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INFORMATION PAPER

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Third NAM/CAR Air Navigation Implementation Working Group Meeting (ANI/WG/3)
Mexico City, Mexico, 4 to 6 April 2016

- Agenda Item 4: Follow-up, Performance Evaluation and Monitoring of the NAM/CAR Regional Performance Based Air Navigation Implementation Plan (NAM/CAR RPBANIP) Targets**
- 4.1 Progress Reports of the Task Forces and the ANI/WG**

AIM/ATM/CNS PROGRESS IN THE E/CAR REGION

(Presented by the E/CAR/CATG Chairperson)

EXECUTIVE SUMMARY	
This working paper details the activities of the AIM, ATM and CNS Committees of the E/CAR/CATG since the ANI/WG/2 and E/CAR/CATG/2.	
<i>Strategic Objectives:</i>	<ul style="list-style-type: none">• Safety• Air Navigation Capacity and Efficiency• Environmental Protection
<i>References:</i>	<ul style="list-style-type: none">• Second Eastern Caribbean Civil Aviation Technical Group Meeting (E/CAR/CATG/2), Miami, USA, 15 to 17 July 2015

1. Introduction

1.1 The E/CAR/CATG last met in Miami in 2015. The next scheduled meeting will be convened in Saint Kitts and Nevis in 2016. The E/CAR/CATG/2 Meeting conducted a follow-up and agreements to support the ANI/WG/2 Conclusions as detailed in the ANI/WG/2 (WP/11).

- ✓ The Meeting took note of the ICAO NCLB strategy, the First Annual Global Air Navigation Report and Regional performance dashboards, among their common reference for conducting their work.
- ✓ The Meeting agreed to conduct the necessary revision of the draft eANP to facilitate the development and approval of the eANP, through the designated PoCs.
- ✓ The Meeting congratulated the relevant participation of the PIARCO FPL Mon Group representatives and the E/CAR States/Territories, and committed to support their activities.
- ✓ Follow up the progress of each Committee.

2. Discussion

AIM COMMITTEE ACTIVITIES

2.1 *Implementation of a PIARCO AIS/NOTAM Contingency Plan.*

2.1.1 It has been previously reported that Trinidad and Tobago and Curacao signed a Letter of Intent to develop a NOTAM contingency plan for the Eastern Caribbean States and Curacao and that the plan would be achieved using the services of IDS North America. IDS North America has a NOTAM software package in both States called SPATIA. A technical proposal submitted by IDS North America has been evaluated by TTCAA CNS and AIM departments and additional information was requested from IDS, which Trinidad and Tobago is awaiting, as the negotiation process continues. The Directorate of the TTCAA is committed to achieving this goal. This project is expected to be completed during 2016.

2.2 *Implementation of a Quality Management System (QMS for AIS in the Eastern Caribbean the group will work towards implementation of QMS within the E/CAR;*

2.2.1 The AIM Committee has been working to meet the timelines of AIM Targets set by the Port of Spain Declaration inclusive of QMS. Particular attention has been paid to QMS because of the challenge it is expected to pose for the limited Aeronautical Information resources of E/CAR States. After much consideration, it was decided to adopt the COESNA model of a single harmonized QMS. COCESNA has a QMS certified to ISO 9001 2008 quality standard since 2007 for some Central American States. The NACC RO AIM also supports this model and believes that this is the way forward for the ECAR. The E/CAR AIM Committee recognizes that in order to implement a single QMS there will be the need to provide some sensitization on QMS and what will be required of each State in order for such a system to be successful. To this end, an AIM QMS Workshop was convened in Antigua and Barbuda 14 -18 March.

2.2.2 This event is intended to enhance the knowledge and understanding of participants as it relates to the requirements of a Quality Management System (QMS) that complies with the ISO 9000 Series of Quality Assurance Standards in the context of existing and future AIM products and services that will facilitate and enable the collection, processing, storing and timely availability of quality assured aeronautical information or data.

The Main QMS Objectives of the Workshop are:

- Define the responsibilities and accountabilities with respect to AIM QMS;
- Provide an overview of the requirements of a Quality Management System;
- Explain the importance of a Quality Management System in the context of Aeronautical

Information Management:

- Explain Quality Management principles and ISO 9001 Standard requirements.
- Explain the procedure for handling non-conformities, corrective and preventive actions.
- Explain the procedure for document and records control.

2.3. *The Central Flight Planning Unit*

2.3.1 The Central Flight Planning Unit is intended to solve two (2) problems: (1) instituting a single AFTN address to be used within the Piarco FIR and (2) to organize a central flight planning system that will analyze and automatically address flight plans to the appropriate states with the Piarco FIR.

2.3.2 Trinidad and Tobago has indicated that the Central Flight Planning Unit will be deployed during the second Quarter of 2016. Details of requirements and implementation were presented during the AIM QMS Workshop to be convened in Antigua and Barbuda 14 -18 March, 2016

2.4 *Electronic Terrain and Obstacle Data (eTOD)*

2.4.1 The area of Electronic Terrain and Obstacle Data (eTOD) was identified for desired training. In this regard a Seminar was scheduled and presented in November 2015 in Mexico City.

2.4.2 Three Caribbean States, Jamaica, Barbados and Trinidad and Tobago attended the eTOD Seminar convened at the ICAO NACC Regional Officer, November 2015. This is a very important area which must be developed in order for required future AIM products to be implemented.

2.5. States are committed to developing the AIM action plans for the AIS to AIM transition (Conclusion NACC/WG 4/7).

2.6 The matter of action plans for the transition of AIS to AIM will be addressed at AIM QMS Workshop to be convened in Antigua and Barbuda 14 -18 March 2016.

2.7 Under **Appendix A** a summary of the progress and work of the, ATM and CNS Committees is presented.

3. *Suggested Actions*

3.1 The Meeting is invited to:

- a) take note of the information contained in this paper; and
- b) recommend any other action as deemed necessary

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SUMMARY OF THE PROGRESS AND WORK OF THE ATM AND CNS COMMITTEES

ATM COMMITTEE ACTIVITIES

- a) Updating the E/CAR ATM Committee’s Points of Contact (PoC);

Attached below is the list of POCs for the ATM Committee updated 17 July 2015.

STATE	MEMBER/S	E-MAIL ADDRESS	TEL / CELL / FAX
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	Dan Eaves Requirements and Validation for En Route and Oceanic Projects AJV-724	dan.eaves@faa.gov	T +1 202-267-4726
ECCAA (Antigua & Barbuda, Dominica, Grenada, Saint Kitts and Nevis, Saint Lucia, Saint Vincent and the Grenadines)	Charles Anthony Meade Acting Director, Air Navigation Services Eastern Caribbean Civil Aviation Authority	ameade@eccaa.aero contact@eccaa.aero	T + 1 268 462 0000

b) Review of PBN activities/initiatives within the E/CAR area;

One of the major issues identified in the E/CAR is the lack of expertise and training in PBN related matters. The PBN Task Force Member from Canada shared informative operational material from NAV CANADA’s Plan. CANSO also provided a PBN “Best Practices” document for all States/Territories to utilize. Trinidad and Tobago hosted a PBN Workshop for the ECAR Region from 19 – 22 November 2015. During this Workshop, the United States distributed detailed training plans used by the FAA for training Air Traffic Controllers on PBN.

This PBN Workshop employed a practical approach with interactive sessions that allowed States/Territories to engage in the CDM process and get hands-on experience in airspace planning and design. Some participants stated that it was the first time they understood the steps necessary to begin their Airspace Concept Planning. During the workshop an E/CAR PBN Airspace Concept Subgroup of the ATM Committee was formed, and States agreed to liaise with each other regarding the harmonization of airspace plans in the Piarco FIR. Representatives from Saint Lucia, Guadeloupe and Dominica were not present at these Workshops.

On 05 January 2016, 01 February 2016, and 24 February 2016, correspondences were disseminated to all PBN POCs within the E/CAR and ATM Committee Members requesting updates on their respective TMA Design Conceptual Plans. To date only Barbados, Antigua and Grenada have provided responses.

Trinidad and Tobago continues to collaborate with adjacent FIRs in the restructuring of the upper airspace and has submitted its Upper Airspace Conceptual Route proposals to ICAO/IATA in preparation for the PBN Harmonization Meeting in Ft Lauderdale. Bilateral meetings with the United States were held in Trinidad from 15 – 19 February 2016 and discussions are taking place with Guyana, Suriname and Brazil to restructure the route system between North and South America.

Through IATA, Trinidad and Tobago were able to make contact with a POC from Venezuela and has submitted a copy of the Piarco FIR Airspace Redesign Concept to that State.

Trinidad and Tobago is in the final stages of validation of new LNAV/VNAV (APV) procedures for the runways at both its international airports. These will be operational by November 2016.

Trinidad and Tobago will provide an Information Paper detailing the CDM process with the United States in the development of a new RNAV route through the New York and Piarco FIRs.

St. Vincent and the Grenadines is presently reviewing its traffic data to determine the optimal locations for its PBN arrival and departure routes.

c) **Review of ATS Coordination activities between VC Bird APP, Princess Juliana APP, San Juan CERAP and Piarco ACC**

After the establishment of a Memorandum of Understanding (MOU – effective 04 May 2015) to address issues relating to ATS Coordination activities between VC Bird APP, Princess Juliana APP, San Juan CERAP and Piarco ACC, the monitoring phase has continued to show positive results.

d) **Updates on the Caribbean and North Atlantic Regional Supplementary Procedures (Doc 7030) amendment submission**

The E/CAR/CATG ATM Rapporteur has no updates to report on concerning this Item.

e) **Review of Air Traffic Service(s) (ATS) Letters of Agreement (LOAs);**

Trinidad and Tobago has signed revised LOAs with the French Antilles (Guadeloupe and Martinique – effective date 01 December 2015), signed an addendum to the LOA with Cayenne (effective date 4 February 2016) Trinidad and Tobago continues to engage other States/Territories regarding the review of ATS LOAs with those entities.

SVG is reviewing its letters of agreement with neighbouring States with a view to making adjustments to accommodate the operations at Argyle. However, several of these changes are dependent on the completion of other works at Argyle.

f) **Operational use of Controller-Pilot Data Link Communication (CPDLC) and Automatic Dependent Surveillance - Contract (ADS-C) in the E/CAR area (Will be addressed by T&T);**

During the period June – September 2015, Trinidad and Tobago conducted tests on its ADS-C/CPDLC System. Remedial action taken by the System's ATM Supplier to address identified deficiencies resulted in improved performance during further testing.

An ICAO Go-Team visited Trinidad and Tobago in October 2015, to provide assistance with the implementation of ADS-C/CPDLC. The mission was very successful and the initial report from the ICAO Go-Team leader indicated that Trinidad and Tobago is well on course for full implementation by the end of second quarter 2016.

Currently, ATCOs from Trinidad and Tobago are being trained and an AIC has been published with an operational date of 07 July 2016.

g. Operational assistance to St Vincent and the Grenadines regarding the **ANS Implementation Project** for Argyle Airport.

Since the PBN Workshop hosted by Trinidad and Tobago in November 2015, Trinidad and Tobago has received no correspondence from Saint Vincent and the Grenadines with regards to requests for assistance in PBN matters and their ANS Implementation Project.

St. Vincent and the Grenadines (SVG) had previously requested assistance from the TTCAA in training and development and setting up of its AFS system at Argyle. This was agreed to following a meeting with the authorities of SVG, Trinidad and ECCAA in St. Vincent. The participation of the TTCAA contingent was facilitated by CASSOS.

Subsequently, Air traffic controllers in SVG were trained in the new procedures (for Argyle) and provided with refresher training by the CATC's personnel in St. Vincent from 21st September to 30th October 2015. This was followed by simulation and development training at the facility in Trinidad for nine (9) controllers from 9th to 27th November 2015. SVG also participated in the ATFM and PBN workshops held in Trinidad 16th to 22nd November 2015.

The work on the setting up of the AFS at Argyle was delayed due to administrative issues with the TTCAA. It is expected that these would be resolved and the systems installed and tested prior to the opening of the airport. No date has been set as yet.

ATM COMMITTEE ACTIVITIES

This section of this paper shows the status update since the E/CAR/CATG/01 meeting of the CNS Committee activities, highlighting:

ADS-B/MLAT

1. Barbados:

A contract was awarded to Selex ES for five (5) MLAT sensors for the airport and seven (7) Wide Area Multilateration (WMLAT) sensors to improve the NW sector of Barbados Terminal Control Area (TMA)). MLAT data may be eventually shared with the E/CAR surveillance data pool. The project has a target date of Q4 2015. To date Initial software customization issues have been addressed with Barbados Air traffic Control and Selex. The project is currently approaching the Factory Training and testing stage expected in early August. It is expected that the operator Training phase can occur in December 2015.

2. ECCAA:

Feasibility studies are underway in the OECS States toward the implementation of MLAT.

3. France

MLAT Simulations carried out in Martinique and French Guyana led to the conclusion MLAT was not an efficient solution to cover all the airspace for Approach.

ADS-B – French Guyana - 2 receivers for trials in 2015, 5 receivers for control in 2016/2017. 1 receiver in Martinique in 2016 for trials and work on Conops.

4. *Trinidad and Tobago*

Trinidad and Tobago acquired a DO 260A ADS-B receiver with the ATM System upgrade. The receiver and the associated antenna are installed. Initial trials were conducted and the data collected and analysed.

Discussions have been initiated with a vendor for an ADS-B trial with a receiver at one (1) of the VHF high sites in addition to the one (1) at Piarco. One of the projects planned for realization this year is the implementation of a combination of ADS-B/MLAT to provide surveillance in the South sector and ADS-B in the continental airspace of the Piarco FIR.

ADS-C and CPDLC

1. Trinidad and Tobago:

Trials are underway for FANS1/A (ADS-C and CPDLC) services from ARINC. E/CAR/CATG/2 — DP/02— 3 —2. San Juan:

Trials have been successfully completed and ADS-C is fully implemented.

GNSS Augmentation

1. Trinidad and Tobago:

SACCSA (SISTEMA DE AUMENTACIÓN PARA EL CARIBE, CENTRO Y SUDAMÉRICA- Augmentation System for the Caribbean, Central and South America) Project RLA/03/902 to analyze the technical, institutional and financial viability of implementing Satellite Based Augmentation Systems (SBAS)/Global Navigation Satellite Systems (GNSS) system in the CCAR/SAM regions has come to a close. The research has shown positive results. The next stage could be the implementation of the system.

AMHS

The AMSS-TT system is currently functioning in AFTN mode. Cutover of the CADASATS in the Eastern Caribbean States to AMHS has been revised to be completed by the third quarter of 2015.

The Technical Letter of Agreement for the Interconnection of AMHS Systems with the FAA has been completed. Testing with the FAA began in February 2014. Cutover date has been revised to the third quarter of 2015. The transition to AMHS will be seamless to the network. The work that is required involves only configuration changes to the AMHS equipment.

NETWORKS

MEVA-E/CAR Interconnection:

The new dedicated MEVA circuit required for the radar exchange between San Juan and Sint Maarten, and the voice circuits to Anguilla, Antigua and St. Kitts is already installed. The interconnectivity would allow Sint Maarten to share their radar with Trinidad and Tobago as part of the radar feeds that will support the Radar Data Server project to be implemented for the E/CAR States/Territories. To complete the voice circuits implementation in the MEVA III- ECAR AFS Network interconnection:

- Trinidad and Tobago to install the replacement routers in Anguilla by July 2015
- United States to complete the wiring between the MEVA III and E/CAR AFS Node by 14 August after the routers in Anguilla are replaced
- For the testing, United States, Comsoft, TSTT, Trinidad and Tobago, Sint Maarten, Anguilla, St. Kitts and Antigua to coordinate the corresponding actions.

AFISNET:

ASECNA (L'Agence pour la Sécurité de la Navigation aérienne en Afrique et à Madagascar - Agency for Aerial Navigation Safety in Africa and Madagascar) made a proposal to Trinidad and Tobago and French Guiana for the deployment of AFISNET (African and Indian Ocean Satellite Network) VSAT stations to link the FIRs of Piarco and Cayenne to Dakar. To accelerate and simplify the coordination of such project,

ASECNA proposed to defray the cost of providing and installing the VSAT stations, maintenance and related costs particularly the space segment.

Installation started on July 1, 2015 with commissioning tentatively in August 2015. E/CAR/CATG/2 — DP/02 — 4 —

Radar Sharing with E/CAR:

The installations of the IRMA computers have been completed for St. Vincent (January 27, 2015), Antigua (March 19, 2015), Grenada (April 17, 2015), Montserrat (May 18, 2015), Dominica (June 12, 2015), Barbados (June 18, 2015), St. Kitts (June 25, 2015) and Nevis (June 25, 2015). Anguilla will be scheduled after the routers are replaced.

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