Fourth NAM/CAR Air Navigation Implementation Working Group Meeting (ANI/WG/4)
Miami, United States, 21 – 24 August 2018

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

PROGRESS REPORT ON ATFM TASK FORCE WORK PROGRAMME

(Presented by ANI/WG ATFM Rapporteur)

EXECUTIVE SUMMARY
This Working Paper presents the progress achieved by the Air Traffic Flow Management (ATFM) Implementation Task Force (TF) since its previous progress report to the Fifth North American, Central American and Caribbean Working Group Meeting (NACC/WG/5) in Port of Spain, Trinidad and Tobago, 22 to 26 May 2017. This paper includes the results for previously identified deliverables and recommendations for improving the Task Force function and coordination.

Action:	Action Suggested in Section 3.
Strategic Objectives:	• Safety • Air Navigation Capacity and Efficiency
References:	• NAM/CAR Regional Performance-Based Air Navigation Implementation Plan (RPBANIP) • First NAM/CAR Air Navigation Implementation Working Group Meeting (ANI/WG/1), Mexico City, Mexico, 29 July to 1 August 2013 • Second NAM/CAR Air Navigation Implementation Working Group Meeting (ANI/WG/2), Puntarenas, Costa Rica, 1 - 4 June 2015 • Third NAM/CAR Air Navigation Implementation Working Group Meeting (ANI/WG/3), Mexico City, Mexico, 4-6 April 2016 • Fifth North American, Central American and Caribbean Working Group Meeting (NACC/WG/5), Port of Spain, Trinidad and Tobago, 22 to 26 May 2017 • ATFM Task Force teleconferences, webinars and e-mail correspondence

1.   **Introduction**

1.1   The Air Traffic Flow Management (ATFM) Implementation Task Force was established during the first ICAO NACC Air Navigation Implementation Working Group Meeting (ANI/WG/1) in 2013, to reflect the importance of Traffic Flow Management (TFM) to the Region. The objective of the ATFM TF is to work collaboratively and develop a regional and interoperable ATFM framework in the NAM/CAR Regions that is consistent with ICAO Doc 9971 — *Manual on Collaborative Air Traffic Flow Management* and other related global documents.

1.2   During the 2017 NACC/WG/5, the ATFM Task Force presented an update to the meeting on the TF progress on its work program. The TF is comprised of members from Canada, Dominican Republic, Trinidad and Tobago, Haiti, Jamaica, United States, Civil Air Navigation Services Organization (CANSO), Central American Corporation for Air Navigation Services (COCESNA), International Air Transport Association (IATA), International Civil Aviation Organization (ICAO) and Mexican Airspace Navigation Services (SENEAM) (See **Appendix A**).

2.   **ATFM Task Force Progress and Results**

2.1   The TF held three web conference meetings since June 2017. The meetings have included information on the current TF participants and a proposal to add new participants. The web conferences provided updates on data sharing from United States and the experience of Trinidad and Tobago sharing the benefits of data exchange through System Wide Information Management (SWIM). The web conferences also provided an opportunity to discuss the routes used during high volume seasonal traffic and for discussing contingency plans during hurricane operations. Because of the web conferences, Trinidad and Tobago and United States will coordinate in advance the holiday routes used during the November to March timeframe.

2.2   The TF continues to promote ATFM in the region through the CANSO Air Traffic Flow Management Data Exchange Network for the Americas (CADENA) web conference and webpage. Using CADENA as an example, the TF encourages States to engage in information exchange with other States and stakeholders. CADENA provides an excellent platform for both day-to-day operational issues and recovery operations, such as those experienced during the very significant hurricane season in August and September of 2017.

Deliverables and Results

2.3   The focus for 2018 continues to be the sharing of best practices, information on demand and capacity balancing, and ATFM capabilities in the region. The TF is encouraging all Air Navigation Service Providers (ANSPs) and stakeholders to participate and share information from operations at the airport level through the overlying airspace. See **Appendix B** for specific tasking goals/dates of the updated work programme. With the information available to ANSPs, States can better identify their constraints, implement flow management programs, improve their arrival and departure rates, and increase capacity for both airports and airspace.

2.4   The TF developed and delivered a three-day ATFM 101 course with the first course successfully completed February 2018. The goal and objective of the ATFM course is to establish consistent regional ATFM operating practices and procedures. The training is designed to allow the individual States to deliver the content to their traffic managers. In addition, the course encourages a collaborative and harmonized approach to ATFM amongst States and Regions to enhance global ATFM.

2.5   ATFM 101 teaches the history, present, and future, of ATFM to the regional Towers, Approach Controls and Air Control Center personnel. Participants learn the ATFM mission requirements and ATFM structure and responsibilities of Flow Management Units (FMU). In addition, participants learn the Collaborative Decision Making (CDM) process; understand basic System Thinking within ATFM, and how to use effective listening skills, conflict management and resolution skills. Students also learn terms and definitions associated with ATFM, Traffic Management Coordinator (TMC) job functions and methods of implementing Traffic Management Measures (TMM). Also discussed were airport and airspace capacity, understanding delay and the role of the TMC during weather events and contingencies.

2.6   The second ATFM 101 course will occur the first week of June 2018 in the Dominican Republic. The TF envisions a three-phase approach for ATFM training, with Phase 1 being the ATFM 101 course; phase 2 ATFM Workshop will be additional ATFM instruction. United States and ICAO will instruct the CADENA Operational Information System (OIS) Operational Planning development, CADENA OIS for TMM, Quality Control (QC) documentation, planning and running CADENA teleconferences. In addition, development and coordination of contingency plans between FIRs and ANSPs, with tabletop exercises and introduction of Collaborative Decision Making (CDM) development with stakeholders will be discussed. Phase 2 is planned to begin in 2019. Phase 3 ATFM Advanced Workshop will occur as ANSPs are able to calculate air traffic airport or sector demand. United States and ICAO will provide ATFM Advanced Workshop to include instruction on State agreements, advanced QC review (trends and effect), lab/simulator sessions, dynamic capacity, using ATFM Tools and encourage CDM development between stakeholders and airports.

Recommendations for Improving ATFM Implementation

2.7   Since the ATFM TF held its first web conference in March 2016, the region has had a tremendous increase in coordination and collaboration amongst the States through efforts such as CADENA and the quarterly TF web conferences. Through data sharing and information exchange, all stakeholders in the region are experiencing a greater understanding of the constraints in the area and how ATFM and CDM can assist in improving the safe and efficient flow of traffic.

3.   Suggested Actions

3.1   The Meeting is invited to:

a)   evaluate the progress of the ATFM TF detailed in this working paper;

b)   support the recommendations for the three-phase ATFM training; and

c)   review and update Work Program timelines and priorities.

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APPENDIX A

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APPENDIX B

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 for global harmonization.

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)

No	Activity	Objective	Deliverable	Date
1	**Regional assessment of ANSPs** • 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	Report/ document to be determined	Short Term 2017 – 2018
Status/Remarks:				
• The ATFM capability survey was conducted in 2015 and seven out of eight ANSPs were responded. Responded were, Piarco, Santo Domingo, Port Au Prince, Kingston, Curacao, COCESNA, SENEAM. The summary report was delivered. • The 2nd survey questionnaire was sent out to the members in Oct 2016 and was due Dec 2016. 2016 survey responded were, Kingston, Piarco and Santo Domingo. 2016 Survey was discussed during the Jan 23, NAM/CAR ATFM Task Force telcon.				

No	Activity	Objective	Deliverable	Date
2	**Procedural Agreements** • Establish bi-lateral/multi-lateral LOAs between States/FMUs (* CADENA) **– Completed** • Identify high volume/prefer city pairs/routes • Develop multi-FIR regional network of ATFM coordination (* CADENA) • Collect, analyze, and report on demand/capacity, and delay data. • Research guidance on qualifications and competencies for ATFM personnel and develop action plan (* CADENA) • Data Exchange Agreements with neighboring States (* CADENA) • Data Exchange between ANSPs (* CADENA)	Provide formalize agreements that will facilitate the safe and efficient movement of high density, constrained focused areas	Agreements and reports (as needed)	Med-Long term (2017 - 2020)
	Status/Remarks: • The CADENA Letter of Agreement (CADENA member ANSP ATM and CDM) was signed by DG DC-ANSP LAC3 Chair, COO FAA ATO, DG SENEAM, VP AENA with initials of participating members on Dec 6, 2016. • The CADENA operational webcom kicked off on Dec 16, 2016. Preparation includes the establishment of the appropriate procedures, guidelines, data preparation, and training. • TFM Data Exchange efforts are ongoing via CADENA. As of Jan 2017, Trinidad and Tobago is in the implementation phase. Dominican Republic is scheduled to have TIM with FAA in Feb 2017.			
3	**Training** • 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	Report listing training accomplishments as noted	Med-Long term (2017 - 2020)
	Status/Remarks: • Historically, this training was general ATFM training. • The specialized training such as leading the CADENA Operational Webcom were conducted prior to the implementation of this capability. • Possible ETMS FEA development training for SENEAM SMART office.			
4	**Tools, technology & automation** • Research development of Ops web page (* CADENA) • Flight plan processing • Identifying ATFM suite of tools such as Prediction & Monitoring Tools • Explore Meteorological Products • Est. Sub-Team for research/development of future concept of regional ATFM system (* CADENA) • Est. a test bed for testing and implementing future technologies for modelling	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 modelling	An integrated, comprehensive pre-tactical web based conference which includes various stakeholders	Med-Long term (2017 - 2020)
	Status/Remarks: • The TFM Data Exchange related technologies were under development by Trinidad & Tobago. • The TFM Data Exchange Technical Interchange Meeting is scheduled for Dominican Republic and SENEAM.			
5	**Schedule Regional ATFM Workshops** • 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	Schedule ATFM workshops, seminars, webinars and symposiums to further ATFM education	Med-Long term (2017 - 2020)
	Status/Remarks: • Identify the needs of this activity beyond CADENA activities. For example, CADENA is focused on the practical cooperation among themselves and industries and sharing of best practices. ATFM TF might want to focus on future needs that may involve academia.			

No	Activity	Objective	Deliverable	Date
6	**Improve Demand and Capacity Balancing (DCB)** • Establish coordination with key stakeholders (* CADENA) • Identify major traffic flows/city pairs • Research airport/sector capacity calculation (* CADENA) • Compare with ICAO ATFM Global Doc • Id high density airports/sectors (* CADENA) • Develop mitigation strategies (* CADENA)	Provide initial steps needed to work with aviation stakeholders, identify major city pairs and focus on constrained density areas	Report/ document identifying these objectives for aviation stakeholders	Med-Long term (2017 - 2020)
	Status/Remarks: • The CADENA is preparing the library of AAR/ADR information and move on to address sector capacity. • The DCB mitigation strategies are considered via weekly CADENA webcom and information/applied solutions were gathered for future analysis.			
7	**Pre-Tactical Operation Daily Briefing** • Solicit input from ANSPs & stakeholders (* CADENA) • Develop Ops Briefing checklist (* CADENA) • Select Ops Telcon platform (GoTo or ATCSCC) • Train/practice web conferences (* CADENA) • 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	An integrated, comprehensive pre-tactical web based conference which includes various stakeholders	Med-Long term (2017 - 2020)
	Status/Remarks: • The CADENA operational webcom kicked off on Dec 16, 2016. • The FAA is working to estimate the benefits of the CADENA operational webcom.			
8	**Flexible Use Airspace** • 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 • 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	Identify and facilitate the cooperation between Civil/Military Organizations for the movement of Air Traffic	Develop training, formalize LOA's, and pre-tactical coordination between organizations	Long term (2020 - 2025)
	Status/Remarks: • This action item is on-hold.			
9	**Contingency Planning** • Interoperability • Seamless continuity plan	Establish a foundational baseline of education to construct a regional continuity plan of operation in the event of catastrophic occurrence	This can be accomplishments via ongoing training webinars, presentations and	Long term (2020 - 2025)
	Status/Remarks: • This action item is on-hold.			
10	**ANI/WG Decision 1/3** • Provide progress report/update for Chairperson reference NACC/WG/4	Liaison with Regional Coordination Group	Work Programme and Revised ToR to ICAO R/O	2018
	Status/Remarks: • ATFM TF will report to the NACC/WG/5 meeting on May 22-26, 2017. • ANI/WG meeting is biannual and the next meeting will be scheduled in 2018.			

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