



ICAO

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

DISCUSSION PAPER

NACC/WG/5 — DP/02
24/05/17

Fifth North American, Central American and Caribbean Working Group Meeting (NACC/WG/5)
Port of Spain, Trinidad and Tobago, 22-26 May 2017

Agenda Item 3 Implementation on Air Navigation Matters
3.3 ANI/WG Progress on AIM, ATM and CNS

ANI/WG ATFM IMPLEMENTATION TASK FORCE PROGRESS REPORT

(Presented by ATFM Rapporteur)

EXECUTIVE SUMMARY	
<p>This Discussion Paper presents a summary that emanated from the ATFM Task Force Meeting discussion, taking into consideration the following documents:</p> <ul style="list-style-type: none">• NACC/WG/5 WP/14, Progress report by ATFM Task Force• NACC/WG/5 WP/17, ATFM Implementation in the CAR/SAM Regions, presented by IATA• ANI/WG/3 DP/02, ANI/WG ATFM Implementation Task Force Progress Report	
<i>Strategic Objectives:</i>	<ul style="list-style-type: none">• Safety• Air Navigation Capacity and Efficiency• Security & Facilitation• Economic Development of Air Transport• Environmental Protection
<i>References:</i>	<ul style="list-style-type: none">• CAR/SAM ATFM CONOPS• Port of Spain and Bogota Declaration• Doc 9971 - Manual on Collaborative ATFM• CADENA ATFM-CDM Procedures Manual• CADENA Requirements Document and Business Rules Document• High-level CADENA Data Exchange Implementation Requirements And Information Request For Connectivity and Data Handling• CADENA Air Traffic Management and Collaborative Decision Making Letter of Agreement

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 in 2013 to reflect the regional, harmonized and interoperable ATFM framework in the NAM/CAR Region that is consistent with ICAO Doc. 9971 and other related global documents.

2. Discussion

2.1 It is to be noted that the meeting comprised of very few task force members, and that the items discussed in this forum will need to be circulated and discussed with the remaining ATFM TF members at the next quarterly TF web meeting.

2.2 Participants at the ATFM TF for the NACC/WG/5 Working Sessions were:

- Mr. Curtis Fraser, TTCAA
- Ms. Midori Tanino, FAA/ATO
- Ms. Leah Moebius, FAA ATO
- Mr. Marco Vidal, IATA
- Mr. Eddian Mendez, ICAO Regional Officer Air Traffic Management and Search and Rescue
- Mr. Carlos Gonzalez, Metron Aviation

2.3 During the working sessions the ATFM TF members reviewed the ATFM TF Terms of Reference (Appendix A) and the NAM/CAR ATFM Task Force Work Programme (Appendix B) and held discussions regarding the objectives on the development, improvement and implementation of ATFM. 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.

2.4 The 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.

2.5 ICAO homogeneous traffic flow areas are already identified within airspace optimization in the ICAO CARSAM CONOPS Document. The 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 2 levels:

2.6 Establish baselines for 2 levels

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

Level 1 Requirements

- Determine and declare capacities
- Develop requirements needed for an ATFM structure within an ACC for Level 1 States
- States to develop LOA with adjacent FIRs. ATFM Task Force will develop an LOA template for States consideration.
- Coordinate LOA with CADENA to ensure harmonization
- Ability to perform demand/capacity analysis annually and implement all tasks specified in ICAO Doc 9971 which includes strategic, pretactical, tactical and post analysis.
- Participate in all teleconferences
- Establishing training recommended for Level 1 States

Level 2 Requirements

- Determine and declare capacities
- Define responsibilities as they relate to ATFM for Level 2 States
- Develop LOA with adjacent FIRs. ATFM Task Force to develop LOA template for States consideration. Coordinate LOA with CADENA to ensure harmonized document.
- Participate in teleconferences as needed
- Establishing training recommended for Level 2 States

2.7 The 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, weather coordination, and collaborative decision-making. It will provide information and discussion on system thinking and how interactions within a system affects the quality of its overall performance, as well as airport and airspace capacity and TFM job functions.

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

- Analyse 2016 survey questions and develop 2017 Survey;
- ATFM TF to review CARSAM CONOPS and CARSAM ATFM Manual and provide updates to ICAO GREPECAS as needed;
- The ATFM TF can develop a SOP template for ANSPs to tailor for their Level 1 and Level 2 needs;
- Each ANSP should have harmonized Standard Operating Procedures (SOPs) based on its ATFM CONOPS;
- Conduct annual ATFM Task Force End of Year meeting to review/report out on activities; and
- Revise the NAMCAR ATFM TF work plan.

3. Conclusion

3.1 The group is invited to note the information and progress in the report.

APPENDIX A

**AIR TRAFFIC FLOW MANAGEMENT (ATFM) TASK FORCE
Terms of Reference (ToR)****1. Background**

1.1 During the first ANI/WG meeting, an ATFM Implementation Task Force was formed in order to streamline related air navigation implementation activities. This Task Force shall complete ATFM implementation in accordance with the Regional Performance Objective (RPO) with emphasis on the Collaborative Decision Making (CDM) and Improve Demand and Capacity Balancing (DCB) of the RPBANIP processes, as well as update and report progress to the ANI/WG based on the action plan for these tasks.

2. Responsibilities

2.1 The Task Force is responsible for:

- Work Program Management
- Coordinating implementation and support of the ATFM system
- Identifying and improving ATFM operations

3. Working Methods

3.1 The Task Force will:

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

4. Work Programme (to be included)**5. Membership (List of Members)**

APPENDIX B

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 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)

Note 1: 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.

Note 2: The CANSO ATFM Data Exchange Network for the Americas (CADENA) was formed and had the 1st meeting in August 2016. The CADENA and the ATFM TF have common goals and participants overlaps in many cases. This work program activities were examined to identify which activity items are executed under CADENA.

Note 3: The CADENA executed activities are noted in this ATFM TF Work Program table by "(* CADENA)".

Other modifications to the table. (This description should be deleted after presenting the changes to the Team.)

- (1) "Status/Remarks" section is added to each activity to record the status of that activity.
- (2) "Responsible" column was deleted because ATFM TF Team are always responsible with exception of Activity 10, Provide progress report/update for NACC/WG Chairperson. Activity 10 is TF Rapporteur's responsibility.

No	Activity	Objective	Deliverable	Date
1	<p><u>Regional assessment of ANSPs</u></p> <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	Report/ document to be determined	Short Term 2017 – 2018
	<p>Status/Remarks:</p> <ul style="list-style-type: none"> • 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	<p>Procedural Agreements</p> <ul style="list-style-type: none"> 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, analyse, 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 neighbouring 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)
<p>Status/Remarks:</p> <ul style="list-style-type: none"> 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	<p>Training</p> <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	Report listing training accomplishments as noted	Med-Long term (2017 - 2020)
<p>Status/Remarks:</p> <ul style="list-style-type: none"> 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	<p>Tools, technology & automation</p> <ul style="list-style-type: none"> 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)
<p>Status/Remarks:</p> <ul style="list-style-type: none"> 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	<p>Schedule Regional ATFM Workshops</p> <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	Schedule ATFM workshops, seminars, webinars and symposiums to further ATFM education	Med-Long term (2017 - 2020)
<p>Status/Remarks:</p> <ul style="list-style-type: none"> 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	<p>Improve Demand and Capacity Balancing (DCB)</p> <ul style="list-style-type: none"> Establish coordination with key stakeholders (* CADENA) Identify major traffic flows/city pairs Research airport/sector capacity calculation (* CADENA) Compare with ICAO ATFM Global Doc Identify 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)
	<p>Status/Remarks:</p> <ul style="list-style-type: none"> 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	<p>Pre-Tactical Operation Daily Briefing</p> <ul style="list-style-type: none"> 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)
	<p>Status/Remarks:</p> <ul style="list-style-type: none"> The CADENA operational webcom kicked off on Dec 16, 2016. The FAA is working to estimate the benefits of the CADENA operational webcom. 			
8	<p>Flexible Use Airspace</p> <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 defence 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)
	<p>Status/Remarks:</p> <ul style="list-style-type: none"> This action item is on-hold. 			
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	This can be accomplished via ongoing training webinars, presentations and refresher	Long term (2020 - 2025)
	<p>Status/Remarks:</p> <ul style="list-style-type: none"> This action item is on-hold. 			
10	<p>ANI/WG Decision 1/3</p> <ul style="list-style-type: none"> 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
	<p>Status/Remarks:</p> <ul style="list-style-type: none"> 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. 			

APPENDIX C

ATFM TF MEMBERS

State/Territory/IO	ATFM TF Member Name	Remarks
Piano, Dan	Canada	
Salazar, Vanessa	CANSO	
Vanegas, Javier	CANSO	
Espino, Edy	COCESNA	New
Luna, Pablo	COCESNA	
Soto, Fernando	COCESNA	
Peña, Roosevelt	Dominican Republic	
Legagneur, Mario Eric	Haiti	
Vidal, Marco	IATA	
Siu, Julio	ICAO	New
Finlayson, Christopher	Jamaica	
Malcolm, Courtney	Jamaica	
Avila, Arturo Enríquez	Mexico	
Pérez Galindo, Alvaro Edgar	Mexico	
Fraser, Curtis	Trinidad and Tobago	
Mohammed, Riaaz	Trinidad and Tobago	
Peters, Curtis	Trinidad and Tobago	New
Richardson, Mike	United States	New and Rapporteur
Nielson, Tom	United States	
Tanino, Midori	United States	
Hinkson, Marsha	Belice	Proposed
Torres, Gilberto	Belice	Proposed
Coello, Camilo Zuniga	Costa Rica	Proposed
Sequeira, Mario	Costa Rica	Proposed
Centella, Jorge	Cuba	Proposed
Hernandez, Rolando Cruz	El Salvadore	Proposed
Iglesias, Valdemar Antonio	El Salvadore	Proposed
Jax, Jerry	Guatemala	Proposed
Nunez, Erik Fernando	Honduras	Proposed
Pavon, Heriberto	Honduras	Proposed
Molina, Holman Humberto	Nicaragua	Proposed
Savallos, Jorge Luis	Nicaragua	Proposed

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