improvement of USOAP EI status; and the review of air navigation deficiencies in the MET area.

3.4.2.5   Effective with Amendment 76 to ICAO Annex 3 – *Meteorological Service for International Air Navigation* (valid since November 2013) exchange of METAR, SPECI, TAF and SIGMET may be done in digital form under a bilateral agreement between States in a position to do so. Amendment 77 to Annex 3 (valid since November 2016) will make this a recommended practice and will also include Volcanic Ash Advisory (VAA), Tropical Cyclone Advisory (TCA) and AIRMET in IWXXM format. It is envisaged that OPMET exchange in IWXXM format may become an Annex 3 Standard with Amendment 78, which is likely to become effective in November 2020.

3.4.2.6   Cuba presented WP/06 with a proposal to strengthen the GREPECAS Aeronautical Meteorology Programme in the CAR Region. WP/06 included a proposal to request GREPECAS/18:

i.   to consider the approval of the proposed initiatives of the CAR/SAM projects; and

ii.   to resume the face-to-face meetings of the GREPECAS MET Subgroup, respecting the format of the programmes and projects.

3.4.2.7   In line with the proposals from the WP/06 from Cuba and WP/21 from the Secretariat, the following Draft Conclusion was formulated:

DRAFT CONCLUSION
NACC/WG/5/22:   **MET ACTIVITIES**

That, for an effective implementation of the Standards and Recommended Practices of Annex 3, including the content of amendment 78, as well as to establish the required assistance mechanisms:

a)   The NAM/CAR States/Territories submit to ICAO NACC Regional Office the available implementation plans, including the challenges currently encountered, and available implementation capacities by **16 June 2017**; and

b)   GREPECAS CAR MET Programme, supported by CAR States/Territories, gather information on the following subjects, allowing the appropriate MET projects management: Introduction to the space weather services, atmospheric dispersion of radioactive material, introduction to the IWXXM, qualification, competencies and training of aeronautical meteorology personnel, by **16 June 2017**.

3.4.3   MEVA and Eastern Caribbean Civil Aviation Technical Group (E/CAR/CATG), Eastern Caribbean Aeronautical Fixed Service Network Technical Group (E/CAR AFS NTG) Meeting reports

MEVA Network

3.4.3.1   Under WP/23, the Meeting was informed of the performance and results of the MEVA Telecommunication Network, highlighting that, it is necessary for an action plan to ensure that States carry out in their territories the protection of frequencies necessary to maintain current and future aeronautical services. The plan should contain at least the following activities:

1.   Each State shall communicate the national entity information on the necessary frequencies used for civil aviation, ensuring its protection at the national level.

2.   Encourage the participation at the national level of a representative at the International Telecommunication Union (ITU) World Radiocommunication Conference (WRC) 2019, to ensure the protection of aeronautical frequencies.

3.   Support the proposal made by ICAO to ensure that frequencies are available for air navigation services.

3.4.3.2   Cuba indicated that Cuba and Mexico agreed to begin activities to share radar data between the two States using the MEVA Network.

3.4.3.3   Cuba indicated that using the MEVA Network would be a very good option for the implementation of GNSS monitoring of the region to ensure the best service at a low price.

3.4.3.4   During the Thirty second MEVA Technical Management Group Meeting (MEVA/TMG/32), held in Havana, Cuba from 10 to 12 May 2017, the subject of the protection of the frequencies used for ANS to ensure they are available when needed and that they will not have interference problems or any other problem that provokes safety hazards, was discussed. In this sense, the following draft conclusion was formulated:

DRAFT CONCLUSION
NACC/WG/5/23   **ACTIVE SUPPORT FROM STATES FOR ICAO ITU WRC-2019 POSITION**

That, in order to ensure their active support for the ICAO WRC-19 position for the protection of the aeronautical frequency spectrum and future satisfaction of frequency spectrum aviation needs, NAM/CAR States/Territories:

a)   include the main points addressed by the ICAO position in the International Telecommunication Union (ITU) World Radio-communication Conference (WRC) International Telecommunication Union (ITU) WRC-19 for the protection of the C-band when used for aeronautical purposes and the ICAO WRC-19 position as a whole, including any amendments, when preparing national ITU WRC-19 proposals in coordination with the National Spectrum Management Authority;

b)   include representatives from civil aviation administrations and aviation experts from national delegations, to the extent possible, when participating in the ITU- Radio and regional preparatory activities for WRC-19; and

c)   register the aeronautical Very Small Aperture Terminal (VSAT) frequencies of your State/Territory with the respective National Authority of the Spectrum to officially register them in the ITU Master International Frequency Register (MIFR) by the ANI/WG/5 meeting.

Eastern Caribbean Civil Aviation Technical Group (E/CAR/CATG)

3.4.3.5   Under WP/24, the Meeting was informed of the progress made by the E/CAR/CATG and their different Committees during their third meeting held in Saint Kitts and Nevis in October 2016, highlighting:

- Implementation of a single AIM-QMS certification for the Eastern Caribbean
- NOTAM contingency plan between Curaçao and Trinidad and Tobago
- ATFM Implementation within the PIARCO FIR/Upper Control Area (UTA)
- SAR activities in the E/CAR area

Eastern Caribbean Aeronautical Fixed Service Network Technical Group (E/CAR AFS NTG)

3.4.3.6   Under WP/25, the Meeting was informed of the results of the Seventh Eastern Caribbean Network Technical Group (E/CAR/NTG/7) and the Fifth Eastern Caribbean Radar Data Sharing Ad-hoc Group (E/CAR/RD/5) Meetings, both held at Saint Kitts and Nevis, from 17 to 18 October 2016, highlighting:

- The E/CAR AFS Network is capable to support the required services for AIXM and XML data exchange and is IPv4 compatible.
- The E/CAR AFS Network performance has been satisfactory.
- The effective work of the E/CAR/NTG Group on the Network improvements and performance, and the implementation of Phase I of the radar data display.
- For the newly constructed airport in Saint Vincent and the Grenadines (Argyle International Airport), air navigation voice and data services through the E/CAR/AFS network were provided.
- Bilateral agreement between Trinidad and Tobago and United States on AFTM matters was established and it is currently under discussion for flight data exchange in keeping with the objectives of ATFM, using SWIM.
- Request for reactivation of Trinidad and Tobago-Venezuela Radar Exchange and plans for Trinidad and Tobago-Guyana Radar Exchange were formulated.
- Activities made for exchange of Radar between Sint Maarten and Trinidad and Tobago through an interconnection of the E/CAR Network to the MEVA III Network at the San Juan Control Center (ZSU CERAP).
- Trinidad and Tobago Multi-Radar Tracking (MRT) data was successfully integrated into the Barbados new ATM system on 15 November 2016.
- Integration of the Barbados surveillance (radar/ADS-B/MLAT) into the PIARCO MRT is expected to start by the end of June 2017.
- Agreement for ADS-B OUT implementation in E/CAR was made.
- The activities for the definition of radar data display Phase II process were formulated together with the initiative for a project proposal for E/CAR area under NACC NCLB Strategy.

3.5   NAM/CAR Regional Performance-Based Air Navigation Implementation Plan (RPBANIP) review – Aviation System Block Upgrade (ASBU) implementation progress

3.5.1   Under WP/22 presented by Cuba and WP/32 presented by United States, the Meeting was informed of several updates and changes expected in the new RPBANIP version, including ANRFs, alignment to the changes made from 5th GANP/ASBU Block 0 Elements, ANRF templates, SWIM, etc. WP/26 presented by the Secretariat consolidates the work to be done with the update to the RPBANIP. Considering the approval of the ASBU TF, the following decision was formulated:

DECISION
NACC/WG/5/24   UPDATE OF RPBANIP

> That, in order to update the RPBANIP with the 5th Edition of the GANP, the introduction of the ASBU B1 modules and several of the improvements defined by the States, the ASBU Task Force, in coordination with the ICAO NACC Regional Office draft an update of the RPBANIP by **30 August 2017**.

3.5.2   The Secretariat informed that its Point of Contact for the RPBANIP update is Mr. Raul Martinez (rmartinez@icao.int) from ICAO NACC Regional Office.

3.5.3   The Meeting recalled the website on ASBU hosted by the ICAO NACC Regional Office for the Block 0 Status Summary Table template and other supporting information for ASBU implementation (https://www.icao.int/NACC/Pages/regional-group-asbu.aspx):

3.5.4   Under IP/07, United States informed of the comparison between the 4th and the 5th Edition of the GANP. The 5th edition of the GANP including definition of some ASBU Elements in Block 0 Modules were defined as implementation ready with the exception of Block 0 Wake Turbulence Separation (WAKE) Element 1: New PANS-ATM wake turbulence categories and separation minima.

3.5.5   Under IP/08REV, United States presented information on its implementation of the ASBU Block 0 Elements in support of the 5th edition of the GANP.

3.6 Review of regional air navigation performance indicators and metrics

3.6.1   Under WP/28, the Meeting was informed of the reporting made on the performance achieved on the Port of Spain (PoS) and RPBANIP targets, provided to the CAR/SAM Planning and Implementation Regional Group (GREPECAS) and to ICAO HQs. The Meeting noted the implementation status as at December 2016 as informed through State letter Ref: NACC65523 23 dated March 2017 (Appendix to WP/28).

3.6.2   The Meeting recalled that the NACC Regional Office developed a webpage under its website for all States/Air Navigation Service Providers (ANSPs) and relevant users, to provide a visual reference of the agreed regional performance-based metrics and indicators (http://www.icao.int/NACC/Pages/Implementation-Targets.aspx).

3.6.3   The Meeting also noted that the GANP 2016 – 2030 fifth edition 2016, makes reference to the progressive identification of a set of Regional Performance Metrics by the Planning and Implementation Regional Groups (PIRGs), and mentions the fundamental role of the States supporting the regional performance metrics, outlining that the ANRFs will be the basis for performance monitoring relating to Block Upgrade implementation at the regional and national levels.

3.6.4   Finally, the Meeting recalled that an ASBU TF was approved for assisting the update of the RPBANIP and well as to support the evaluation, monitoring and to inform on the achievement of the RPBANIP AN targets. To this extent, the ASBU TF shall analyse the targets, status and formulation criteria and propose changes or updates as needed, and also review and update the RPBANIP in accordance to the approved ToRs and work programme of this TF.

3.7 National Plan Reports on air navigation implementation

3.7.1   Under IP/3, Mexico presented the progress on PBN implementation, in line with the performance based objectives of the RPBANIP and the PoS Declaration. Mexico recognized early on that PBN implementation is the main tool for airspace optimization.

3.7.2   Mexico´s airspace PBN Implementation Action Plan has been updated to reflect key activities and the expected benefits, including compliance dates, according to regional performance agreements incorporated to the RPBANIP version 3.1.

3.7.3   During 2016, Mexico received the visit of two international organizations to support PBN implementation: ICAO PBN Technical Assistance Mission (TEAM) and Ambidji Group. ICAO TEAM was conducted under the support of the ICAO Technical Cooperation Project– Multi-Regional Civil Aviation Assistance Programme (MCAAP) (RLA/09/801). These two separate visits provided recommendations that are being taken into the implementation activities to continue PBN implementation.

3.7.4   Mexico´s DGAC, SENEAM and FAA implemented a network of PBN routes in the area of the Gulf of Mexico, comprised of 12 routes with Required Navigation Performance (RNP) 10.

3.7.5   Under IP/06, United States informed the Meeting on their ADS-B Final Rule that in 2010, the FAA published a regulatory requirement for all aircraft operating within certain airspace to be equipped with ADS-B Out technology by 1 January 2020, per Title 14 of the United States Code of Federal Regulations (CFR) part 91.225 and 91.227. This requirement will affect both United States and foreign operations. To ensure preparedness throughout the aviation community and prevent any operational disruptions, the FAA is promoting awareness to the international community so that foreign aircraft intending to operate within the affected airspace will be sufficiently equipped with ADS-B Out technology by the time the requirements come into effect.

3.7.6   Improved accuracy, integrity and reliability of ADS-B over radar means controllers may be able to safely reduce the mandatory separation between aircraft.

3.7.7   ADS-B in United States National Airspace (NAS) operates on two frequencies (links): 1090 MHz and 978 MHz. Equipment choices include either a Mode S transponder-based 1090 Extended Squitter (ES), or, a Universal Access Transceiver (UAT) operating on 978 MHz. The FAA has completed deployment of ADS-B ground radios and has called on aviation users to equip their aircraft in advance of the 1 January 2020 mandate.

3.7.8   Accomplishments thus far in Equip 2020 include:

- Published the Final Rule Technical Amendment to change the ADS-B Out Technical Standard Order (TSO) from "meet requirements" to "meet performance requirements". Published the ADS-B OUT Global Positioning System (GPS) receiver transition period exemption process.
- Developed an equipage tracking database to help track equipage trend, to promote awareness of available solutions and focus industry resources on those aircraft that do not already have solutions available.
- Obtained commitment from the aircraft certification services to prioritize ADS-B system certifications.
- Conducting on-going outreach to operators, installers and equipment manufacturers.

Agenda Item 4   **Regional Cooperation and Training Matters to Support Implementation**

> **4.1**   **Review of Regional Project: RLA/09/801 Multi Regional Civil Aviation Assistance Programme (MCAAP)**

4.1.1   Under WP/29, the Meeting was informed of the implementation progress of the ICAO Technical Cooperation Project – Multi-Regional Civil Aviation Assistance Programme (MCAAP) (RLA/09/801). The Meeting recalled that this Project is a tool to assist Member States in the effective implementation of ICAO Standards and Recommended Practices, and to streamline aviation safety and air navigation implementation matters consistent with global air navigation and aviation safety plans and regional performance targets for air navigation and aviation safety.

4.1.2   Similarly, the Meeting was informed of:

  a)   the development of the RLA/09/801 Procedural Handbook;
  b)   the completed activities supported by the Project; and
  c)   the 2017 Activities that are still pending to be carried out.

4.1.3   Finally, the MCAAP Project informed of their planning to develop the 2018 Project Calendar of Events, and urge State Project Members to use the Project for requesting technical assistance for their implementation, for which the Meeting formulated the following:

**DECISION
NACC/WG/5/25   PROJECT INPUTS FOR RLA/09/801 PROJECT EVENT CALENDAR**

> That, in order to support the effective assistance to States of the RLA/09/801 Project MCAAP, the ANI/WG Chairman informs ICAO NACC Office on the NACC/WG and ANI/WG implementation assistance needs and other potential State implementation supporting activities no later than **31 July 2017.**

> **4.2**   **Progress on training matters for ANS implementation: Meeting of Directors of Civil Aviation Training Centres in the NAM/CAR Regions (NAM/CAR/CATC/WG/3)**

4.2.1   Under WP/30, the Meeting was informed of the results of the Third NAM/CAR Civil Aviation Training Centres Working Group Meeting (NAM/CAR/CATC/WG/3) held at ICAO NACC Regional Office, Mexico City, Mexico, from 19 to 20 October 2016, highlighting agreements for:

  •   the creation of a Regional Data Base of Instructors; and
  •   the creation and support a commission to work in the development and implementation of a NAM/CAR Regional Training Centres Association

4.2.2   The Meeting recognized that active participation of stakeholders in the NAM/CAR/CATC/WG is needed, considering that this working group is responsible for the strategic training activity in the NAM/CAR Regions. In this regard, the Meeting took note that the NAM/CAR/CATC/WG/4 Meeting will be held from 9 to 11 October 2017 at the ICAO NACC Regional Office.

4.2.3   To support the CATC/WG activities, the Meeting had identified several training implementation needs from the different TFs in order to keep the catalogue of courses of the regional training organizations up to date. In this regard, the Meeting agreed in the following:

**DECISION
NACC/WG/5/26   TRAINING NEEDS FOR AIR NAVIGATION IMPLEMENTATION**

That, in order to ensure the work of the training centres in the NAM/CAR Regions addressed to the implementation needs of the region, the NACC/WG through ICAO submit to the NAM/CAR/CATC/WG the training implementation needs identified by the NACC/WG/5 Meeting by **30 August 2017** .

Agenda Item 5   NACC/WG Work Programme Until 2020

5.1   Under WP/31, the Meeting reviewed and commented on a revised version of the NACC/WG Terms of Reference (ToRs) and work plan to be presented in the Seventh Meeting of North American, Central American and Caribbean Directors of Civil Aviation (NACC/DCA/7) attached in **Appendix I.**

5.2   It was highlighted that the NACC/WG ToRs were updated in relation with the changes made on the ICAO Doc 9750 - *Global Air Navigation Plan (GANP)* that includes the ASBU issues, mentioned in the IP/07 presented by United States, to be incorporated in the NAM/CAR Regional Performance-Based Air Navigation Implementation Plan (RPBANIP) in its following version.

5.3   This review also included the update of their work programme and associated tasks for harmonized implementation of Air Navigation Services (ANS) infrastructure in the NAM and CAR Regions.

5.4   Regarding the membership included in the ToRs, the Meeting highlighted the importance of Ecuador and Venezuela to participate in the NACC/WG, because these States have operations in common with Central America and some Caribbean islands. This update was added as well.

Agenda Item 6   Other Business

6.1   Under P05, the Secretariat informed, as presented to the Caribbean States in the 20th CASSOS Meeting, the different activities and assistance performed by the ICAO NACC Office to Caribbean States/Territories under the NCLB Strategy. The results of this support for 2017 were highlighted as follows:

- Four States with an USOAP EI increase with 2 of these States with a recognition by the President of the ICAO Council
- NCLB Technical Assistance Missions for AVSEC matters to Antigua and Barbuda
- Multidisciplinary NCLB Technical Assistance Missions for PBN and AIM matters to Jamaica
- Enhancement to CASSOS with the transnational inspectors initiative and RSOO documentation development
- Provision of USOAP Training
- Implementation of Champion States concept: exchange of State Subject Matter Experts (SMEs)
- Approximately 10% Resolution of valid GANDD Deficiencies
- Increase to 45% of aerodromes certification and initiation of 10 more aerodromes by SAFE Fund aerodrome Certification Projects and joint assistance activities between ICAO/FAA/ACI
- Improvement to Accident Investigation and Prevention (AIG) EI with development of Regional Accident and Incident Organization (RAIO) for the Caribbean and support to Central American GRIAA
- Haiti Significant Safety Concern (SSC) Resolution Project
- Third party funding activities

6.2   The Meeting recognized the commitment of ICAO to assist the States under the NCLB Strategy and the State commitment to continue these efforts.

6.3   United States presented P/08 titled *Why SWIM?*, indicating the importance of the System Wide Information Management (SWIM) and the significate impact to the Air Navigation Services in the near future for CAR Region.

Host and dates for the next NACC/WG Meetings

6.4   The Secretariat highlighted, as a reference, the previous Meetings of the NACC Working Group (NACC/WG) that have been held as detailed in the Meetings Rotational programme mentioned below, where the NACC/WG/6 Meeting shall be held in Dominican Republic in 2020.

Meeting	Year	States / Territories
NACC/WG/1	2007	Trinidad and Tobago (E/CAR)
NACC/WG/2	2008	Jamaica (C/CAR)
NACC/WG/3	2011	Guatemala (Central America)
NACC/WG/4	2014	Canada (NAM)
NACC/WG/5	2017	Trinidad and Tobago (E/CAR)
NACC/WG/6	2020	Dominican Republic (C/CAR)
NACC/WG/7	2023	To be determined (Central America)

APPENDIX A
EXECUTIVE LIST OF CONCLUSIONS/DECISIONS

Number	Conclusion/Decision	Responsible for action	Deadline
C/1	**RESOLUTION OF GANDD DEFICIENCIES** That, in order to seek solutions for solving their GANDD valid deficiencies, NAM/CAR States:		
	a) consider the common deficiencies and potential solutions provided by ICAO (WP/05); and	NAM/CAR States	
	b) provide ICAO update of these deficiencies by 31 December 2017, including the applicable evidence of their solution	NAM/CAR States	31 December 2017
C/2	**APPROVAL OF CAR/SAM e-ANP VOLUME II - UPDATE OF GANDD DEFICIENCIES** That, considering the approval of the CAR/SAM e-ANP Volume II, States and ICAO review the field of references in air navigation deficiencies in the GANDD before the NACC/DCA/7 Meeting.	States and ICAO	Before the NACC/DCA/7 Meeting.
D/3	**ARO REGIONAL TRAINING FOR FLIGHT PLANS** That, in order to support the mitigation actions to avoid the flight plan errors the ANI/WG AIM Task Force develop the standard Air Traffic Services Reporting Office FPL training requirements for regional training centres to serve as a basis for this training by 30 August 2017, based on ICAO Doc 7192- *Training Manual* AN/857, Part E-3.	ANI/WG AIM Task Force	30 August 2017
D/4	**PROCEDURE FOR HOMOGENEOUS ISSUANCE OF FLIGHT PLANS** That, in order to reduce the causes of errors in flight plans, the Task Force AIDC develop a procedure for the homogeneous issuance of flight plans applicable for the NAM/CAR Regions with the goal of possibly including it in ICAO Doc 7030 - *Regional Supplementary Procedures* by 31 October 2017.	Task Force AIDC	31 October 2017
C/5	**REFRESHER TRAINING ON ICAO FPL COMPLIANCE** That, in order to support the mitigation actions to reduce the errors in FPLs and to promote the regional collaboration on training provision:		
	a) Dominican Republic and COCESNA inform by 15 June 2017, the 2017 scheduled FPL trainings for its respective promotion to other States as allowed by Dominican Republic and COCESNA; and	Dominican Republic and COCESNA	15 June 2017
	b) training centres to schedule for 2018 the FPL training on their course catalogue.	training centres	

Number	Conclusion/Decision	Responsible for action	Deadline
C/6	**AIDC IMPLEMENTATION FOR RISK MITIGATION OF LHDs** That, considering the impact in safety due to the implementation of AIDC on those safety hot spots identified by GREPECAS GTE:		
	a) the ANI/WG Chairman prepare a safety case on the lack of or erroneous FPLs **by July 2017; and**	ANI/WG Chairman	July 2017
	b) States and Territories having the capability to implement AIDC in their ATC systems, implement it as a strategy (procedure) in the region, in order to mitigate the risk of LHDs, and update and send their implementation plans to ICAO by **30 November 2017**.	States and Territories having the capability to implement AIDC in their ATC systems	30 November 2017
C/7	**RADAR DATA SHARING FOR IMPROVING SAFETY OF OPERATIONS** That, to improve the safety of operations on the safety hot spots identified by the GREPECAS GTE, Curaçao-Dominican Republic-Jamaica, COCESNA-Ecuador, Mexico-Cuba begin to share radar data with the adjacent FIRs as soon as possible providing their action plan for this purpose to the ANI/WG by **31 October 2017.**	Curaçao-Dominican Republic-Jamaica, COCESNA-Ecuador, Mexico-Cuba	31 October 2017
C/8	**AIM AND FPL IMPLEMENTATION MEETING** That, in order to review, organize and explore the solutions for improving AIM implementation and adopt FPL mitigation solutions, States and Territories:		
	a) participate in the AIM and FPL Implementation meeting (4th quarter 2017 in ICAO NACC Regional Office) including a Quality Management System (QMS), System Wide Information Management (SWIM), Aeronautical Information Exchange Model (AIXM)/WIXM and implementation matters for Phase 1 and continuation of Phase 2 and 3 of the AIM transition in the SWIM context;	States and Territories	4th quarter 2017
	b) review and schedule the AIM required actions in accordance with the 2017-2021 action plan; and	States and Territories	
	c) participate actively in the AIM Task Force.	States and Territories	
C/9	**XML TESTING OVER AMHS** That, in order to test the XML capacity of the CAR regional networks, Cuba, Dominican Republic and United States coordinate for XML testing over AMHS reporting their progress by **30 December 2017.**	Cuba, Dominican Republic and United States	30 December 2017

Number	Conclusion/Decision	Responsible for action	Deadline
C/10	**ANALYSIS OF CURRENT PBN IMPLEMENTATION STATUS IN THE NAM/CAR REGIONS AND MEASUREMENT OF ITS EFFECTIVENESS** That, in order to determine the current state of PBN implementation in the NAM/CAR Regions, the roadblocks to implementation and identify improvement initiatives for PBN implementation:		
	a) the PBN Task Force develop a PBN survey form and submit it to ICAO by **30 June 2017**; and	PBN Task Force	30 June 2017
	b) the ICAO NACC Regional Office conducts the PBN survey with NAM/CAR States/Territories/International Organizations by **30 September 2017**; reporting the results to PBN Task Force by **31 October 2017**.	ICAO NACC Regional Office	Conduct survey – 30 September 2017 Report results – 31 October 2017
C/11	**EFFECTIVENESS OF PBN AIRSPACE HARMONIZATION MEETINGS** That, in order to improve the effectiveness of the PBN Airspace harmonization workshops/meetings/teleconferences, NAM/CAR States/Territories/International Organizations, by the ANI/WG/5 meeting:		
	a) ensure that suitably trained/qualified personnel should attend workshops/meetings relating to airspace design; and	NAM/CAR States/Territories/International Organizations	By the ANI/WG/5 meeting
	b) ensure that human and financial resources are provided to ensure that PBN implementation objectives are achieved.	NAM/CAR States/Territories/International Organizations	By the ANI/WG/5 meeting
C/12	**ANALYSIS OF CURRENT PBN IMPLEMENTATION STATUS IN THE NAM/CAR REGION AND MEASUREMENT OF ITS EFFECTIVENESS** That in order to determine the current state of PBN implementation in the NAM/CAR Region, determine the roadblocks to implementation and identify ineffective initiatives utilized on past PBN projects:		
	a) PBN Task Force develops and submit a PBN survey form to the ICAO NACC ATM RO by **30 June 2017**;	PBN Task Force	30 June 2017
	b) ICAO NACC Regional Office conducts surveys with NAM/CAR States/Territories/International Organizations by **30 September 2017**; and	ICAO NACC Regional Office	30 September 2017
	c) provides results of survey to PBN Taskforce by **October 2017**.	ICAO NACC Regional Office	October 2017

Number	Conclusion/Decision	Responsible for action	Deadline
C/13	**CDM WITH STAKEHOLDERS** That, in order to improve the effectiveness of the PBN Airspace implementation, NAM/CAR States/Territories/International Organizations engage in regular CDM meetings with the airline operators and other stakeholders.	NAM/CAR States/Territories/International Organizations	
C/14	**FEASIBILITY STUDY ON THE ESTABLISHMENT OF A FLIGHT PROCEDURE PROGRAMME (FPP) WITHIN THE NAM/CAR REGION** That, taking into consideration ICAO Assembly Resolution A39 – 14, where States are urged to utilize FPPs for PBN implementation, the PBN Task Force in collaboration with the ICAO NACC Regional Office:		
	a) conduct a survey which identifies which States/Territories require assistance in procedure design;	PBN Task Force and the ICAO NACC Regional Office	
	b) identify the resources required for the establishment of a FPP within the region; and	PBN Task Force and the ICAO NACC Regional Office	
	c) provide a report to the ANI/WG/4 (2018), with appropriate recommendations.	PBN Task Force and the ICAO NACC Regional Office	
D/15	**ANALYSIS FOR GNSS MONITORING FOR PBN OPERATIONS** That, in order to determine the cost-effectiveness and benefits of implementing a GNSS monitoring service to support PBN operations in the region, the PBN TF analyses this GNSS monitoring request and report back to the ANI/WG by 31 December 2017.	PBN Task Force	31 December 2017
D/16	**ATFM TASK FORCE TERMS OF REFERENCE AND WORK PROGRAMME** That, in order to keep the ANI/WG informed, the ATFM TF shall present to the ANI/WG Chairman and ICAO the valid Terms of Reference and work programme of the ATFM TF by **30 July 2017.**	ATFM Task Force	30 July 2017
D/17	**SURVEILLANCE SYSTEMS IMPLEMENTATION TASK FORCE: TERMS OF REFERENCE AND WORK PROGRAMME** That, in order to keep the ANI/WG informed, the Surveillance Systems Implementation Task Force shall present to the ANI/WG Chairman and ICAO its valid Terms of Reference and work programme by **30 July 2017.**	Surveillance Systems Implementation Task Force	30 July 2017.

Number	Conclusion/Decision	Responsible for action	Deadline
C/18	**PREPARATION OF STATES FOR THE IMPLEMENTATION OF ADS-B** That, in order to enhance the regional efforts for implementing ADS-B, States/Territories in the NAM/CAR Regions:		
	a) take into account the proximity of the agreed implementation date of 2020 and the impact of this implementation for the successful accomplishment of the goals of several modules of the ASBU;	States/Territories in the NAM/CAR Regions	
	b) accelerate the development and publication of national regulations for the use of ADS-B; and	States/Territories in the NAM/CAR Regions	
	c) adopt 1 January 2020 as ADS-B implementation date in their implementation plans to finalize operational implementation of ADS-B OUT.	States/Territories in the NAM/CAR Regions	
D/19	**ASBU TASK FORCE: TERMS OF REFERENCE, MEMBERSHIP AND WORK PROGRAMME** That, in order to keep the ANI/WG informed:		
	a) the ASBU Task Force present to the ANI/WG Chairman and ICAO its valid Terms of Reference and work programme by 30 July 2017; and	ASBU Task Force	30 July 2017
	b) the ICAO NACC Regional Office submit a State Letter requesting the membership once ASBU TF Terms of Reference and work programme are available.	the ICAO NACC Regional Office	
D/20	**SAR AD HOC GROUP TASK** That, in order to seek the feasibility and cost-effectiveness of forming a dedicated Task Force on SAR, the SAR Ad hoc Group to draft the ToRs and preliminary work to be presented to the NACC/DCA/7 meeting.	SAR Ad hoc Group	NACC/DCA/7 meeting.
C/21	**CAR AERODROME CERTIFICATION PLAN** That, in order to support and assist States/aerodromes in the CAR aerodrome certification process, the CAR States/Territories should send the ICAO NACC Regional Office a Plan for the certification of their aerodromes, by 15 August 2017.	CAR States/Territories	15 August 2017

Number	Conclusion/Decision	Responsible for action	Deadline
C/22	**MET ACTIVITIES** That, for an effective implementation of the Standards and Recommended Practices of Annex 3, including the content of amendment 78, as well as to establish the required assistance mechanisms:		
	a) the NAM/CAR States/Territories submit to ICAO NACC Regional Office the available implementation plans, including the challenges currently encountered, and available implementation capacities by 16 June 2017; and	NAM/CAR States/Territories	16 June 2017
	b) GREPECAS CAR MET Programme, supported by CAR States/Territories, gather information on the following subjects, allowing the appropriate MET projects management: Introduction to the space weather services, atmospheric dispersion of radioactive material, introduction to the IWXXM, qualification, competencies and training of aeronautical meteorology personnel, by 16 June 2017.	GREPECAS CAR MET Programme, supported by CAR States/Territories	16 June 2017
C/23	**ACTIVE SUPPORT FROM STATES FOR ICAO ITU WRC-2019 POSITION** That, in order to ensure their active support for the ICAO WRC-19 position for the protection of the aeronautical frequency spectrum and future satisfaction of frequency spectrum aviation needs, NAM/CAR States/Territories:		
	a) include the main points addressed by the ICAO position in the International Telecommunication Union (ITU) World Radio-communication Conference (WRC) International Telecommunication Union (ITU) WRC-19 for the protection of the C-band when used for aeronautical purposes and the ICAO WRC-19 position as a whole, including any amendments, when preparing national ITU WRC-19 proposals in coordination with the National Spectrum Management Authority;	NAM/CAR States/Territories	
	b) include representatives from civil aviation administrations and aviation experts from national delegations, to the extent possible, when participating in the ITU- Radio and regional preparatory activities for WRC-19; and	NAM/CAR States/Territories	
	c) register the aeronautical Very Small Aperture Terminal (VSAT) frequencies of your State/Territory with the respective National Authority of the Spectrum to officially register them in the ITU Master International Frequency Register (MIFR) by the ANI/WG/5 meeting.	NAM/CAR States/Territories	ANI/WG/5 meeting

Number	Conclusion/Decision	Responsible for action	Deadline
D/24	**UPDATE OF RPBANIP** That, in order to update the RPBANIP with the 5th Edition of the GANP, the introduction of the ASBU B1 modules and several of the improvements defined by the States, the ASBU Task Force, in coordination with the ICAO NACC Regional Office draft an update of the RPBANIP by 30 August 2017.	ASBU Task Force	30 August 2017
D/25	**PROJECT INPUTS FOR RLA/09/801 PROJECT EVENT CALENDAR** That, in order to support the effective assistance to States of the RLA/09/801 Project MCAAP, the ANI/WG Chairman informs ICAO NACC Office on the NACC/WG and ANI/WG implementation assistance needs and other potential State implementation supporting activities no later than 31 July 2017.	ANI/WG Chairman	31 July 2017
D/26	**TRAINING NEEDS FOR AIR NAVIGATION IMPLEMENTATION** That, in order to ensure the work of the training centres in the NAM/CAR Regions addressed to the implementation needs of the region, the NACC/WG through ICAO submit to the NAM/CAR/CATC/WG the training implementation needs identified by the NACC/WG/5 Meeting by 30 August 2017 .	NACC/WG	30 August 2017.

Status	Not started/ no iniciado		Lack of progress/ falta de avance		Behind scheduled/ retrasada		Ongoing- as scheduled/ Ok segun programa	
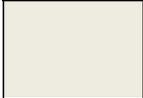
Revision: June / Junio 2015

ACTION PLAN FOR PBN IMPLEMENTATION

	Task Name/ Tarea	Start/ Inicio	Finish/ Final	Deliverables/ Resultados	Follow-up/ Seguimiento	Responsible/ Responsables	Observations/ Comments- Observaciones/ Comentarios
a)	Implement Collaborative Decision Making (CDM) process in coordination with stakeholders	Abril 2008	Dec 2016	CDM implementation	ATFM/CDM Workshop conducted in 2015. Completed	PBN TF States, Territories, Int. Orgs	
b)	Implement PBN Airspace Redesign Project for oceanic, continental and terminal areas in of CAR Region in accordance with the ICAO PBN Manual Doc 9613 and Doc 9992	Abril 2015	Dec 2017	Up-to-date the regional PBN Airspace concept with implementation activities for the period 2015-2017	PBN Workshop conducted in 2015 to update the Regional PBN Airspace Concept	PBN TF States, Territories, Int. Orgs	States to develop a PBN Airspace Redesign Project including: a) revision of regional ATS Route network, b) implementation of CDOs/CCOs c) TMA redesign d) Implementation of PBN approach procedures
c)	Analyze GNSS implementation in accordance with PBN airspace concept requirements	Abril 2016	Dec 2018	SACSA Project completed a feasibility study (2015) on the use of GNSS Introduction of GNSS (GBAS and SBAS-Ionosphere matters)	GNSS workshop agreed for 2016	SACCSA Project support / WAAS States, Territories, Int. Orgs	
d)	GNSS mitigations Plannings	April 2016	Dec 2018	Mitigation means	GNSS workshop agreed for 2016 RAIM Prediction topic presented in ANI/WG/02 Meeting DW Presentation	States, Territories, Int. Orgs	
e)	Develop and implement PBN training programme for pilots, ATCOs operators and regulators	Abril 2014	Dec 2018	PBN training programme	ICAO PBN Manual includes guidelines to develop training programmes	States, Territories, Int. Orgs	PBN TF to support Training Centers WG to develop PBN training programmes for pilots and controllers
f)	Optimize the ATS route structure through implementation of RNAV routes between major city pairs with navigation specification RNAV-5 /2 for en-route operations	Abril 2015	Dec 2017	Develop a proposal for amendment (PFA) to Doc 8733 in Dec 2015	A Workshop on Regional Implementation on Performance-Based Navigation PBN Airspace Redesign was conducted on May 2015 States will submit proposals not later than 31st August 2015	PBN TF States, Territories, Int. Orgs	On-going revision of ATS route network States to send proposals to ICAO NACC Regional Office by 31st August 2015
g)	Implement CDOs/CCOs for SIDs/STARS in terminal areas based on RNAV 1-2 and RNP 1-/2 navigation specification, as required	Abril 2015	Dec 2016	Implement CDOs/CCOs in TMAs	States continue implementation of CDOs and CCOs	PBN TF States, Territories, Int. Org	
h)	Design and implement PBN APV in accordance with Assembly Resolution A37-11	2008	Dec 2016	PBN Instrument Approach Procedures implementations (APV, etc.)	Completed	PBN TF States, Territories, Int. Orgs	
i)	Efficient application of longitudinal separation across the NAM/CAR/SAM regions.	Abril 2014	Dec 2017	Analysis of applicable separation minima for transfer traffic between FIRs	ANSPs of States, Territories, Int. Orgs to update existing Letters of Agreement (LOAs) between ATC units	ANSPs of States, Territories, Int. Orgs	PBN TF to support ANSPs While some FIRs were using as low as 5NM in their own airspace, based on existing procedures and LOAs, in most

	Task Name/ Tarea	Start/ Inicio	Finish/ Final	Deliverables/ Resultados	Follow-up/ Seguimiento	Responsible/ Responsables	Observations/ Comments- Observaciones/ Comentarios
							cases, ten (10) minutes (80NM) were required for transfer from one FIR to the next.
j)	Conduct PBN safety assessment based ATC simulations (fast time and/or real time), live trials, etc., as required	Abril 2014	Dec 2016	States to conduct PBN safety assessment	Completed	PBN TF States, Territories, Int. Orgs	
k)	Develop performance measurement programme	2008	Dec 2016	performance measurement programme	PBN Targets have been defined in the RPBANIP and the Port of Spain Declaration as Performance metrics. Completed	States, Territories, Int. Orgs	Reviewed by the NACC/DCA Meetings
l)	Develop post-implementation PBN Safety Assessment Programme	2010	Dec 2016	States to conduct post-implementation PBN Safety Assessment	Permanent On going activity conducted by States	States, Territories, Int. Orgs	
m)	Monitor implementation progress	2008	Dec 2018	Annual review of PBN implementation	On-going activity conducted by ICAO	ICAO, States, Territories, Int. Orgs	

ACTION PLAN FOR DEMAND AND CAPACITY MANAGEMENT/
PLAN DE ACCION PARA DEMANDA Y GESTION DE LA CAPACIDAD

Task Name/ Tarea	Start/ Inicio	Finish/ Final	Deliverables/ Resultados	Follow-up/ Seguimiento	Responsible/ Responsables	Observations/ Comments- Observaciones/ Comentarios
a) Identify key stakeholders (ATC service providers and users, military authorities, airport authorities, aircraft operators and relevant organizations) for purposes of coordination and cooperation - using a CDM process	Apr 2014	Dec 2016	CDM implementation	completed	ATFM TF States, Territories, Int. Orgs	Coordination with PBN
b) b) Analyze traffic flow problems	Apr 2014	Dec 2016	Analysis of traffic flows	A Workshop on Air Traffic Flow Management (ATFM) Implementation for the CAR and SAM Regions was conducted in May, 2015. Completed	ATFM TF States, Territories, Int. Orgs	Established 3 traffic flows in CAR Region in coordination with PBN TF
c) Define common elements of situational awareness between FMUs: i. Common traffic displays ii. Common weather displays iii. Communications (teleconferences, web) iv. Daily teleconference/messages methodology advisories	Apr 2014	Dec 2016	Identify common elements of ATM situational awareness between FMUs	To be reviewed by ATFM TF and report progress	ATFM TF States, Territories, Int. Orgs	Being Follow-up by AIDC TF
d) Develop methods to establish demand/capacity forecasting	Apr 2014	Dec 2016	Identify electronic tools to establish demand/capacity forecasting	To be reviewed by ATFM TF and report progress	ATFM TF States, Territories, Int. Orgs	
e) Define common electronic information and databases required for decision support and alerting systems for interoperable situational awareness between centralized ATFM units	Apr 2014	Dec 2016	ATFM common electronic information and databases and alerting systems required	To be reviewed by ATFM TF and report progress	ATFM TF States, Territories, Int. Orgs	Being Follow-up by AIDC TF
f) Develop regional procedures for efficient and optimum use of aerodrome and runway capacity	Apr 2014	Dec 2016	Develop regional procedures for efficient and optimum use of aerodrome and runway capacity	To be reviewed by ATFM TF and report progress	ATFM TF States, Territories, Int. Orgs	
g) Develop a national ATFM Procedures Manual to manage demand/capacity balancing	Apr 2014	Dec 2016	States to publish their national ATFM Manual	ATFM Manual available	GREPECAS	
h) Develop operational agreements between ATFM units for interregional demand/capacity balancing	Apr 2014	Dec 2016	Develop a model of ATFM LOAs	The ICAO Doc 9971 includes a Model of ATFM LOA. Completed	States, Territories, Int. Orgs	
i) Monitor implementation progress	Apr 2014	Dec 2016	Annual review of ATFM implementation	On-going activity conducted by ICAO	ICAO	

ACTION PLAN FOR FLEXIBLE USE OF AIRSPACE/
PLAN DE ACCION PARA USO FLEXIBLE DEL ESPACIO AEREO

Task Name/ Tarea	Start/ Inicio	Finish/ Final	Deliverables/ Resultados	Follow-up/ Seguimiento	Responsible/ Responsables	Observations/ Comments- Observaciones/ Comentarios
a) Establish civil/military coordination bodies	Apr 2014	Dec 2016	civil/military coordination bodies	On-going activity	States, Territories	
b) Arrange for permanent liaison and close cooperation between civil ATS units and appropriate air defence units	Apr 2014	Dec 2016	Permanent liasons	On-going activity	States, Territories	
c) Conduct a regional review of Special Use Airspace: i. assess use of airspace management processes; ii. improve current national airspace management to adjust dynamic changes in tactical stage to traffic flows; and iii. introduce improvements in ground support systems and associated procedures for the extension of FUA with dynamic airspace management processes	Apr 2014	Dec 2016	Special use of Aispace review	A NAM/CAR/SAM Meeting/Workshop to Improve Regional Search and Rescue (SAR) System and Civil/Military Coordination was conducted in Havana, Cuba, 13 to 17 April 2015, several Presentations about FUA were discussed. On-going activity	States, Territories, Int. Orgs, ICAO	
d) implement dynamic ATC sectorization in order to provide the best balance between demand and capacity to respond in real-time to changing situations in traffic flows and to accommodate the preferred routes of users in short-term	Apr 2014	Dec 2018	dynamic ATC sectorization	On-going activity	States, Territories, Int. Orgs, ICAO	
e) Develop performance measurement programme	Apr 2014	Dec 2016	performance measurement programme	On-going activity	States, Territories, Int. Orgs	
f) Monitor implementation progress	Apr 2014	Dec 2016	Annual review of FUA implementation	On-going activity conducted by ICAO	ICAO	

ACTION PLAN FOR SITUATIONAL AWARENESS IMPROVEMENTS/
PLAN DE ACCION PARA MEJORAS A LA CONSCIENCIA SITUACIONAL

Task Name/ Tarea	Start/ Inicio	Finish/ Final	Deliverables/ Resultados	Follow-up/ Seguimiento	Responsible/ Responsables	Observations/ Comments- Observaciones/ Comentarios
a) Identify the automation level required according to the ATM service provided in airspace and international aerodromes, assessing: i. Operational architecture design ii. Characteristics and attributes for interoperability iii. Data bases and software iv. Technical requirements	Abril 2014	Dic 2018	Review status of automation	ongoing	States, Territories, Int. Orgs	
b) Implement flight plan data processing systems and electronic transmission tools	Abril 2014	Dic 2018	Full FPL2012 processing/ no converters Reduced lack/duplicate FPLs	Being Follow-up by AIDC TF	AIDC TF States, Territories, Int. Orgs	ICAO Model 2012 FPL – converters removal plan Lack/duplicate FPL Action Plan
c) Implement radar data sharing programmes where benefits can be obtained	Abril 2014	Dic 2017	Radar Data Sharing in all continental areas	Radar data sharing Cuba-Jamaica- COCESNA Radar Data sharing on going in E/CAR	States, Territories, Int. Orgs	Bilateral agreements ECAR Radar Data Sharing Project
d) Develop situational awareness training programmes	Abril 2014	Dic 2018	Identify and inform of training needs	To be reviewed by ADS-B TF and report progress	Training Centers Working Group States, Territories	
e) Identify and implement additional ATM surveillance systems to improve accuracy and coverage of traffic situational information (ADS-B, MLAT, etc.) and associated procedures	Abril 2014	Dic 2018	MLAT implementation ADS-B Implementation	Progress reported by ADS-B TF Report	ADS-B TF States, Territories	ADS-B Implementation Plan
f) Implement ATS automated message exchanges as required (FPL, CPL, CNL, DLA, etc.)	Abril 2014	Dic 2015	AIDC implementation-initial phase	Progress reported by AIDC TF Report	AIDC TF States, Territories, Int. Orgs	AIDC TF to review target date Regional AIDC Plan
g) Implement automated radar handoffs where possible	Enero 2016	Dic 2017	AIDC implementation-second phase	Being Follow-up by AIDC TF: currently only phase 1	AIDC TF States, Territories, Int. Orgs	AIDC TF to review target date Regional AIDC Plan
h) Implement ground and air electronic warnings as needed: i. Conflict prediction ii. Terrain proximity iii. MSAW iv. DAIW v. Surveillance system for surface movement	Abril 2014	Dic 2017	Improvement in electronic alarms / warnings	Need to be reviewed by ADS-B TF and GREPECAS C Project	GREPECAS C Project States, Territories, Int. Orgs	
i) Implement data link surveillance technologies and applications as required: ADS , CPDLC, AIDC	Abril 2014	Dic 2018	CPDLC/ ADS-C Implementation	Being Follow-up by AIDC TF and ANI/WG RLA/09/801 TEAMs	GOLD TF States, Territories	CPDLC implementation Plan IDEM COM g)
j) Implement additional/ advanced automation support tools to increase aeronautical information sharing i. ETMS or similar ii. MET information iii. AIS/NOTAM dissemination iv. Surveillance tools to identify airspace sector constraints	Abril 2014	Dic 2018	Increase Automation applications	Needs from ATFM, MET and AIS to be defined	States, Territories, Int. Orgs	
k) Training in the application and implementation of automated surveillance technologies and ATS	Abril 2014	Dic 2018	Identify and inform of training needs	ADS-B and AIDC TFs to coordinate with CATC/WG	States, Territories	

Task Name/ Tarea	Start/ Inicio	Finish/ Final	Deliverables/ Resultados	Follow-up/ Seguimiento	Responsible/ Responsables	Observations/ Comments- Observaciones/ Comentarios
system automation						
l) Enhance the training infrastructure of the region and the training programmes related to surveillance and automated systems	Abril 2014	Dic 2018	Support training centers and Train Air Plus	ADS-B and AIDC TFs to coordinate with CATC/WG	Training Centers Working Group States, Territories	
m) Implement ACAS 7.1	Abril 2014	Dic 2018	ACAS 7.1 implementation	Not started	States, Territories	
n) Monitor implementation progress	Abril 2014	Dic 2018		ADS-B/ AIDC TFs	ICAO	

AERONAUTICAL COMMMUNICATION ACTION PLAN
PLAN DE ACCION PARA COMUNICACIONES AERONAUTICAS

	Task Name/ Tarea	Start/ Inicio	Finish/ Final	Deliverables/ Resultados	Follow-up/ Seguimiento	Responsible/ Responsables	Observations/ Comments- Observaciones/ Comentarios
a)	Review the performance status of current AFS services and identify deficiencies or improvements (AFTN oral ATS services, A/C communications)	April 2014	Dec 2015	Improvements to A/G Communications Plan	To follow-up Regional AMS Communication Improvement Plan	States, Territories in Plan (Mexico, Jamaica and Haiti)	Identify improvements into Regional AMS Communication Improvement Plan
b)	Implement communication service improvements as required to support current and planned Air Navigation applications, including Required Communication Performance (RCPs).	April 2014	Dec 2018	Improvements to A/G Communications Plan RCP application- 2015	No RCP has been implemented	States, Territories	Follow-up Regional AMS Communication Improvement Plan
c)	Develop regional ATN planning documents	April 2014	Dec 2015	ATN and applications documents	Completed	GREPECAS Project D AMHS TF	
d)	Coordinate and test ATN G-G application implementation aspects (AMHS, AIDC, etc.)	April 2014	Dec 2018	Test G-G Applications	Being track by AMHS and AIDC TFs	AMHS TF AIDC TF States, Territories	Regional AMHS Plan Regional AIDC Plan
e)	Conduct planning, trial and implementation activities for A-G data applications (DCL, D-ATIS, etc.)	April 2014	Dec 2018	Update regional plan D-ATIS implementation	Lack of progress	GREPECAS Project D States, Territories	CAR/SAM ANP CNS TABLE 1Bc
f)	Carry out technical review of regional telecommunication networks for ATN implementation	April 2014	Dec 2015	MEVA III implementation	Completed	MEVA TMG States, Territories	
g)	Implement available technologies in order to facilitate ground and airborne applications (CPDLC, ADS-C, ADS-B)	April 2014	Dec 2018	CPDLC/ ADS-C Implementation	Completed	States, Territories	CPDLC implementation Plan This Task has been concluded by GOLD TF.
h)	Implement the necessary communications network for ACDM	April 2015	Dec 2018	Communications for ACDM	Need to be defined by AGA	States, Territories	
i)	Support ICAO position during the ITU WRC and ensure regional coordination for the protection of the aviation spectrum	April 2014	Dec 2018	WRC-2015 support WRC-2018 support Support for C- Band	Ongoing work	States, Territories	
j)	Ensure participation of civil aviation experts in State delegations to ITU WRC meetings	April 2014	Dec 2018	Participation by States	Ongoing work	States, Territories	
k)	Disseminate ICAO policy statements on aeronautical radio frequency spectrum requirements	April 2014	Dec 2018	CAA and National Spectrum Authority coordination	Ongoing work	States, Territories	
l)	Implement frequency spectrum management for protection and new services	April 2014	Dec 2018	•Optimum use of frequencies •No interferences	Ongoing work	States, Territories	COM Lists
m)	Support training on the application and implementation of advanced communication related technologies and ATN	April 2014	Dec 2018	Identify and inform of training needs	AMHS TF reported training needs, this information was passed to the CATC/WG	States, Territories	
n)	Enhance the regional training infrastructure and training programmes related to communications	April 2014	Dec 2018	Support training centers and Train Air Plus	ongoing	Training Centers Working Group States, Territories	
o)	Monitor implementation and improvement of telecommunications and ATN application issues	April 2014	Dec 2018	ATN implementation	MEVA TMG	ICAO	

ACTION PLAN FOR IMPLEMENTATION OF AERONAUTICAL INFORMATION MANAGEMENT (AIM)/
PLAN DE ACCION PARA LA GESTION DE LA INFORMACION AERONAUTICA (AIM)

	Task Name/ Tarea	Start/ Ini	Finish/ Fin	Deliverables/ Resultad	Follow-up/ Seguimiento	Responsible/ Responsab	Observations/ Comments-Observaciones/
a)	Comply with the process to introduce and implement Annex 15 and 4 amendments to the Chicago Convention	April 2014	Dec 2019	Implementation of the Annexes referred AIS and MAP Standards and Requirements	AIM TF to report progress	States / Territories	Comply with all Steps from Phase 1 for the transition to AIM according with ICAO Raodmap for the transition to AIM. New AMDt 40 to Annex 15 and new
b)	Periodically report on the generation and distribution of Integrated IAIP aeronautical information that improves the safety of ATS in the Region to the ICAO NACC Office	April 2014	Dec 2018	Provide the proper Report requested	States and International Organizations presented some progress	States / Territories	Implement AIM QMS
c)	Develop a method to measure the performance and outcomes from States, Territories and international organizations with distribution of quality aeronautical information to improve recognition of ATM requirements, safety, and effectiveness related to the electronic distribution of information	April 2014	Dec 2018	Survey to States / Territories	AIXM defined by NACC/ WG AIM TF reported some progress	ICAO, GREPECAS	Consider AIXM implementation as basic requirement
d)	Assist States, Territories and international organizations to improve decision making related to their transition to AIM	April 2014	Dec 20186	Provide respective guidance material on AIM issues	AIM TF expect some guidance material from ICAO HQs	ICAO	ANConf/12 Rec 3/6
e)	Assist States, Territories and international organizations with the AIM, in order to implement ICAO Standards for aeronautical information products, services, and technologies in electronic format, as required	April 2014	Dec 2018	Identify training needs and Support training centers and Train Air Plus	AIM TF to report progress	ICAO, GREPECAS	Development and implementation of AUTO AIS/AIM project
f)	Support AIM developments to achieve the ATM system improvements in the Global Air Traffic Management Operational Concept; including NOTAM contingency plans	April 2014	Dec 2018	Complete implementation of all AIM Transition phases (1 to 3)	AIM TF reportedsome progress	States / Territories	Including all AIM developments associated with SWIM for ASBU Block 1 module B-31
g)	Ensure that AIM requirements harmonize and integrate at a regional and international level, on-board electronic management of aeronautical information for the requirements or the use of ground systems	April 2014	Dec 2018	Complete implementation of all AIM Transition phases (1 to 3)	AIM TF reported some progress	ICAO States / Territories	Including all AIM developments associated with SWIM for ASBU Block 1 module B-31
h)	Share experience and resources with implementation of e-TOD among States -	April 2014	Dec 2018	Prepare and Establish LoAs	AIM TF to report progress	GREPECAS States / Territories	------ -
i)	Implement ICAO Doc 9881 technical requirements as required	April 2014	Dec 2018	Identify personnel and training needs and prepare a Report to ICAO for	AIM TF reported some progress	States / Territories	------ -

j)	Report requirements to the ICAO NACC Regional Office and monitor implementation status of e-TOD using electronic media	April 2014	Dec 2018		AIM TF to report progress	States / Territories	------ -
k)	Develop a high-level agreement for the management of a national e-TOD programme	April 2014	Dec 2018	Establish permanent liasons and coordination among all bodies involved	AIM TF to report progress	States / Territories	------ -

AIDC TASK FORCE WORK PROGRAMME

Description	Start	Finish	Status	Deliverable	Responible
1. AIDC Trials and Implementation	**28/10/2013**	**09/06/2014**			
1.1 Update Regional Plan	28/10/2013	15/05/2014	Ongoing	Updated Regional Plan	Rapporteur
1.2 Determine reference ICD	**28/10/2013**	**15/05/2014**			
1.2.1 Evaluate potential ICDs to adopt	28/10/2013	20/11/2013	Completed	Evaluation of ICDs	Cuba;United States
1.2.2 Draft Final recommendations for adoption of ICD Doc	21/11/2013	17/02/2014	Completed	Draft document of recommendation of adoption of ICD	Task Force
1.2.3 Approve reference ICD document	18/02/2014	18/02/2014	Completed	Approved reference ICD document	Task Force
1.2.4 Draft recommendations for modifications of reference ICD	18/02/2014	31/03/2014	Completed	Draft document of recommendations for modification of ICD	COCESNA;Dominican Republic;United States
1.2.5 Distribute recommendations	01/04/2014	01/04/2014	Completed		Rapporteur
1.2.6 Approve recommendations for modifications of ICD document	25/04/2014	25/04/2014	Completed	Approved recommendations for modifications (no modification submitted)	Task Force
1.2.7 Submit modification of ICD	28/04/2014	15/05/2014	Completed	Modification request (no modificatios submitted)	Task Force
1.3 Maintain and update ICD					
1.3.1 Create a template for the annexes to the LOAs with the details of the parameters and agreements pertaining the procedures under NAM ICD	01/03/2015	01/04/2015	Completed	Annex Template	United States
1.3.2 Include wording or mechanisms to give regional scope to the NAM ICD document	01/03/2015	01/04/2015	Valid	Updated NAM ICD	United States
1.4 Create testing and implementation procedures	**17/12/2013**	**06/06/2014**			
1.4.1 Suggest and comment recommendations for trials/implementation of AIDC	17/12/2013	17/02/2014	Completed	Collection of recommendations	Task Force
1.4.2 Draft implementation procedures	18/02/2014	23/05/2014	Completed	Draft document for testing and implementation procedures	Ad hoc Group
1.4.3 Distribute draft for comments	26/05/2014	26/05/2014	Completed		Rapporteur
1.4.4 Approve implementation procedures	27/05/2014	06/06/2014	Completed	Approved testing and implementation procedures	Task Force
1.5 Create test procedure guideline					
1.5.1 Draft a testing guideline	01/03/2015	27/03/2015	Valid	Draft test procedure guideline	COCESNA
1.5.2 Distribute draft for comments	27/03/2015	30/03/2015	Valid	-	Task Force Rapporteur
1.5.3 Submit comments to the testing guideline	30/03/2015	10/04/2015	Valid	Comments to the testing guideline	Task Force

Description	Start	Finish	Status	Deliverable	Responible
1.5.4 Approve the testing guideline.	13/04/2015	15/04/2015	Valid	Approved testing guideline	Task Force
1.6 Follow up on testing and implementation	**09/06/2014**	**09/06/2014**	**Ongoing**	**Test and implementation results documentation for each implementation.**	**Task Force**
2. Mitigation of FPL issues	**28/10/2013**	**28/04/2014**			
2.1 Formation of FPL monitoring group	**21/03/2014**	**25/04/2014**	**100%**		
2.1.1 Create initial membership list	21/03/2014	21/03/2014	Completed	Initial membership list	
2.1.2 Draft terms of reference	24/03/2014	11/04/2014	Completed	Draft document of terms of reference	Rapporteur
2.1.3 Distribute terms of reference	14/04/2014	14/04/2014	Completed		Rapporteur
2.1.4 Approve terms of reference	25/04/2014	25/04/2014	Completed	Approved terms of reference	Task Force
2.2 Create mitigation action plan	**28/10/2013**	**28/04/2014**			
2.2.1 Recollect results and lessons learned from FPL solutions carried out in E/CAR, CA and USA-Cuba	28/10/2013	23/01/2014	Completed	Collection of results and lessons learned	Ad hoc Group
2.2.2 Report evaluation and comments of statistics recollected	24/01/2014	18/02/2014	Completed	Evaluation document	Ad hoc Group
2.2.3 Draft action plan for mitigation/solution of issues	19/02/2014	11/04/2014	Completed	Draft document of action plan	Ad hoc Group
2.2.4 Distribute action plan	14/04/2014	14/04/2014	Completed		Rapporteur
2.2.5 Approve action plan	25/04/2014	25/04/2014	Completed	Approved action plan	Task Force
2.2.6 Follow up on action plan	28/04/2014	28/04/2014	Ongoing	Plan execution results documentation	FPL Monitoring Group
3. Set new goals for AIDC TF					
3.1 Evaluation of the state of AIDC implementation in the region (how many Class I and II implementations), due Jan 29th.	14/01/2016	29/01/2016	Completed	Implementation evaluation	Task Force
3.2 Hold a teleconference to discuss this evaluation, due Feb 5th.	05/02/2016	05/02/2016	Completed	Meeting minutes/conclusions	Task Force
3.3 Evaluate the benefits of Class III implementation, and project the implementation of Class II and III among FIRs in the region, due Feb. 15th	06/02/2016	15/02/2016	Completed	Implementation projection	Task Force
3.4 Set implementation goals for each Class, due Feb 26th.	16/02/2016	26/02/2016	Completed	Implementation goals	Task Force

FPL MONITORING GROUP TERMS OF REFERENCE

1. Background

The AIDC Implementation Task Force (TF) was formed during the first ANI/WG Meeting to streamline related air navigation implementation activities. Among these is analyzing and coordinating mitigation/solution actions for duplicate/missing FPLs. During the 4th teleconference of the TF, a document was produced analyzing this issue, and an FPL monitoring group was proposed to report on problems and follow up on their solution in the matter of duplicate and erroneous FPLs. This monitoring group was formed during the NACC/WG/4 Meeting in March 2014 as an Ad hoc group of the AIDC Implementation TF.

2. Responsibilities

The FPL monitoring group is responsible for:
   a) Reporting FPL duplication/error issues occurring in their State.
   b) Overseeing the execution of the FPL mitigation/solution action plan.
   c) Providing statistical data of the errors detected in the filing of flight plans in their State.

3. Working Methods

The FPL monitoring group will:
   a) Carry out the activities assigned by the AIDC Task Force in accordance to the FPL related tasks.
   b) Conduct periodic teleconferences to review progress of the action plan and propose modifications as needed.
   c) Present periodic reports to the AIDC Task Force on detected errors and corresponding actions undertaken.
   d) Report to the AIDC Task Force Rapporteur.

4. *Membership*

There will be a member representing each FIR in the region, who may be supported by other representatives from each State in the FIR.

Member Name	FIR	Email
Jenny Lee (support)	Central America	jenny.lee@cocesna.org
Jacques Lasten	Curacao	j.lasten@dc-ansp.org
Maxine Allen (main) Gordon Grant (support)	Kingston	maxine.allen@jcaa.gov.jm gordon.grant@jcaa.gov.jm
Jorge Centella	La Habana	jorge.centella@iacc.avianet.cu
Jose Gil Jimenez (main) Margarita Rangel (support)	Mexico	jigiljim@sct.gob.mx mrangel@sct.gob.mx
Dan Eaves	Miami Oceanic, New York Oceanic, San Juan	dan.eaves@faa.gov
Ricky Bissessar (Main) Lorraine Davis (Support)	PIARCO	rbissessar@caa.gov.tt sivad81@hotmail.com
Fernando Casso (Rapporteur)	Santo Domingo	fernando.casso@idac.gov.do
Marco Vidal (IATA)	N/A	vidalm@iata.org

AIM Task Force Work Programme/Programa de Trabajo del Grupo de Tarea AIM

TASK FORCE FOR THE IMPLEMENTATION OF AERONAUTICAL INFORMATION MANAGEMENT (AIM)	**GRUPO DE TAREA PARA LA IMPLEMENTACIÓN DE LA GESTIÓN DE INFORMACIÓN AERONÁUTICA (AIM)**

1.   Background

During the first meeting of the ANI/WG, it was agreed to activate a group working for the AIM implementation formed to support and make more efficient the implementation activities AIM in accordance with the road map for the transition from AIS to AIM. This task group will have to improve processes and coordination among States, Territories and international organizations, as well as offer to the regional planning groups and States, practical guidance and advice for the development of implementation strategies of aeronautical information management. On the other hand, propose the tasks that have to be done and corresponding implementation schedule, as well as update and report its progress to the ANI/WG based on the plan of action for these tasks

2.   Responsibilities

The Task Force is responsible for:

a)   Management of the work programme
b)   Support States to complete the transition to the AIM
c)   Assisting States with the implementation of Phase 1, 2 and Phase 3 of the ICAO Roadmap, in preparation for the establishment of the System Wide Information Management (SWIM), in consideration of the AIM based on performance
d)   Periodically ask States for data which allows producing statistics to monitor their status of AIM implementation

3.   Work Methods

The Task Force:

a)   It shall submit its work programme containing activities in terms of: objectives, responsibilities, deliverables results and times
b)   Prevent duplication of work within the ANI/WG and will maintain close coordination between existing entities to optimize the use of available resources and expertise
c)   Designate if so deemed Ad hoc groups to work on specific activities and issues and organize tasks and clearly defined activities
d)   Coordinate tasks to maximize efficiency and reduce costs through electronic media including emails, phone and teleconferencing, and convene meetings where necessary
e)   It will be notified and will coordinate the progress of the tasks assigned to the ANI/WG

1.   Antecedentes

Durante la primera reunión del ANI/WG, se acordó activar un Grupo de Trabajo para la Implementación AIM formado con el fin de apoyar y hacer más eficientes las actividades de implementación AIM de acuerdo con la Hoja de ruta para la transición del AIS al AIM. Este Grupo de Tarea habrá de mejorar los procesos y la coordinación entre los Estados, Territorios y organizaciones internacionales, así como, ofrecer a los grupos de planificación regionales y a los Estados, orientación práctica y asesoramiento para el desarrollo de las estrategias de implantación de la gestión de información aeronáutica Por otra parte, proponer las tareas que han de realizarse y el calendario de implantación correspondiente, así como actualizar y notificar su avance al ANI/WG con base en el plan de acción para estas tareas.

2.   Responsabilidades

El Grupo de Tarea es responsable de:

a)   Gestión del Programa de Trabajo
b)   Apoyar a los Estados para finalicen la transición a la AIM
c)   Apoyar a los Estados con la implementación de la Fase 1, 2 y Fase 3 de la Hoja de Ruta de OACI, en preparación para el establecimiento de Gestión de la información de todo el sistema (SWIM), en consideración de AIM basada en performance
d)   Solicitar periódicamente a los Estados datos que permitan elaborar estadísticas para monitorear su estado de implementación AIM

3.   Métodos de trabajo

El Grupo de Tarea:

a)   Presentará su programa de trabajo conteniendo actividades en términos de: objetivos, responsabilidades, resultados entregables y tiempos
b)   Evitará duplicación de trabajo dentro del ANI/WG y mantendrá estrecha coordinación entre las entidades existentes para optimizar el uso de recursos y experiencia disponibles
c)   Designará si así lo considera Grupos Ad hoc para trabajar en temas y actividades específicas y organizar las tareas y actividades claramente definidas
d)   Coordinará las tareas para maximizar eficiencia y reducir costos a través de medios electrónicos incluyendo emails, teléfono y teleconferencias, y convocará reuniones cuando sea necesario
e)   Notificará y coordinará el avance de las tareas asignadas al ANI/WG

4.   Work Programme / Programa de trabajo

AIM TASKFORCE (AIM/TF) / GRUPO DE TAREA AIM
2013-2016

No	Activity / Actividad	Objective / Objetivo	Responsible / Responsable	Deliverable / Entregable	Date / Fecha	Status / Estado
1	Review of the AIM part for updating the draft of the NAM/CAR Regional Performance-Based Air Navigation Implementation Plan (NAM/CAR RPBANIP) Revisión de la parte AIM para la actualización del borrador del Plan de Implementación de navegación aérea basado en la performance para las regiones NAM/CAR (NAM/CAR RPBANIP)	Comply with the requested in the DECISION ANI/WG/1/13 Cumplir con lo solicitado en la DECISIÓN ANI/WG/1/13	ICAO AIM/TF OACI/AIM/TF	Report to ANIWG Informe al ANIWG	15 October 2013	Completed Completada
2	Develop AIM TF work programme Elaborar programa de trabajo del AIM TF	Manage AIM/TF activities Gestionar actividades del AIM/TF	ICAO AIM/TF OACI AIM/TF	Report to ANIWG Informe al ANIWG	31 October 2013	Completed Completada
3	Follow-up progress of amendments of ICAO Annexes 4 and 15, existing and new ICAO Manuals to support digital requirements as eAIP, eCharts, using GIS, etc. Seguimiento a los avances de enmiendas de los Anexos 4 y 15 de OACI, Manuales existentes y nuevos de OACI para soportar los requerimientos digitales como eAIP, cartas aeronáuticas electrónicas, usando GIS, etc.	Comply with the process of introducing and implementing Amendments to Annexes 4 and 15 of the Chicago Convention and related Manuals Cumplir con el proceso de introducción e implementar enmiendas a los Anexos 4 y 15 del Convenio de Chicago y Manuales relacionados	ICAO OACI	Report to ANIWG Informe al ANIWG	2018	Valid Valida
4	Develop a format for progress reports and propose it to the States/Territories/International Organizations Elaborar formato de avance de informes y proponerlo a los Estados/Territorios y Organizaciones Internacionales	Report regularly on the generation and distribution of Integrated Aeronautical Information Package(IAIP) Informar periódicamente sobre la generación y distribución de la Documentación integrada de información Aeronáutica (IAIP)	States AIM/TF Estados AIM/TF	Progress report format Formato de informe de avance	2016	Valid Valida
5	Develop a methodology for the implementation of QMS processes and quality management of the electronic automation in States, Territories and International Organizations that ensures the quality, safety and effectiveness related to the production and distribution of electronic information Desarrollar una metodología para la implementación de los procesos QMS y gestión de la calidad en la automatización electrónica en los Estados, Territorios y Organizaciones Internacionales que asegure la calidad, la seguridad operacional y la efectividad relacionada con la producción y distribución electrónica de la información	Ensure the quality in the aeronautical information management according to requirements of users Asegurar la calidad en la gestión de información aeronáutica de acuerdo a los requerimientos de los usuarios	ICAO AIM/TF OACI AIM/TF	Consultation to States that have QMS, by reference OR NACC ICAO Realizar consulta a Estados que cuentan con QMS, mediante referencia de OR NACC OACI	2016	Valid Valida
6	Advising States in collaboration and coordination of information requirements through a system of domains allowing wide information management in preparation for the implementation of the SWIM, with the contribution of other States and Organizations sharing the experience in taking decisions and progress of its programmes Asesorar a los Estados en la colaboración y coordinación de los requerimientos de información a través de un sistema de dominios permitiendo amplia gestión de información en preparación para la implementación del SWIM, con la contribución de otros Estados y Organizaciones compartiendo la experiencia para la toma de decisiones y avance de sus programas	Assist States, Territories and International Organizations in making appropriate decisions related to current aeronautical information services towards transition to the AIM and define acceptable levels of safety and performance Asistir a los Estados, Territorios y Organizaciones Internacionales con la toma de decisiones apropiadas relacionada con los servicios actuales de información aeronáutica hacia la transición a la AIM y definir los niveles aceptables de seguridad y performance	ICAO AIM/TF OACI AIM/TF	Prepare periodic Bulletins Elaborar boletines periódicos	2018	Valid Valida

No	Activity Actividad	Objective Objetivo	Responsible Responsible	Deliverable Entregable	Date Fecha	Status Estado
7	Coordinate activities such as Workshops and Seminars to train human resources in the interpretation and application of new SARPS and technological advances that provide the framework for an interoperable Global System. Coordinar actividades como Talleres y Seminarios para capacitar al Recurso Humano en la interpretación y aplicación de nuevos SARPS y avances tecnológicos que proporcionen el marco para un sistema Global interoperable	Assist States, Territories and International Organizations with the process of transition to AIM, in order to implement ICAO standards to establish a harmonized operating environment performance-based Asistir a los Estados, Territorios y Organizaciones Internacionas con el proceso de transición a AIM, con el fin de implementar las Normas de la OACI para establecer un entorno operativo armonizado basado en el performance	ICAO AIM/TF OACI AIM/TF	Perform a Seminar or Workshop Realizar Seminario o Taller	2018	Valid Valida
8	Encourage the adoption of cooperation agreements between NOTAM offices (NOF), and the update of contingency plans (for weather events and/or volcanic) in harmonization with ATM contingency plans Incentivar la adopción de convenios de cooperación entre oficinas NOTAM (NOF) y la actualización de planes de contingencia (por eventos climatológicos y/o vulcanológicos) en armonización con los planes de contingencia ATM	Develop AIM to support the Air traffic management operational concept; including NOTAM contingency plans Desarrollar AIM para apoyar el Concepto Operacional de Gestión del Tránsito Aéreo; incluyendo los planes de contingencia NOTAM	ICAO AIM/TF OACI AIM/TF	Generate support through reference OR. NACC. ICAO Generar apoyo mediante referencia de OR NACC OACI	2018	Valid Valida
9	Consult the experience of States in the acquisition of integrated solutions to provide guidance and assistance to the States to implement a performance-based approach Consultar la experiencia de los Estados en la adquisición de soluciones integradas para brindar orientación y ayuda a los Estados para implementar un enfoque basado en performance	Ensure that AIM solutions should be harmonized and integrated at a regional and international level, in preparation for the SWIM implementation Asegurar que las soluciones AIM se armonicen e integren a nivel regional e internacional, en preparación para la implementación del SWIM	ICAO AIM/TF OACI AIM/TF	Make consult through reference OR NACC ICAO Realizar consulta mediante referencia de OR NACC OACI	2020	Valid Valida
10	Coordinate activities such as Workshops and Seminars to train human resources and in the eTOD topic Coordinar actividades como Talleres y Seminarios para capacitar al Recurso Humano y en el tema eTOD	Share experiences and resources in the implementation of the eTOD through the establishment of an eTOD Regional Working Group Compartir experiencias y recursos con la implementación del eTOD a través del establecimiento de un Grupo de Trabajo Regional eTOD Implement technical ICAO Doc 9881 requirements, as required Implementar requerimientos técnicos del Doc 9881 de la OACI, según sea necesario	ICAO AIM/TF OACI AIM/TF	Perform Seminar or Workshop Realizar Seminario o Taller	2015	Completed Completada
11	Develop a format for progress reports and propose it to the States/Territories/International Organizations Elaborar formato de avance de informes y proponerlo a los Estados/Territorios y Organizaciones Internacionales	Report requirements and monitor the status of eTOD implementation using electronic media to the ICAO NACC Regional Office Reportar requerimientos y monitorear el estado de implementación del eTOD usando medios electrónicos a la Oficina Regional NACC de la OACI	ICAO AIM/TF OACI AIM/TF	Progress report format Formato de informe de avance	2015	Completed Completada
12	Develop a format for progress reports and propose it to the States/Territories/International Organizations Elaborar formato de avance de informes y proponerlo a los Estados/Territorios y Organizaciones Internacionales	Develop an agreement of high-level management of a nationwide Et OD programme Desarrollar un acuerdo de alto-nivel para gestión de un programa nacional eTOD	ICAO AIM/TF OACI AIM/TF	Agreement format Formato de acuerdo	2018	Valid Valida
13	Provide and promote the aeronautical information management implementing exchange and conceptual models Proporcionar y promover la gestión de información aeronáutica implementando modelos conceptuales y de intercambio	Assist States, Territories and International Organizations in the implementation of the AICM and the AIXM Asistir a los Estados, Territorios y Organizaciones Internacionales en la implementación del AICM y el AIXM	ICAO AIM/TF OACI AIM/TF	Perform Seminar or Workshop Realizar Seminario o Taller	2015	Completed Completada

5.   Membership

Task Force Member- Name:	State/T/IO	email
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ACTION PLAN 2017 – 2021

Task/Action DESCRIPTION	Target Date
1. Defining Training Curriculum for AIM, minimum educational & entry requirements for AIM Personnel, and set Refresher's training and workshop cycles (DOC 9991)	DEC 2017
2. State survey on compliance to DOC 8126 (IATA):	DEC 2017
a. NOTAM publication information: ATFM, ATS Service Suspension, etc.	
b. AIC usage	
c. Supplements	
d. AIRAC AMDT compliance	
3. Survey on Aerodrome Obstacle Charts (IATA)	DEC 2017
a. Status: Last update and Next planned update	
b. Works done on AD → influence on Obstacles	
4. AIP Charges analyses (IATA)-> excluding duplication of charges	DEC 2017
5. State / AIS Unit to have implemented AIM-QMS, including training and AIM Manual of Standards (MoS)	DEC 2018
6. States to have SLA's in place with Data Originators / Stakeholders – ICAO SLA Template	DEC 2018
7. States to hold yearly face-to-face and/or telconference Data Originator/Stakeholders User Meeting, and present annually reports of actions and conclusions to their Civil Aviation	DEC 2018
8. States / AIS Units to have implemented training on Basic AIM for its AIS/ARO Personnel, including OTJ Training.	DEC 2018
9. State / AIS Unit to have implemented training on AIM integrated documentation training	DEC 2018
10. States to implements AIM Personnel Licensing, setting licence validity period (2yrs)→Refresher trainings for re-issuing of license	DEC 2019
11. AIS Units website/webpage and interoperability to IAIP products	DEC 2019
12. State / AIS Unit to have implemented AIXM ver 5.1 – software training/course	DEC 2019
13. State / AIS Unit to have implemented eTOD Seminar/Workshop/training/course	DEC 2019
14. State / AIS Unit to have implemented electronic Aeronautical Charts training/course	2020
15. State / AIS Unit to have implemented training on D NOTAM, statistical and dynamic data	2020
16. Formalization of AIM Regional Contingency	2021

The AIM Task Force considered the following:

a)   review and approve the updated version of the AIM Task Force work programme, membership list and Terms of Reference (https://www.icao.int/NACC/Pages/regional-group-AIM.aspx);

b) schedule, discuss and comment on the activities and request of the AIM Task Force for a face-to-face Implementation meeting (August 2017 in Mexico City, Mexico) including a, QMS SWIM, AIXM and WIXM implementation Workshop, together with the Ad hoc Flight Plan (FPL) Monitoring Group, face-to-face meeting for proper maintaining of the AIM and FPL processes – Concluding Phases 1 and continuance of Phase 2 and 3 of the transition;

    i. review and develop the minimum required personnel entry level profile; and

    ii. define the basic training and refresher training requirements (Draft Doc 9991)

c) review and scheduling of the required actions needed according to the action plan in section 4;

d) States are urged to have a major participation in the AIM Task Force; and

e) propose any other action or task, as deemed necessary.

APPENDIX F

CAR REGION AMHS IMPLEMENTATION MATRIX

Update: March 2017							CAR Region AMHS Implementation Matrix						
		System Description					System implementation milestones				(COM CHART) Connection with	POC	Remarks
Administration	STATUS	Location of Facility	AMHS Facility Type	AMHS Vendor	Current Facility Type	Current Vendor	AMHS System Procurement Date	AMHS System Implementation Date	AMHS Interoperability Test	AMHS Service Cutover			
Aruba	Establishment of Testing Circuit	Aruba		Thales							United States	Joselito Andrade	**5-2015** In the process of changing AFTN PAD. No projected date for AMHS **12-2016** Csigned Technical Letter **3-2017** System-System test
Bahamas		Nassau					1Q2011 mtg FAA Feb11	Jun 2011	Jun2011 begin testing		United States	Hillard Walker	Q2 2011: will engage an Isode Integrator to provide an AMHS **5-2015** No recent updates
Cayman Islands	In Interoperability Testing	Grand Cayman	MTA + UA	Frequentis	AFTN switch	Frequentis	end 1Q2011	4Q 2014	2Q2015	TBD	United States	Wayne DaCosta	**5-2015 System implemented but not operational. Interoperability testing in process 4-16 Testing has been suspended until further notificatin from Cayman 3-2017 Initiated testing again**
Dominican Republic	Implemented	Santo Domingo	AMHS - MTA/UAs	Ubitech	AFTN Switch		already	Jan2011	May 2012	Oct 2013	United States	Fernando Casso	Originally implemented on MEVA II. Succesfully transitioned to MEVA III
Cuba	Implemented	La Habana	AMHS - MTA/UAs	ISODE/ In-house	AFTN Switch	Own system	N/A	TBD	2014Q4 - 2015Q2	Mar 2017	United States	Carlos Jimenez y Layla Rodriguez, Carmen de Armas	**3-201 7Parts of the Interoperability Testing performed on MEVA II; testing resumed under MEVA III and completed transition Mar 2017.**
Haiti	Under Study	Port-au-Prince	TBD	TBD	AFTN User	DSA	10/15	03/16	05/16	09/16	United States	Emmanuel Jacques	**06/15** - Current vendor needs to be verify. Updated system implementation milestone.
COCESNA	System Implemented- ready for testing	Tegucigalpa	AMHS Gateway	ISODE/ In-house	AFTN Switch	COCESNA	N/A	TBD	TBD	TBD	Belize - MTA	Mayda Avila Oscar Villela	**5-15 Testing with FAA on hold pending notification from COCESNA 3-2017 - COCESNA/US implementation completed**
								TBD	TBD	TBD	Guatemala - MTA		
								1Q 2013	1Q 2013	1Q 2013	Managua - MTA		
								TBD	1Q 2013	TBD	Mexico - MTA		
								TBD	TBD	TBD	San Jose - MTA		
								1Q 2013	1Q 2013	1Q 2013	San Pedro Sula - MTA		
								TBD	TBD	TBD	San Salvador - MTA		
								1Q2011	Jun 2012	**Mar 2017**	United States		
Jamaica	Establishment of Testing Circuit	Kingston	AMHS G/W	TBD	AFTN Switch	TBD	Q2-2012		Aug 2012	Oct 2012	United States	Derrick Grant	5-15 No updates 4-16 Updating ATN system, Completion projected for end of 2017. **3-2017 Established testing circuit**
Mexico	Coordination initiated	Mexico									Centro-America United States		5 2015 Initiated coordination with SENEAM 4-16 No updates provided at this time.

Update: March 2017		CAR Region AMHS Implementation Matrix										
		System Description					System implementation milestones				(COM CHART) Connection with	POC	Remarks
Administration	STATUS	Location of Facility	AMHS Facility Type	AMHS Vendor	Current Facility Type	Current Vendor	AMHS System Procurement Date	AMHS System Implementation Date	AMHS Interoperability Test	AMHS Service Cutover			
Curacao	Scheduled for testing	Curacao	AMHS MTA	Ubitech	AMHS System	Ubitech	May 2012	Jul 2012	Sept 2015	FeB 2016	Caracas- MTA	Jean Baptiste Getrouw	5-15 no updates
Trinidad and Tobago	Implemented- for testing	Port-of-Spain	AMHS MTA/UAs/Gate way	Comsoft	AFTN Switch	Comsoft	Apr 2012	Sep 2012	Sep 12	Sep 12	Anguilla	Veronica Ramdath Randy Gomez	5-15 Interoperabiity testing in 6-1-15 Testing to continue after MEVA III implementation. FAA to start coordination with T&T the week of 8 June 2015. End-to-end Testing will be coordinated in segment. 4-16 Interoperability testing in progress. 80% completed
									Sep 12	Sep 12	Antigua		
									Sep 12	Sep 12	Barbados-UA		
									Oct 2012		Caracas- MTA		
									Sep 12	Sep 12	Dominica - UA		
									Sep 12	Sep 12	Fort-de-France- UA		
									Sep 12	Sep 12	Georgetown-UA		
									Sep 12	Sep 12	Grenada-UA		
									Sep 12	Sep 12	Montserrat-UA		
									Sep 12	Sep 12	Pointe-a-Pitre- MTA		
									Sep 12	Sep 12	Saint Kitts and Nevis-UA		
									Sep 12	Sep 12	Saint Lucia-UA		
									Sep 12	Sep 12	Saint Vincent-UA		
	In Interoperability								2015Q2	Jan 2017	United States		
Turks and Caicos	Scheduled for testing	Providenciales	MTA	Stonefield Sys	AFTN Term	Stonefield Sys	1Q 2012	2Q 2012	Feb 2013	Mar 2013	United States	Emmanuel Rigby John T. Smith	5 2015 No updates
Sint Maarten	In Interoperability Testing		AMHS MTA	IDS	AFTN Switch		2014Q1		2015Q3	Mar 2017	United States	Lloyd Hinds	Completed Mar 2017
United States		Atlanta	AMHS G/W	U.S.A.	AFTN Switch	U.S.A.	now	now			Aruba	Dulce Roses	5-15 see notes
											Brazil		
											Caracas		
											Cayman		
											Centro America		
											Curazao		
											Grand Turk		
											La Habana		
											Kingston		
											Lima		
											Mexico		
											Nassau-S		
											Panama		
											Port-au-Prince		
											Port-of-Spain		
											Saint Maarten		
											Santa Domingo		
											Tortola		

IPv4 ADDRESSING SCHEME / ESQUEMA DE DIRECCIONAMIENTO IPv4

Nro	Estado / Territorio	Red	Rango de direcciones utilizables	Notacion Decimal	Notacion Binaria					
					1st BYTE	2nd BYTE	3rd BYTE		4th BYTE	
					8 bits	8 bits	3 bits	5 bits	8 bits	
30	United States	10.19.160.0/19	HostMin: 10.19.160.1	10 . 19 . 160 . 1	00001010	00010011	101	00000	00000001	
			HostMax: 10.19.191.254	10 . 19 . 191 . 254	00001010	00010011	101	11111	11111110	
31	Canada	10.19.192.0/19	HostMin: 10.19.192.1	10 . 19 . 192 . 1	00001010	00010011	110	00000	00000001	
			HostMax: 10.19.223.254	10 . 19 . 223 . 254	00001010	00010011	110	11111	11111110	
32	Sint Maarten	10.19.224.0/19	HostMin: 10.19.224.1	10 . 19 . 224 . 1	00001010	00010011	111	00000	00000001	
			HostMax: 10.19.255.254	10 . 19 . 255 . 254	00001010	00010011	111	11111	11111110	
33	Panama	10.20.0.0/19	HostMin: 10.20.0.1	10 . 20 . 0 . 1	00001010	00010100	000	00000	00000001	
			HostMax: 10.20.31.254	10 . 20 . 31 . 254	00001010	00010100	000	11111	11111110	
34	VACANTE	10.20.32.0/19	HostMin: 10.20.32.1	10 . 20 . 32 . 1	00001010	00010100	001	00000	00000001	
			HostMax: 10.20.63.254	10 . 20 . 63 . 254	00001010	00010100	001	11111	11111110	
35	VACANTE	10.20.64.0/19	HostMin: 10.20.64.1	10 . 20 . 64 . 1	00001010	00010100	010	00000	00000001	
			HostMax: 10.20.95.254	10 . 20 . 95 . 254	00001010	00010100	010	11111	11111110	

IPv4 ADDRESSING SCHEME/
ESQUEMA PROPUESTO DE DIRECCIONAMIENTO IPV4

REGIONES NAM/CAR: ENLACES T-T INTER/INTRARREGIONALES/
INTER/ INTRA REGIONAL G-G LINKS FOR NAM/CAR REGIONS

*Proposed by the CNS/ATM/SG Project G-G and A-G ATN Applications from their first Meeting
(Lima, Perú, 19 to 20 May, 2010)*

Because of the limited availability of public IPv4 addresses, the CAR/SAM Regions, as approved by GREPECAS/14 Meeting, agreed to use a 24-bit block IPv4 private address space in the following address format:

8 bits	4 bits	7 bits	13 bits
Private Addr Prefix (010)	Region ID	State/ Organization	Subnet/Host ID
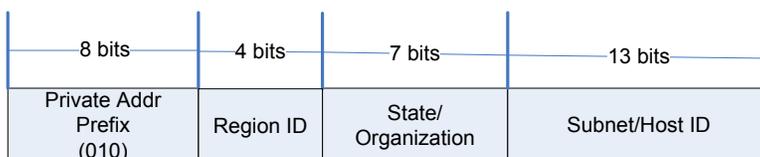
CAR/SAM IPv4 Address Format

The first byte of the address contains the fixed decimal value 10. The next 4 bits of the address are used to identify the ICAO Office for region:

- 0000   SAM: South American Office.
- 0001   NAM/CAR: North American, Central American and Caribbean Office.
- 0010   APAC: Asia and Pacific Office.
- 0011   MID: Middle East Office.
- 0100   WACAF: Western and Central African Office.
- 0101   ESAF: Eastern and Southern African Office.
- 0110   EUR/NAT: European and North Atlantic Office.

The next 7 bits indicate the State or Organization within the region. Refer to the CAR/SAM IPv4 addressing plan [1] for assigned values of this field.

The final 13 bits of the address are partitioned by local policy depending on the number of subnets and individual hosts in the State or Organization.

Capacity: 16 regions, 128 States/Territories per Region and 8190 Hosts per State/Territory

Applying this format, for the NAM/CAR regions the expected addresses ranges will be:

HostMin: **10.16.0.1**
HostMax: **10.31.255.254**

For example **"Aruba",** its IPv4 addresses will be:

Nro	Estado / Territorio	Red	Rango de direcciones utilizables	Notacion Decimal				Notacion Binaria						
								1st BYTE	2nd BYTE		3rd BYTE		4th BYTE	
								8 bits	4 bits	4 bits	3 bits	5 bits	8 bits	
								Network	Subnet				Host	
									Region	Estado / Territorio				
1	Aruba	10.16.0.0/19	HostMin: 10.16.0.1	10	16	0	1	0 0 0 0 1 0 1 0 .	0 0 0 1	0 0 0 0 . 0 0 0	0 0 0 0 0 .	0 0 0 0 0 0 0 1	
			HostMax: 10.16.31.254	10	16	31	254	0 0 0 0 1 0 1 0 .	0 0 0 1	0 0 0 0 . 0 0 0	1 1 1 1 1 .	1 1 1 1 1 1 1 0	

In the NAM/CAR Regions, there are 21 Contracting States, 1 non-contracting States and 11 territories, so this proposal contains 31 assigned ranges considering the territories of Puerto Rico and USA Virgin Islands under the range proposed for United States.

For all the rest available addresses, they are available and are labeled as "vacant".

The addresses range labeled as "Reserved" under the last line, No.128, shall be used for IPv4 interregional NAM/CAR/ SAM links in accordance to the GREPECAS regional agreements, as illustrated below:

Nro	Estado / Territorio	Red	Rango de direcciones utilizables	Notacion Decimal				Notacion Binaria																														
								1st BYTE 8 bits Network								2nd BYTE								3rd BYTE				4th BYTE											
																4 bits				Subnet				3 bits				8 bits											
																Region				Estado / Territorio								Host											
128 (Ultima)	RESERVADA	10.31.224.0/19	HostMin: 10.31.224.1	10	31	224	1	0	0	0	0	1	0	1	0	0	0	0	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	1
			HostMax: 10.31.255.254	10	31	255	254	0	0	0	0	1	0	1	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0

In this respect we have on **Part I** the ranges assigned for each State/Territory and on **Part II** the interregional NAM/CAR/SAM links.

PART I

Region	Nro	Estado / Territorio	Red	Rango de direcciones utilizables	Notacion Decimal				Notacion Binaria
	1	Aruba	10.16.0.0/19	HostMin: 10.16.0.1	10	16	0	1	
				HostMax: 10.16.31.254	10	16	31	254	
	2	Netherlands Antilles	10.16.32.0/19	HostMin: 10.16.32.1	10	16	32	1	
				HostMax: 10.16.63.254	10	16	63	254	
	3	Trinidad and Tobago	10.16.64.0/19	HostMin: 10.16.64.1	10	16	64	1	
				HostMax: 10.16.95.254	10	16	95	254	
	4	Grenada	10.16.96.0/19	HostMin: 10.16.96.1	10	16	96	1	
				HostMax: 10.16.127.254	10	16	127	254	
	5	Saint Vincent and the Grenadines	10.16.128.0/19	HostMin: 10.16.128.1	10	16	128	1	
				HostMax: 10.16.159.254	10	16	159	254	
	6	Barbados	10.16.160.0/19	HostMin: 10.16.160.1	10	16	160	1	
				HostMax: 10.16.191.254	10	16	191	254	
	7	Saint Lucia	10.16.192.0/19	HostMin: 10.16.192.1	10	16	192	1	
				HostMax: 10.16.223.254	10	16	223	254	
	8	French Antilles	10.16.224.0/19	HostMin: 10.16.224.1	10	16	224	1	
				HostMax: 10.16.255.254	10	16	255	254	
	9	Dominica	10.17.0.0/19	HostMin: 10.17.0.1	10	17	0	1	
				HostMax: 10.17.31.254	10	17	31	254	
	10	Montserrat	10.17.32.0/19	HostMin: 10.17.32.1	10	17	32	1	
				HostMax: 10.17.63.254	10	17	63	254	
	11	Saint Kitts and Nevis	10.17.64.0/19	HostMin: 10.17.64.1	10	17	64	1	
				HostMax: 10.17.95.254	10	17	95	254	
	12	Antigua and Barbuda	10.17.96.0/19	HostMin: 10.17.96.1	10	17	96	1	
				HostMax: 10.17.127.254	10	17	127	254	
	13	Anguilla	10.17.128.0/19	HostMin: 10.17.128.1	10	17	128	1	
				HostMax: 10.17.159.254	10	17	159	254	
	14	Virgin Islands	10.17.160.0/19	HostMin: 10.17.160.1	10	17	160	1	
				HostMax: 10.17.191.254	10	17	191	254	
	15	Dominican Republic	10.17.192.0/19	HostMin: 10.17.192.1	10	17	192	1	
				HostMax: 10.17.223.254	10	17	223	254	
	16	Haiti	10.17.224.0/19	HostMin: 10.17.224.1	10	17	224	1	
				HostMax: 10.17.255.254	10	17	255	254	
	17	Jamaica	10.18.0.0/19	HostMin: 10.18.0.1	10	18	0	1	
				HostMax: 10.18.31.254	10	18	31	254	
	18	Cayman Islands	10.18.32.0/19	HostMin: 10.18.32.1	10	18	32	1	
				HostMax: 10.18.63.254	10	18	63	254	
	19	Cuba	10.18.64.0/19	HostMin: 10.18.64.1	10	18	64	1	
				HostMax: 10.18.95.254	10	18	95	254	
	20	Turks and Caicos Islands	10.18.96.0/19	HostMin: 10.18.96.1	10	18	96	1	
				HostMax: 10.18.127.254	10	18	127	254	
	21	Bahamas	10.18.128.0/19	HostMin: 10.18.128.1	10	18	128	1	
				HostMax: 10.18.159.254	10	18	159	254	
	22	Bermuda	10.18.160.0/19	HostMin: 10.18.160.1	10	18	160	1	
				HostMax: 10.18.191.254	10	18	191	254	
	23	Costa Rica	10.18.192.0/19	HostMin: 10.18.192.1	10	18	192	1	
				HostMax: 10.18.223.254	10	18	223	254	
	24	Nicaragua	10.18.224.0/19	HostMin: 10.18.224.1	10	18	224	1	
				HostMax: 10.18.255.254	10	18	255	254	
	25	El Salvador	10.19.0.0/19	HostMin: 10.19.0.1	10	19	0	1	
				HostMax: 10.19.31.254	10	19	31	254	
	26	Honduras	10.19.32.0/19	HostMin: 10.19.32.1	10	19	32	1	
				HostMax: 10.19.63.254	10	19	63	254	
	27	Guatemala	10.19.64.0/19	HostMin: 10.19.64.1	10	19	64	1	
				HostMax: 10.19.95.254	10	19	95	254	
	28	Belize	10.19.96.0/19	HostMin: 10.19.96.1	10	19	96	1	
				HostMax: 10.19.127.254	10	19	127	254	
	29	Mexico	10.19.128.0/19	HostMin: 10.19.128.1	10	19	128	1	
				HostMax: 10.19.159.254	10	19	159	254	
	30	United States	10.19.160.0/19	HostMin: 10.19.160.1	10	19	160	1	
				HostMax: 10.19.191.254	10	19	191	254	
	31	Canada	10.19.192.0/19	HostMin: 10.19.192.1	10	19	192	1	
				HostMax: 10.19.223.254	10	19	223	254	
	32	VACANTE	10.19.224.0/19	HostMin: 10.19.224.1	10	19	224	1	
				HostMax: 10.19.255.254	10	19	255	254	
	33	VACANTE	10.20.0.0/19	HostMin: 10.20.0.1	10	20	0	1	
				HostMax: 10.20.31.254	10	20	31	254	
	34	VACANTE	10.20.32.0/19	HostMin: 10.20.32.1	10	20	32	1	
				HostMax: 10.20.63.254	10	20	63	254	
	35	VACANTE	10.20.64.0/19	HostMin: 10.20.64.1	10	20	64	1	
				HostMax: 10.20.95.254	10	20	95	254	
-	-	-	-	-	-	-	-	-	
				-	-	-	-	-	
-	-	-	-	-	-	-	-	-	
				-	-	-	-	-	
	128 (Ultima)	RESERVADA	10.31.224.0/19	HostMin: 10.31.224.1	10	31	224	1	
				HostMax: 10.31.255.254	10	31	255	254	

The Notacion Binaria section is divided into 1st BYTE (8 bits - Network), 2nd BYTE (4 bits - Region / 4 bits - Estado / Territorio), 3rd BYTE (3 bits - Subnet / 5 bits - Host) labeled with Subnet and Estado / Territorio spans, and 4th BYTE (8 bits - Host).

PROPOSAL OF INTERNET PROTOCOL (IP) PLAN FOR T-T ROUTERS BETWEEN STATES OF THE NAM/CAR REGION / PROPUESTA DE PLAN DE PROTOCOLO DE INTERNET (IP) PARA ENRUTADORES T-T ENTRE ESTADOS DE LAS REGIÓNES NAM/CAR

Network / Red: 10.31.224.0/19

No.	Subnet / Subred	Admin & local host / Admin y Receptor local	Via	Links / Enlace	IPv4 Address / Dirección IPv4
1	10.31.224.0/30	Anguila	E/CAR	Network Address / Dirección de Red	10.31.224.0/30
				Anguila	10.31.224.1/30
				Trinidad & Tobago (Piarco)	10.31.224.2/30
				Broadcast Address / Dirección de Multidifusión	10.31.224.3/30
2	10.31.224.4/30	Antigua and Barbuda / Antigua y Barbuda	E/CAR	Network Address / Dirección de Red	10.31.224.4/30
				Trinidad & Tobago (Piarco)	10.31.224.5/30
				Antigua	10.31.224.6/30
				Broadcast Address / Dirección de Multidifusión	10.31.224.7/30
3	10.31.224.8/30	Aruba	MEVA	Network Address / Dirección de Red	10.31.224.8/30
				Jamaica (Kingston)	10.31.224.9/30
				Aruba	10.31.224.10/30
				Broadcast Address / Dirección de Multidifusión	10.31.224.11/30
4	10.31.224.12/30	Bahamas / Nassau	MEVA	Network Address / Dirección de Red	10.31.224.12/30
				Haiti (Port-au-Prince)	10.31.224.13/30
				Bahamas / Nassau	10.31.224.14/30
				Broadcast Address / Dirección de Multidifusión	10.31.224.15/30
5	10.31.224.16/30	Barbados	E/CAR	Network Address / Dirección de Red	10.31.224.16/30
				Barbados	10.31.224.17/30
				Trinidad & Tobago (Piarco)	10.31.224.18/30
				Broadcast Address / Dirección de Multidifusión	10.31.224.19/30
6	10.31.224.20/30	Belice / Belize	CAMSAT	Network Address / Dirección de Red	10.31.224.20/30
				Belice / Belize	10.31.224.21/30
				Honduras (COCESNA) Tegucigalpa	10.31.224.22/30
				Broadcast Address / Dirección de Multidifusión	10.31.224.23/30
7	10.31.224.24/30	British Virgin Islands / Islas Virgenes Británicas - Tortola	MEVA or other network	Network Address / Dirección de Red	10.31.224.24/30
				British Virgin Islands / Islas Virgenes Británicas - Tortola	10.31.224.25/30
				United States / Estados Unidos (Atlanta)	10.31.224.26/30
				Broadcast Address / Dirección de Multidifusión	10.31.224.27/30
8	10.31.224.28/30	Cayman Islands / Islas Caimanes	MEVA	Network Address / Dirección de Red	10.31.224.28/30
				Cayman Islands / Islas Caimanes	10.31.224.29/30
				Jamaica (Kingston)	10.31.224.30/30

No.	Subnet / Subred	Admin & local host / Admin y Receptor local	Via	Links / Enlace	IPv4 Address / Dirección IPv4
				Broadcast Address / Dirección de Multidifusión	10.31.224.31/30
9	10.31.224.32/30	Costa Rica (San José)	CAMSAT	**Network Address / Dirección de Red**	10.31.224.32/30
				Costa Rica (San José)	10.31.224.33/30
				Honduras (COCESNA) Tegucigalpa	10.31.224.34/30
				Broadcast Address / Dirección de Multidifusión	10.31.224.35/30
10	10.31.224.36/30	Cuba /Havana - La Habana	MEVA	**Network Address / Dirección de Red**	10.31.224.36/30
				Cuba (Havana / La Habana)	10.31.224.37/30
				Haiti (Port-au-Prince)	10.31.224.38/30
				Broadcast Address / Dirección de Multidifusión	10.31.224.39/30
11	10.31.224.40/30	Cuba /Havana - La Habana	MEVA	**Network Address / Dirección de Red**	10.31.224.40/30
				Cuba (Havana / La Habana)	10.31.224.41/30
				Jamaica (Kingston)	10.31.224.42/30
				Broadcast Address / Dirección de Multidifusión	10.31.224.43/30
12	10.31.224.44/30	Cuba /Havana - La Habana	MEVA	**Network Address / Dirección de Red**	10.31.224.44/30
				Cuba (Havana / La Habana)	10.31.224.45/30
				Honduras (COCESNA) Tegucigalpa	10.31.224.46/30
				Broadcast Address / Dirección de Multidifusión	10.31.224.47/30
13	10.31.224.48/30	Cuba /Havana - La Habana	MEVA	**Network Address / Dirección de Red**	10.31.224.48/30
				Cuba (Havana / La Habana)	10.31.224.49/30
				México (Mérida)	10.31.224.50/30
				Broadcast Address / Dirección de Multidifusión	10.31.224.51/30
14	10.31.224.52/30	Curaçao / Curazao	MEVA	**Network Address / Dirección de Red**	10.31.224.52/30
				Curaçao / Curazao	10.31.224.53/30
				Dominican Republic / República Dominicana	10.31.224.54/30
				Broadcast Address / Dirección de Multidifusión	10.31.224.55/30
15	10.31.224.56/30	Curaçao / Curazao	MEVA	**Network Address / Dirección de Red**	10.31.224.56/30
				Curaçao / Curazao	10.31.224.57/30
				Haiti (Port-au-Prince)	10.31.224.58/30
				Broadcast Address / Dirección de Multidifusión	10.31.224.59/30
16	10.31.224.60/30	Curaçao / Curazao	MEVA	**Network Address / Dirección de Red**	10.31.224.60/30
				Curaçao / Curazao	10.31.224.61/30
				United States / Estados Unidos (Atlanta)	10.31.224.62/30
				Broadcast Address / Dirección de Multidifusión	10.31.224.63/30
17	10.31.224.64/30	Dominican Republic / República Dominicana	MEVA	**Network Address / Dirección de Red**	10.31.224.64/30
				Dominican Republic / República Dominicana (Santo Domingo)	10.31.224.65/30

No.	Subnet / Subred	Admin & local host / Admin y Receptor local	Via	Links / Enlace	IPv4 Address / Dirección IPv4
				Haiti (Port-au-Prince)	10.31.224.66/30
				Broadcast Address / Dirección de Multidifusión	10.31.224.67/30
18	10.31.224.68/30	Dominican Republic / Santo Domingo	MEVA	**Network Address / Dirección de Red**	10.31.224.68/30
				United States / Estados Unidos (Atlanta)	10.31.224.69/30
				Dominican Republic / Santo Domingo (Santo Domingo)	10.31.224.70/30
				Broadcast Address / Dirección de Multidifusión	10.31.224.71/30
19	10.31.224.72/30	Dominica	E/CAR	**Network Address / Dirección de Red**	10.31.224.72/30
				Dominica	10.31.224.73/30
				Trinidad & Tobago (Piarco)	10.31.224.74/30
				Broadcast Address / Dirección de Multidifusión	10.31.224.75/30
20	10.31.224.76/30	El Salvador / San Salvador	CAMSAT	**Network Address / Dirección de Red**	10.31.224.76/30
				El Salvador	10.31.224.77/30
				Honduras (COCESNA) Tegucigalpa	10.31.224.78/30
				Broadcast Address / Dirección de Multidifusión	10.31.224.79/30
21	10.31.224.80/30	French Antilles / Antillas Francesas (Guadeloupe) / Point-a-Pitre	E/CAR	**Network Address / Dirección de Red**	10.31.224.80/30
				French Antilles / Antillas Francesas (Martinique) / Fort-de-France	10.31.224.81/30
				Trinidad & Tobago (Piarco)	10.31.224.82/30
				Broadcast Address / Dirección de Multidifusión	10.31.224.83/30
22	10.31.224.84/30	French Antilles / Antillas Francesas (Guadeloupe) / Point-a-Pitre	E/CAR	**Network Address / Dirección de Red**	10.31.224.84/30
				French Antilles / Antillas Francesas (Guadeloupe) / Point-a-Pitre	10.31.224.85/30
				Trinidad & Tobago (Piarco)	10.31.224.86/30
				Broadcast Address / Dirección de Multidifusión	10.31.224.87/30
23	10.31.224.88/30	Grenada	E/CAR	**Network Address / Dirección de Red**	10.31.224.88/30
				Grenada	10.31.224.89/30
				Trinidad & Tobago (Piarco)	10.31.224.90/30
				Broadcast Address / Dirección de Multidifusión	10.31.224.91/30
24	10.31.224.92/30	Guatemala (La Aurora)	CAMSAT	**Network Address / Dirección de Red**	10.31.224.92/30
				Guatemala (La Aurora)	10.31.224.93/30
				Honduras (COCESNA) Tegucigalpa	10.31.224.94/30
				Broadcast Address / Dirección de Multidifusión	10.31.224.95/30
25	10.31.224.96/30	Haiti / Port-au-Prince	MEVA	**Network Address / Dirección de Red**	10.31.224.96/30
				Haiti (Port-au-Prince)	10.31.224.97/30
				Jamaica (Kingston)	10.31.224.98/30
				Broadcast Address / Dirección de Multidifusión	10.31.224.99/30
26	10.31.224.100/30	Honduras / Tegucigalpa (COCESNA)	CAMSAT	**Network Address / Dirección de Red**	10.31.224.100/30
				Honduras (COCESNA) Tegucigalpa	10.31.224.101/30

No.	Subnet / Subred	Admin & local host / Admin y Receptor local	Via	Links / Enlace	IPv4 Address / Dirección IPv4
				Honduras (San Pedro Sula)	10.31.224.102/30
				Broadcast Address / Dirección de Multidifusión	10.31.224.103/30
27	10.31.224.104/30	Honduras / Tegucigalpa (COCESNA)	CAMSAT	**Network Address / Dirección de Red**	10.31.224.104/30
				Honduras (COCESNA) Tegucigalpa	10.31.224.105/30
				Panamá	10.31.224.106/30
				Broadcast Address / Dirección de Multidifusión	10.31.224.107/30
28	10.31.224.108/30	Honduras / Tegucigalpa (COCESNA)	CAMSAT	**Network Address / Dirección de Red**	10.31.224.108/30
				Honduras (COCESNA) Tegucigalpa	10.31.224.109/30
				United States / Estados Unidos (Atlanta)	10.31.224.110/30
				Broadcast Address / Dirección de Multidifusión	10.31.224.111/30
29	10.31.224.112/30	Honduras / Tegucigalpa (COCESNA)	MEVA	**Network Address / Dirección de Red**	10.31.224.112/30
				Honduras (COCESNA) Tegucigalpa	10.31.224.113/30
				México (Mérida)	10.31.224.114/30
				Broadcast Address / Dirección de Multidifusión	10.31.224.115/30
30	10.31.224.116/30	Aruba	MEVA	**Network Address / Dirección de Red**	10.31.224.116/30
				Aruba	10.31.224.117/30
				United States / Estados Unidos (Atlanta)	10.31.224.118/30
				Broadcast Address / Dirección de Multidifusión	10.31.224.119/30
31	10.31.224.120/30	México / México	TBD	**Network Address / Dirección de Red**	10.31.224.120/30
				México (México)	10.31.224.121/30
				United States / Estados Unidos (Atlanta)	10.31.224.122/30
				Broadcast Address / Dirección de Multidifusión	10.31.224.123/30
32	10.31.224.124/30	Montserrat	E/CAR	**Network Address / Dirección de Red**	10.31.224.124/30
				Montserrat	10.31.224.125/30
				Trinidad & Tobago (Piarco)	10.31.224.126/30
				Broadcast Address / Dirección de Multidifusión	10.31.224.127/30
33	10.31.224.128/30	Vacant / Vacante		**Network Address / Dirección de Red**	10.31.224.128/30
				Vacant / Vacante	10.31.224.129/30
				Vacant / Vacante	10.31.224.130/30
				Broadcast Address / Dirección de Multidifusión	10.31.224.131/30
34	10.31.224.132/30	Cayman Islands / Islas Caimanes	MEVA	**Network Address / Dirección de Red**	10.31.224.132/30
				Cayman Islands / Islas Caimanes	10.31.224.133/30
				United States / Estados Unidos (Atlanta)	10.31.224.134/30
				Broadcast Address / Dirección de Multidifusión	10.31.224.135/30
35	10.31.224.136/30	Saint Kitts and Nevis / San Kitts	E/CAR	**Network Address / Dirección de Red**	10.31.224.136/30

No.	Subnet / Subred	Admin & local host / Admin y Receptor local	Via	Links / Enlace	IPv4 Address / Dirección IPv4
		y Nevis		Saint Kitts and Nevis / San Kitts y Nevis (Saint Kitts)	10.31.224.137/30
				Trinidad & Tobago (Piarco)	10.31.224.138/30
				Broadcast Address / Dirección de Multidifusión	10.31.224.139/30
36	10.31.224.140/30	Saint Kitts and Nevis / San Kitts y Nevis	E/CAR	**Network Address / Dirección de Red**	10.31.224.140/30
				Saint Kitts and Nevis / San Kitts y Nevis (Nevis)	10.31.224.141/30
				Trinidad & Tobago (Piarco)	10.31.224.142/30
				Broadcast Address / Dirección de Multidifusión	10.31.224.143/30
37	10.31.224.144/30	Saint Lucia / Santa Lucia	E/CAR	**Network Address / Dirección de Red**	10.31.224.144/30
				Saint Lucia / Santa Lucia	10.31.224.145/30
				Trinidad & Tobago (Piarco)	10.31.224.146/30
				Broadcast Address / Dirección de Multidifusión	10.31.224.147/30
38	10.31.224.148/30	Sint Marteen	MEVA	**Network Address / Dirección de Red**	10.31.224.148/30
				Sint Marteen	10.31.224.149/30
				United States / Estados Unidos (Atlanta)	10.31.224.150/30
				Broadcast Address / Dirección de Multidifusión	10.31.224.151/30
39	10.31.224.152/30	Trinidad & Tobago	USA domestic Network	**Network Address / Dirección de Red**	10.31.224.152/30
				Trinidad & Tobago (Piarco)	10.31.224.153/30
				United States / Estados Unidos (Atlanta)	10.31.224.154/30
				Broadcast Address / Dirección de Multidifusión	10.31.224.155/30
40	10.31.224.156/30	Saint Vincent and the Grenadines / San Vicente y las Granadinas	E/CAR	**Network Address / Dirección de Red**	10.31.224.156/30
				Saint Vincent and the Grenadines / San Vicente y las Granadinas	10.31.224.157/30
				Trinidad & Tobago (Piarco)	10.31.224.158/30
				Broadcast Address / Dirección de Multidifusión	10.31.224.159/30
41	10.31.224.160/30	Turks & Caicos Islands / Islas Turcas y Caicos - Grand Turk	TBD	**Network Address / Dirección de Red**	10.31.224.160/30
				Turks & Caicos Islands / Islas Turcas y Caicos - Grand Turk	10.31.224.161/30
				United States / Estados Unidos (Atlanta)	10.31.224.162/30
				Broadcast Address / Dirección de Multidifusión	10.31.224.163/30
42	10.31.224.164/30	Haiti / Port-au-Prince	MEVA	**Network Address / Dirección de Red**	10.31.224.164/30
				Haiti (Port au Prince)	10.31.224.165/30
				United States / Estados Unidos (Atlanta)	10.31.224.166/30
				Broadcast Address / Dirección de Multidifusión	10.31.224.167/30
43	10.31.224.168/30	Panama	MEVA/REDDIG	**Network Address / Dirección de Red**	10.31.224.168/30
				Panama	10.31.224.169/30
				Colombia	10.31.224.170/30
				Broadcast Address / Dirección de Multidifusión	10.31.224.171/30

No.	Subnet / Subred	Admin & local host / Admin y Receptor local	Via	Links / Enlace	IPv4 Address / Dirección IPv4
44	10.31.224.172/30	Aruba	MEVA	**Network Address / Dirección de Red**	10.31.224.172/30
				Aruba	10.31.224.173/30
				Curaçao / Curazao	10.31.224.174/30
				Broadcast Address / Dirección de Multidifusión	10.31.224.175/30
45	10.31.224.176/30	Bahamas / Nassau	MEVA	**Network Address / Dirección de Red**	10.31.224.176/30
				Bahamas / Nassau	10.31.224.177/30
				United States / Estados Unidos (Atlanta)	10.31.224.178/30
				Broadcast Address / Dirección de Multidifusión	10.31.224.179/30
46	10.31.224.180/30	Cayman Islands / Islas Caimanes	MEVA	**Network Address / Dirección de Red**	10.31.224.180/30
				Cayman Islands / Islas Caimanes	10.31.224.181/30
				Cuba (Havana / La Habana)	10.31.224.182/30
				Broadcast Address / Dirección de Multidifusión	10.31.224.183/30
47	10.31.224.184/30	Cuba /Havana - La Habana	MEVA	**Network Address / Dirección de Red**	10.31.224.184/30
				Cuba (Havana / La Habana)	10.31.224.185/30
				United States / Estados Unidos (Atlanta)	10.31.224.186/30
				Broadcast Address / Dirección de Multidifusión	10.31.224.187/30
48	10.31.224.188/30	Curaçao / Curazao	MEVA	**Network Address / Dirección de Red**	10.31.224.188/30
				Curaçao / Curazao	10.31.224.189/30
				Jamaica (Kingston)	10.31.224.190/30
				Broadcast Address / Dirección de Multidifusión	10.31.224.191/30
49	10.31.224.192/30	Dominican Republic / República Dominicana Santo Domingo	MEVA	**Network Address / Dirección de Red**	10.31.224.192/30
				Dominican Republic / República Dominicana (Santo Domingo)	10.31.224.193/30
				Puerto Rico (San Juan)	10.31.224.194/30
				Broadcast Address / Dirección de Multidifusión	10.31.224.195/30
50	10.31.224.196/30	Honduras / Tegucigalpa (COCESNA)	CAMSAT	**Network Address / Dirección de Red**	10.31.224.196/30
				Honduras (COCESNA) Tegucigalpa	10.31.224.197/30
				Nicaragua (Managua)	10.31.224.198/30
				Broadcast Address / Dirección de Multidifusión	10.31.224.199/30
51	10.31.224.200/30	Vacant / Vacante		**Network Address / Dirección de Red**	10.31.224.200/30
				Vacant / Vacante	10.31.224.201/30
				Vacant / Vacante	10.31.224.202/30
				Broadcast Address / Dirección de Multidifusión	10.31.224.203/30
52	10.31.224.204/30	Panamá/ Panama	MEVA	**Network Address / Dirección de Red**	10.31.224.204/30
				Panamá/ Panama	10.31.224.205/30
				Jamaica (Kingston)	10.31.224.206/30
				Broadcast Address / Dirección de Multidifusión	10.31.224.207/30

No.	Subnet / Subred	Admin & local host / Admin y Receptor local	Via	Links / Enlace	IPv4 Address / Dirección IPv4
53	10.31.224.208/30	Panamá	MEVA	**Network Address / Dirección de Red**	10.31.224.208/30
				Panamá/ Panama	10.31.224.209/30
				Honduras / Tegucigalpa (COCESNA)	10.31.224.210/30
				Broadcast Address / Dirección de Multidifusión	10.31.224.211/30
54	10.31.224.212/30	Honduras / Tegucigalpa (COCESNA)	MEVA-REDDIG	**Network Address / Dirección de Red**	10.31.224.212/30
				Honduras / Tegucigalpa (COCESNA)	10.31.224.213/30
				Ecuador/ Quito	10.31.224.214/30
				Broadcast Address / Dirección de Multidifusión	10.31.224.215/30
55	10.31.224.216/30	Honduras / Tegucigalpa (COCESNA)	MEVA-REDDIG	**Network Address / Dirección de Red**	10.31.224.216/30
				Honduras / Tegucigalpa (COCESNA)	10.31.224.217/30
				Colombia/ Bogota	10.31.224.218/30
				Broadcast Address / Dirección de Multidifusión	10.31.224.219/30
56	10.31.224.220/30	Panamá	MEVA-REDDIG	**Network Address / Dirección de Red**	10.31.224.220/30
				Panamá/ Panama	10.31.224.221/30
				Colombia/ Bogota	10.31.224.222/30
				Broadcast Address / Dirección de Multidifusión	10.31.224.223/30
…	…	…		**…**	…
				…	…
				…	…
				…	…
2048	10.31.255.252/30	Vacant / Vacante		**Network Address / Dirección de Red**	10.31.255.252/30
				Vacant / Vacante	10.31.255.253/30
				Vacant / Vacante	10.31.255.254/30
				Broadcast Address / Dirección de Multidifusión	10.31.255.255/30

Note: The Interregional links CAR/ SAM, such as Brazil- United States (Atlanta), Colombia – United States (Atlanta), Peru – United States (Atlanta), Trinidad and Tobago - Guyana are included in the SAM IPv4 Addressing scheme
Nota: Los enlaces interregionales CAR /SAM, tales como Brasil- Estados Unidos (Atlanta), Colombia – Estados Unidos (Atlanta), Perú – Estados Unidos (Atlanta), Trinidad and Tobago - Guyana están incluidos en el Esquema de Direccionamiento IPv4 de la Región SAM.

ACTION PLAN FOR PBN IMPLEMENTATION
REVISION MAY 2017

Task Name/ Tarea	Start/ Inicio	Finish /Final	Deliverables/ Resultados	Follow-up/ Seguimiento	Responsible/ Responsables	Observations/ Comments-Observaciones/ Comentarios
a) Implement PBN Airspace Redesign Project for oceanic, continental and terminal areas in of NAM/CAR/SAM Region in accordance with the ICAO PBN Manual Doc 9613 and Doc 9992	APR 2015	JUN 2019	i) Update the regional PBN **Upper Airspace** concept with implementation activities for the period 2015-2019	ICAO/IATA/CANSO PBN Harmonization Meetings & Airline Operators	PBN Task Force, ICAO, CANSO, IATA, States, Territories, Organizations, Airline Operators	States/Organizations to develop a PBN Airspace Redesign Project including: a revision of regional ATS Route network. **Resources required:** Airspace Designers, ATCOs, Airline Operators, ANSP Decision makers
	APR 2015	DEC 2018	ii) Update the regional PBN **Lower Airspace** concept with implementation activities for the period 2015-2018	PBN Harmonization Meetings between FIR ANSP and TMAs ANSPs & Airline Operators	PBN Task Force, ICAO, IATA, CANSO, States, Territories, Organizations, Airline Operators	States/Organizations to develop a PBN Airspace Redesign Project including: a revision of regional ATS Route network. Resources required: Airspace Designers, ATCOs, Airline Operators, ANSP Decision makers
b) Develop and implement PBN training programme for pilots, ATCOs, operators and regulators	APR 2015	DEC 2018	PBN training programme	ICAO PBN Manual includes guidelines to develop training programmes	States, Territories, Int. orgs, Operators and ANSPs	PBN TF to engage with Civil Aviation Training Centers to develop PBN training programmes for pilots and controllers
c) Implement CDOs/CCOs for SIDs/STARS in terminal areas based on RNAV 1-2 and RNP 1-/2 navigation specification, as required	APR 2015	DEC 2018	Implement CDOs/CCOs in TMAs	States continue implementation of CDOs and CCOs	PBN TF, States, Territories, Int. Org	
d) Evaluate current state of PBN implementation within the region	JUN 2017	SEP 2017	Current status relating to PBN implementation in the region	Ongoing	PBN TF ICAO, States, Territories, Int. Orgs	
e) Conduct a feasibility study on the establishment of a Flight Procedure Programme within the Region	AUG 2017	MAY 2018	A comprehensive study looking into the need for an FPP within the Region based on States' needs as well as identifying the resources that would be required and the possible benefits.		PBN TF, ICAO, States, Territories, International Organizations, IATA, CANSO.	PBN TF to: • Conduct research into FPP's already established, • Analyse Region's needs for such an entity • Produce a document with recommendations to the ANI/WG.
f) Efficient application of longitudinal separation across the NAM/CAR/SAM	APR 2014	DEC 2018	Analysis of applicable separation minima for transfer traffic between FIRs	ANSPs of States, Territories, Int. Orgs to update existing Letters of Agreement (LOAs)	ANSPs of States, Territories, Int. Orgs	PBN TF to support ANSPs in reduction from 80 NM to 40NM by DEC 2016 and to 20NM by DEC 2017

Task Name/ Tarea	Start/ Inicio	Finish /Final	Deliverables/ Resultados	Follow-up/ Seguimiento	Responsible/ Responsables	Observations/ Comments- Observaciones/ Comentarios
regions.				between ATC units		Some FIRs were using as low as 5NM in their own airspace, based on existing procedures and LOAs.
g) Develop post-implementation PBN Safety Assessment Programme	2010	DEC 2019	States to conduct post-implementation PBN Safety Assessment	Permanent On going activity conducted by States	States, Territories, Int. Organisations	On going
h) Monitor implementation progress	2008	DEC 2019	Annual review of PBN implementation	On-going activity conducted by ICAO	ICAO, States, Territories, Int. Organisations	On going

ToRs of the Task Force on Implementation of Performance-Based Navigation (PBN) Airspace Concept

Background

During the first ANI/WG meeting, a PBN Implementation Task Force was formed in order to streamline related air navigation implementation activities. This Task Force shall carry out specific studies to support Performance-Based Navigation (PBN) implementation in the NAM/CAR Regions in accordance with the NAM/CAR RPBANIP, as well as update and report progress to the ANI/WG based on the action plan for these tasks.

Responsibilities

The Task Force is responsible for:

a) Work Programme Management

b) Continued refinement and ongoing review of the NAMCAR PBN Implementation Plan and monitoring and reporting on its application in the Regions

c) Assisting States with optimizing the Air Traffic Services (ATS) route structure within the NAM/CAR Regions based on PBN Airspace Concept implementation

d) Carrying out specific studies, developing guidance material and organizing workshops and seminars to assist States with Area Navigation/Required Navigation Performance (RNAV/RNP) implementation in the en-route, terminal, and approach flight phases, taking into account the PBN concept according to the ICAO Strategic Objectives and Global Plan Initiatives (GPIs)

e) Assisting States with preparation and review of their PBN Implementation Plan to ensure regional harmonization and possible inclusion in ICAO regional documentation

f) Identifying deficiencies and constraints with PBN implementation, and propose solutions that would facilitate resolution of such problems

g) Addressing other regional PBN implementation issues, including those related to safety management

h) Reviewing activities of PBN Task Forces from other regions, including their PBN implementation action plans, to ensure harmonization and avoid duplication of work

Working Methods

The Task Force will:

a) Present its work programme containing activities in terms of objectives, responsibilities, deliverables and timelines
b) Avoid duplicating work within the ANI/WG and maintain close coordination among the existing entities to optimize use of available resources and experience
c) Designate, as necessary, ad hoc groups to work on specific topics and activities and organize clearly defined tasks and activities
d) Coordinate tasks to maximize efficiency and reduce costs via electronic means including emails, telephone and teleconference calls, and convene meetings as necessary
e) Report on and coordinate the progress of assigned tasks to the ANI/WG.

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REVIEW OF THE NACC/WG WORK PROGRAMME UNTIL 2020 AND THE TERMS OF REFERENCE (ToRs)/REVISIÓN DEL PROGRAMA DE TRABAJO HASTA 2020 Y LOS TÉRMINOS DE REFERENCIA (ToR)

1. Terms of Reference

a) promote development of the CAR/SAM and NAM as well as *Doc 9750 – Global Air Navigation Plan* and other relevant regional related documentation, in compliance with ICAO Standards and Recommended Practices (SARPs), as required, supporting ICAO strategic objectives related to implementation initiatives;

b) facilitate the implementation of air navigation systems and identified services in the CAR/SAM and NAM Air Navigation Plans;

c) address emerging aviation issues related to Aviation System Block Upgrade (ASBU) elements, focusing on continued improvements to safety and operational efficiency through enhanced coordination, harmonised procedures between States, Territories and International Organizations, interoperability of networks and implementation of new technologies, especially those related to the System Wide Information Management (SWIM);

d) promote initiatives to improve safety, through the appropriated risk analysis, increase security, environmental efficiency and/or Air Navigation Services (ANS) operational capacity;

e) promote implementation of Regional Performance Objectives (RPOs) related to Block 0 and Block 1 selected modules of ASBU methodology according to Global Air Navigation Plan - Doc 97505 fifth edition; included in NAM/CAR Regional Performance-Based Air Navigation Implementation Plan (RPBANIP);

f) share information on implementation initiatives between the States, Territories and International Organizations to improve compatibility of air traffic management operations; and

g) recommend to States Civil Aviation Directors General initiatives to improve ANS and safety to be included in the of operational improvements to be included in the RPBANIP for the NAM/CAR Regions as well as related implementation activities by the States.

2. Work Programme

The Work programme is based on the RPO activities/ tasks and the ASBU modules of Blocks 0 and 1 contained in the fifth edition of the GANP included in the NAM/CAR RPBANIP. To comply with these objectives, the NACC/WG should:

a) review and recommend if applicable, deadlines for implementation of facilities, services and air navigation procedures in the NAM/CAR Regions;

b) develop guidelines and make recommendations for States/Territories/International Organizations to implement their ANS national plans;

c) make recommendations to prepare proposal for amendments to the Doc 7030 and Doc 8733 to satisfy ANS requirements;

d)   monitor the implementation of air navigation facilities and services to ensure interregional harmonization, taking due account of ATM community requirements performance improvement, and safety issues;

e)   provide recommendations to improve human resources planning and development in line with ICAO guidelines, as well as minimize human factor impact on safety;

f)   promote close cooperation between States, Territories and International Organizations and users to optimize the use of available expertise and resources, avoiding duplication of work;

g)   conduct activities in an efficient manner with a minimum of formality and documentation, using electronic tools (teleconferences, e-mails, etc.) and telephone conferences to ensure exchange of information, when required;

h)   associate in a logical manner the implementation of initiatives with the components of Doc 9854, (AOM, DCB, AO, TS, CM, AUO ATMSDM) as appropriate; and

i)   coordinate performance indicators and targets, deadlines, responsible body for implementation and results as well as human factors performance and provide this information result to the ICAO NACC Regional Office.

3.   **Membership**

All ICAO States, Territories and International Organizations which are accredited to the ICAO NACC Regional Office shall be members of the NACC/WG. Other States adjacent to the CAR and NAM Regions such as Colombia, Ecuador and Venezuela may be invited to participate in the NACC WG.

4.   **Working Methods**

a)   the Chairperson of the NACC/WG will be a representative from the host State/Territory/International Organization for the duration of the Meeting;

b)   at the beginning of each Meeting, a Vice-Chairperson will be elected for the duration of the Meeting;

c)   the Members of the NACC/WG will conduct coordination of works as follows:
   • via written correspondence, i.e. e-mail, etc.
   • via phone and teleconference calls; and

d)   meetings will be convened every three years or when necessary.

5.   **Meeting Venues**

a)   ICAO NACC Regional Office will convene the NACC/WG to attend the Meeting at least six months before the proposed date;

b)   the NACC/WG will meet with the following stipulated rotation: Central America (CA), North America (NAM), Eastern Caribbean (E/CAR) and Central Caribbean (C/CAR); and

c)   any State/Territory/International Organization Member may offer, at any time, to host a NACC/WG meeting.