



ICAO

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WORKING PAPER

E/CAR/CATG/2 — WP/17
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Second Eastern Caribbean Civil Aviation Technical Group (E/CAR/CATG/2) Meeting
Miami, United States, 15 to 17 July 2015

Agenda Item 4: Air Navigation Matters

4.2 Follow-up on the implementation of the NAM/CAR Regional Performance Based Air Navigation Plan (RPBANIP) and the Port-of-Spain Declaration Air Navigation Targets in the Eastern Caribbean

TRINIDAD AND TOBAGO ATFM PROGRESS REPORT

(Presented by Trinidad and Tobago)

EXECUTIVE SUMMARY

This working paper presents an update on the progress of Trinidad and Tobago's ATFM development. The paper discusses ATFM measures that were implemented in the past due to special events, ATFM/CDM measures currently in use at the Piarco ATS facility, and briefly discusses Trinidad and Tobago's plans for the implementation of a formal ATFM/CDM system to meet with the Port of Spain Declaration Target dates.

Action:	The suggested action is presented in Section 3
<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">• Port of Spain Declaration• NAMCAR Regional Performance Based Air Navigation Implementation Plan• Minutes from the ANI/WG ATFM Task Force

1. Introduction

1.1 Based on the Regional Air Navigation targets that were agreed upon during the Fifth Meeting of the North American, Central American and Caribbean Directors of Civil Aviation (NACC/DCA/5), and in order to comply with the ICAO Regional Performance Objectives (RPOs) as it relates to Demand and Capacity Balancing (DCB), and Airspace Organization and Management (AOM), contained in the NAMCAR Regional Performance Based Air Navigation Implementation Plan (RPBANIP), Trinidad and Tobago has begun the process of implementing Collaborative ATFM.

1.2 In the past, Trinidad and Tobago has implemented ATFM measures, through the strategic, pre-tactical, and tactical phases, for the purpose of managing air traffic during periods of excessive demand due to special events.

1.3 One such event in which ATFM measures were implemented in the Piarco FIR was during the International Cricket Council (ICC) Cricket World Cup 2007 (CWC 2007), which was played in the Caribbean from 01 March 2007 to 05 May 2007. A summary of the ATFM action plan, led by Trinidad and Tobago, can be found in ATM/COMM/5 – WP/14.

1.4 ATFM was also employed at the various phases during official events such as; the 5th Summit of the Americas, April 17-19, 2009; and the 21st Commonwealth Heads of Government Meeting, held in Trinidad and Tobago, November 27-29, 2009.

2. Discussion

2.1 Trinidad and Tobago continues to work along with the members of the NAM/CAR ATFM Task Force, headed by the ANI/WG ATFM Implementation Task force Rapporteur, Mr. Lenard Carter, in order to contribute towards the regional implementation of ATFM, and to ensure that ATFM development within the State and Piarco FIR is aligned with the regional concept.

2.2 The NAM/CAR ATFM task-force meetings have already begun to have a favourable impact on the air traffic management operations at the Piarco ACC in the area of CDM. The Piarco ACC participates in scheduled conference telecons, hosted by the Federal Aviation Administration (FAA), along with other ANSPs, airlines and aviation stakeholders, in order to share with the aviation community information on any situation that may affect the flow of air traffic. Prior to the start of the FAA telecon, the Piarco ACC contacts each of the TMAs located within the Piarco FIR to request information on the status of their airspace. Piarco ACC requests information such as: weather, traffic projections, airspace and airport constraints, and any other pertinent information. The information is logged on hard copy form called the “Caribbean Outlook Telecon form” that was designed for this purpose. The information on this form is shared with the participants of the FAA’s scheduled teleconference. This form is depicted in **Appendix A**. Trinidad and Tobago is requesting that this form be filled out electronically by each relevant TMA and send to piarcofmu@caa.gov.tt at or before 1100 UTC daily.

2.3 Piarco is proposing to update this daily reporting form into an electronic format which would be filled out and disseminated online to all relevant stakeholders via an ATFM website/webpage which is in the process of being developed. This electronic form is depicted in **Appendix B**.

2.4 The FAA International Operations (IO) is available to Trinidad and Tobago, as well as other States and/or ANSPs in the NAM/CAR region, outside the hours of the scheduled telecons. The FAA IO position has the ability to effect tactical conferencing with adjacent ANSPs and the relevant airlines. Trinidad and Tobago utilizes this facility to share information on matters within the Piarco FIR that may affect the flow of air traffic, such as:

- Equipment Outages
- Airport incidents (TTPP or within the TMAs) that may reduce capacity or create delays
- Aeronautical fixed Telecommunication Network (AFTN) interruption/outages
- Staffing issues that may cause interruptions to Air Traffic Services
- Meteorological systems within the FIR that contributes towards the reduction in capacity.
- Any other situation that may reduce traffic flow.

2.5 Presently, air traffic control staff utilizes basic software tools, provided by the SELEX ATM system, to analyse and tactically monitor the daily traffic demand.

2.6 The TTCAA ANSP has designated operational areas within the confines of the air traffic control room for a Flow Management Unit (FMU) and a Flight Management Position (FMP).

2.7 Trinidad and Tobago, through the assistance of a professional subcontractor, conducted an operational gap analysis on December 18-19, 2014, on the current state of the ANSP's ATFM implementation. Based on the gap analysis conducted, the professional subcontractor returned to the TTCAA on January 20 – 21, 2015 to provide a technical overview on the requirements needed for the establishment of an ATFM Unit to meet the Piarco FIR's operational needs and to ensure that the Port of Spain Declaration Targets are met.

2.8 Trinidad and Tobago has since contracted the service provider, IDS-NA, to obtain automated ATFM software/hardware tools and equipment to assist with situational awareness, demand and capacity balancing, and CDM. IDS-NA will also provide all the necessary support services, such as training and other related professional services for the effective implementation of ATFM.

2.9 Trinidad and Tobago will conduct an ATFM/CDM workshop with local stakeholders (Airport authorities, Operators etc.), and States whose TMAs lie within the Piarco FIR, in November 2015 (dates to be determined), to ensure that all stakeholders and adjacent TMAs are fully trained to participate in, and are part of, the decision making process.

2.10 Through increased automation and ATFM/CDM training for TTCAA staff and external stakeholders, there will be increased situational awareness amongst all stakeholders. The CDM process will improve the overall ATM system operational efficiency and predictability.

2.11 As part of its ATFM implementation plan, Trinidad and Tobago will be seeking to collaborate with adjacent FIRs and the TMAs within the Piarco FIR on establishing Traffic Management Initiatives (TMIs). ATFM/CDM Letters of Operational Agreements with adjacent FIRs and TMAs will also be updated.

2.12 The ICAO NACC Regional Office conducted an ATFM Go-Team mission to Trinidad, from 23-25 June, 2015, led by Mr. Carlos Gonzalez, Regional Officer, ATM Specialist, and assisted by Mr. Roosevelt Pena, Subject Matter Expert from the Dominican Republic.

2.13 Following this mission, the ICAO NACC Office requests that Trinidad and Tobago develop and submit an ATFM action plan by October 1, 2015.


2.14 Trinidad and Tobago will align its ATFM implementation initiatives to conform to the specific initiatives, outlined in the NAM/CAR ATFM Task Force Work Programme (**Appendix C**), for a regional concept of ATFM implementation in the NAM/CAR Region.


3. Suggested Action

3.1 The meeting is invited to:

- a) note the information contained in this paper;
- b) discuss any relevant matters as appropriate; and
- c) urge states within the Eastern Caribbean Region to:
 - i. actively participate in the NAM/CAR ANI/WG ATFM Taskforce activities;
 - ii. attend the ATFM/CDM workshop being hosted by Trinidad and Tobago;
 - iii. send to Piarco ACC relevant operational information that would affect the flow of air traffic; and
 - iv. review and publish aerodrome capacity

APPENDIX A CARIBBEAN OUTLOOK TELECON FORM

 CARIBBEAN OUTLOOK TELECON	
HOST: FAA Air Traffic Control Services Command Centre (ATCSCC) Contact No: 1-540-359-3200 PIN No:2316#	
DATE: Year / Month / Day	TIME: UTC (Weekly)
Weather: Piarco and TMAs	Traffic Projections: Piarco and TMAs
TAPA-	
TFFR-	
TFFF-	
TBPB-	
TLPL-	
TVSV-	
TGPV-	
TTPP-	
TTCP	

 CARIBBEAN OUTLOOK TELECON	
Airspace Constraints:	
Airport Constraints:	
Ant Other Information (e.g. TMIs proposed etc. (Any issues which may cause delays))	
Remarks:	
Supervisor's Signature	

APPENDIX B
PIARCO ATFMU ELECTRONIC DAILY REPORTING FORM

Piarco ATFMU Daily reporting Form				
Date: Click here to enter a date.				
UNIT	Weather Forecast	Traffic Projection	Equipment Status	Other Information/Remarks (e.g. planned TMs)
TTPP	Click here to enter text.	Click here to enter text.	Click here to enter text.	Click here to enter text.
TTCP	Click here to enter text.	Click here to enter text.	Click here to enter text.	Click here to enter text.
TBPB	Click here to enter text.	Click here to enter text.	Click here to enter text.	Click here to enter text.
TGPY	Click here to enter text.	Click here to enter text.	Click here to enter text.	Click here to enter text.
TVSV	Click here to enter text.	Click here to enter text.	Click here to enter text.	Click here to enter text.
TLPL	Click here to enter text.	Click here to enter text.	Click here to enter text.	Click here to enter text.
TFFF	Click here to enter text.	Click here to enter text.	Click here to enter text.	Click here to enter text.
TFFR	Click here to enter text.	Click here to enter text.	Click here to enter text.	Click here to enter text.
TAPA	Click here to enter text.	Click here to enter text.	Click here to enter text.	Click here to enter text.
TKPK	Click here to enter text.	Click here to enter text.	Click here to enter text.	Click here to enter text.

APPENDIX C
NAM/CAR ATFM TASK FORCE WORK PROGRAMME

ATFM Mission Statement

The ATFM Work Programme (WP) provides specific initiatives for the development of a regional concept of ATFM implementation in NAM/CAR Region. This is consistent with ICAO Doc. 9971 and other related global documents. It takes into consideration the execution of a simple, basic, and incremental approach of promoting, sharing and implementing a regional, interoperable ATFM framework.

INTRODUCTION

People, automation, technology and collaboration with system stakeholders (inclusive of academia) will be the core principles of this project. The Work Programme seeks to:

1. Establish consistent regional ATFM planning and operating practices
2. Encourage a collaborative and harmonized approach to ATFM amongst States and Regions
3. Foster a systemic approach to ATFM, inclusive of all ATM community members

The document takes into consideration the diverse range of experience, technology and available resources. Each group tasking will be categorized using the following key:

Short Term: Achievable within 1 year time frame (Tactical)

Medium Term: Accomplishable within 1-2 year time frame (Pre-tactical)

Long Term: Obtainable within 3-5 year time frame (Strategic)

*** This document shall be a guideline for establishing ATFM NAM/CAR goals and reviewed periodically throughout the year. A formal review each calendar year shall be conducted during the ANI/WG and NACC/WG meeting so as to update/revise/modify its content for currency and applicability.

<u>No</u>	<u>Activity/Actividad</u>	<u>Objective/Objetivo</u>	<u>Responsible/Responsable</u>	<u>Deliverable/Entregable</u>	<u>Date/Fecha</u>
1	<u>Regional assessment of ANSPs</u> <ul style="list-style-type: none"> - Identify participants - Capabilities - Experience (entry/intermediate/advance) - FMU/FMP/Ops Sup/Mgr. - What do ANSPs need? - Conduct study of existing/future FMP/FMU and a Regional Centralized FM Center - Note: A review as to the specific methodology to solicit this info (email/survey etc.) will be determined 	Provide a baseline assessment of resources, needs & capabilities	ATFM Task Force Team	Report/document to be determined	Short Term (Dec 2014 – Jan 2015)
2	<u>Procedural Agreements</u> <ul style="list-style-type: none"> - Establish bi-lateral/multi-lateral LOAs between States/FMUs - Identify high volume/prefer city pairs/routes - Develop multi-FIR regional network of ATFM coordination - Develop Regional harmonized methodology for the collection, analysis and reporting of demand/capacity, and delay data. - Research guidance on qualifications and competencies for ATFM personnel and develop action plan 	Provide formalize agreements that will facilitate the safe and efficient movement of high density, constrained focused areas	ATFM Task Force Team	Formalized inter/intra ATM agreements that will identify and enhance regional efficiency for the safety and movement of air traffic	Med-Long term (2016)
<u>No</u>	<u>Activity/Actividad</u>	<u>Objective/Objetivo</u>	<u>Responsible/Responsable</u>	<u>Deliverable/Entregable</u>	<u>Date/Fecha</u>

3	Training <ul style="list-style-type: none"> - Assess training needs of ANSPs - Establish list of TNG subjects - Solicit instructors - Establish Schedule - Publish/coordinate events - Establish cross TNG, personnel exchange program Perform ATFM workshops/seminars/visits	Provide a core foundation to build upon for Regional participants	ATFM Task Force Team	Report listing training accomplishments as noted	Medium to Long Term (2015 – 2017)
4	Tools, technology & automation <ul style="list-style-type: none"> - Research development of Ops web page - Flight plan processing - Data exchange between ANSPs - Identifying ATFM suite of tools such as Prediction & Monitoring Tools - Development of Meteorological Products - Est. Sub-Team for research/development of future concept of regional ATFM system Est. a test bed for testing and implementing future technologies for modeling	Ongoing research development. Mid-Long term objective which will evaluate, strategic goals for Regional ANSPs regarding integration & harmonization of ATFM tools & technologies. This should incorporate the capability for growth & airspace modeling	ATFM Task Force Team	An integrated, comprehensive pre-tactical web based conference which includes various stakeholders	Med-Long term (2015-2017)
5	Schedule Regional ATFM Workshops <ul style="list-style-type: none"> - Enhance cooperation - Share best practices and ideas - Forecast future growth/needs - Encourage academia and industry participation 	Provide a foundational baseline of refresher & supplemental training for personnel involved in ATFM. To be accomplished in concert with stakeholder community	ATFM Task Force Team	Schedule ATFM workshops, seminars, webinars and symposiums for the purposes of furthering ATFM education	Med-Long term (2015-2016)
6	Improve Demand and Capacity Balancing (DCB) <ul style="list-style-type: none"> - Establish coordination with key stakeholders - Identify major traffic flows/city pairs - Research airport/sector capacity calculation - Compare with ICAO ATFM Global Doc - Id high density airports/sectors - Develop mitigation strategies 	Provide initial steps needed to work with aviation stakeholders, identify major city pairs and focus on constrained density areas	ATFM Task Force Team	Report/document identifying these objectives for aviation stakeholders	Med - Long 2015 - 2016
7	Pre-Tactical Operation Daily Briefing <ul style="list-style-type: none"> - Solicit input from ANSPs & stakeholders - Develop Ops Briefing checklist - Select Ops telcon platform (GoTo or ATCSCC) - Train/practice web conferences - Research Traffic Management Initiatives - Standardization - Notification - Implementation - Documentation - Review analysis - Publication of the Daily ATFM Plan 	Provide a venue for ANSPs, stakeholders and the aviation community to participate, engage & collaborate in ops info sharing	ATFM Task Force Team	An integrated, comprehensive pre-tactical web based conference which includes various stakeholders	Mid-Long Term (2015 - 2016)
<u>No</u>	<u>Activity/Actividad</u>	<u>Objective/Objetivo</u>	<u>Responsible/Responsable</u>	<u>Responsible/Responsable</u>	<u>Date/Fecha</u>
8	Flexible Use Airspace <ul style="list-style-type: none"> - Perform assessment of where FUA can be utilized/benefit - Identify civil/military coordination entities - Arrange for permanent liaison and cooperation between civil ATS and air defense units. - Conduct regional review of SUA - Assess use of airspace management process - Review use of dynamic airspace processes 	Identify and facilitate the cooperation between Civil/Military Organizations for the movement of Air Traffic	ATFM Task Force Team	Develop training, formalize LOA's, and pre-tactical coordination between organizations	Mid-Long Term 2015 - 2017

	<ul style="list-style-type: none"> - Institute dynamic ATC sectorization and notification for demand and capacity - Develop performance measurement programme - Review/establish LOAs between FMUs/Military - Data Sharing between Civil and Military Units 				
9	<p>Contingency Planning</p> <ul style="list-style-type: none"> - Interoperability - Seamless continuity plan 	Establish a foundational baseline of education to construct a regional continuity plan of operation in the event of catastrophic occurrence	ATFM Task Force Team	This can be accomplished via ongoing training webinars, presentations and refresher training	Short-Med Term (2015 - 2016)
10	<p>ANI/WG Decision 1/3</p> <p>Provide progress report/update for Chairperson reference NACC/WG/4</p>	Liaison with Regional Coordination Group	TF Rapporteur	Work Programme and Revised ToR to ICAO R/O	June 2015
<p>References:</p> <ul style="list-style-type: none"> - Manual on Collaborative Air Traffic Flow Management (Doc 9971) - Caribbean/South American Air Traffic Flow Management Concept of Operation (CAR/SAM CONOPS ATFM) - Global Air Traffic Management Operational Concept (Doc 9854) - Manual on Air Traffic Management System Requirements (Doc 9882) - Manual on Global Performance of the Air Navigation System (Doc 9883) - Manual on Flight and Flow – Information for a Collaborative Environment (Doc 9965) - Civil/Military Cooperation in Air Traffic Management (Cir 330-AN/189) - Procedures for Air Navigation Services — Air Traffic Management (PANS-ATM, Doc 4444) 					