



ICAO

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

INFORMATION PAPER

E/CAR/DCA/26 — IP/12
27/11/15

**Twenty-sixth Directors of Civil Aviation of the Eastern Caribbean Meeting (E/CAR/DCA/26)
New Orleans, United States, 1 - 3 December 2015**

**Agenda Item 6: Air Navigation Matters
6.3.2 E/CAR/CATG/2 Meeting**

ATFM UPDATE TRINIDAD AND TOBAGO

(Presented by Trinidad and Tobago)

| EXECUTIVE SUMMARY | |
|--|---|
| This information paper provides an account of the implementation of ATFM by Trinidad and Tobago in the Piarco FIR. | |
| <i>Strategic Objectives:</i> | <ul style="list-style-type: none">• Safety• Air Navigation Capacity and Efficiency• Economic Development of Air Transport• Environmental Protection |
| <i>References:</i> | <ul style="list-style-type: none">• Port of Spain Declaration• NAM/CAR Regional Performance Based Air Navigation Implementation Plan• Minutes from the ANI/WG ATFM TF• ICAO Manual of Collaborative Air Traffic Flow Management (Doc 9971)• CAR/SAM ATFM Manual• CAR/SAM ATFM CONOPS |

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 There is an expectation that the traffic through the CAR/SAM Region would grow by almost four (4) percent between 2011 and 2031¹. In order to optimise the effectiveness of PBN initiatives, ATFM measures must be employed. The benefits of en-route absorption of delay, time based arrival and efficient runway use are attained through ATFM.

2 Discussion

2.1 Trinidad and Tobago's ATFM project will provide common methodologies and procedures for all stakeholders and communicate operational information to airspace operators, airports, and air traffic services (ATS) providers in a timely and efficient manner.

2.2 The processes and procedures requires an increase in Collaborative Decision Making (CDM), and the modification of many of the current practices related to the provision of Air Navigation Services (ANS).

2.3 As such, the development of ATFM in Trinidad and Tobago would be approached in three stages;

- *Stage one: Basic ATFM operations*
- *Stage two: FMU implementation*
- *Stage three: Complete ATFM Implementation*

2.4 To realise the objective of Complete ATFM Implementation a third party provider has been retained to provide hardware, software and services. A schedule for the implementation of ATFM (**APPENDIX A**) has been submitted to ICAO.

2.5 As part of its ATFM Implementation Plan, Trinidad and Tobago held an ATFM/CDM Workshop/meeting in Trinidad and Tobago from 16 – 18 November 2015. Sixty three (63) participants attended the workshop from eleven (11) States, ICAO, CANSO, Airline and Airport Operators, Meteorological Office, Ground Handlers, ATS, CNS, AIM, Regulatory Bodies etc.

2.6 The Workshop/meeting was greatly appreciated by all attendees and provided:

- A roadmap for the roll – out of the ATFM plan for the Piarco Flight Information FIR
- A snapshot of the software that will be utilized
- A forum for the CDM process was established for both Trinidad and Tobago and the wider E/CAR Region

2.7 One of the main recommendation coming out of the workshop/meeting was that in order to improve regional situational awareness, there needs to be an agreement between the E/CAR Region and surrounding FIRs to share available data.

¹ NINTH MEETING OF THE CAR/SAM TRAFFIC FORECASTING GROUP (CAR/SAM TFG); Tegucigalpa, Honduras, 30 April – 4 May 2012.

3 Conclusion

3.1 This paper is provided as information to provide an up-to-date account of the implementation of ATFM by Trinidad and Tobago.

APPENDIX A

TRINIDAD AND TOBAGO ATFM IMPLEMENTATION PLAN

| TASKS/ACTIVITIES | DETAILS (Subtasks/Description) | START DATE | FINISH DATE | REMARKS |
|--|---|----------------------------|-------------------------------|----------------|
| Project Kickoff TT-ATFM Program | | June 9 2015 | June 11 2015 | Completed |
| INITIAL REQUIREMENTS | | | | |
| Determine operational areas for ATFM | Identify an area within the ACC for ATFM (FMU/FMP) | | | Completed |
| | Identify an area within the TWR for FMP | | | Completed |
| TTCAA to Train IDS SMEs on procedures for ACC and Tower | | August 24, 2015 | September 25, 2015 | Completed |
| | Collect all relevant operational documents, SOPs, and airspace charts that would be used for training | August 24, 2015 | September 4, 2015 | |
| | Prepare lesson plans and slides for training | September 7 | September 18, 2015 | |
| | Conduct Training | September 22, 2015 | September 25, 2015 | |
| Operations Review | IDS team to review ACC and Tower operation, and make recommendation towards improving procedures to increase capacity | October 19, 2015 | October 23, 2015 | Completed |
| Staffing Review | IDS to review various shift cycles and rostering practices | December 7, 2015 | December 11, 2015 | Ongoing |
| SECTOR CAPACITY | | | | |
| Airport and Sector Capacity Calculations | IDS to collect traffic data information from observations conducted at ACC and Tower | September 28, 2015 | November 27, 2015 | Ongoing |
| | TTCAA to collect traffic data information from selex traffic statistical software for IDS team to use in the sector capacity calculations | September 28, 2015 | September 29, 2015 | Completed |

| TASKS/ACTIVITIES | DETAILS (Subtasks/Description) | START DATE | FINISH DATE | REMARKS |
|--|--|-----------------------|---------------------------------|---|
| | Carry out Calculation of Airport and Airspace Sector Capacity | September 28, 2015 | November 27, 2015 | <i>(Note: IDS personnel will carry out the actual calculations and train the TTCAA personnel on methodology.)</i> |
| STAKEHOLDER DEFINITION | | | | |
| ATFM Workshop to be conducted at the TTCAA | ATFM workshop | November 16, 2015 | November 18, 2015 | Completed |
| Identify Stakeholders | Identify key stakeholders who would be part of the ATFM process | January 4, 2016 | January 15 th , 2016 | |
| | Designate the stakeholders that would be contributors (read/write operators) to, or users (read only) of, the shared ATFM tools. | | | |
| CDM PROCESS DEFINITION | | | | |
| Develop procedures for daily teleconferencing which would include airlines, surrounding ANSPs, TMAs and meteorology | Develop procedures for daily teleconferencing which would include airlines, surrounding ANSPs, TMAs and meteorology | January 18, 2016 | February 5, 2016 | |
| FMU ATFM daily plan (ADP) | Finalize Template for the FMU ATFM daily plan (ADP) | January 18, 2016 | February 5, 2016 | <i>(Note: Trinidad and Tobago has already collaborated with the Eastern Caribbean States on the creation and formalization of this ADP)</i> |
| | Get ATFM addresses for airlines and ANSPs for ADP distribution | | | <i>Partially Completed. AFTN addresses for airlines are outstanding</i> |
| Dissemination of operational | Create a structure for the dissemination of | | TBD | TBD |

| TASKS/ACTIVITIES | DETAILS (Subtasks/Description) | START DATE | FINISH DATE | REMARKS |
|---|--|--------------------|--------------------|---|
| information | information; example a website for an Operational Information System (OIS) or Shared board | | | |
| ATFM HARDWARE/SOFTWARE TOOLS | | | | |
| Hardware Installation | Hardware procurement, installation, acceptance test | September 14, 2015 | February 19, 2016 | <i>(Note: Hardware procurement has been completed. Installation is expected to commence Dec 10, 2015)</i> |
| Software Installation | Finalize FMU/FMP Configuration and initial implementation | January 11, 2016 | January 15, 2016 | |
| | Initial Software load and systems acceptance test | March 21, 2016 | April 1, 2016 | |
| TRAINING, RELEVANT DOCUMENTATION AND ATFMU DEVELOPMENT | | | | |
| Development of Documentation and Agreements | Develop ATFM/CDM Concept of Operations (TT-ATFM CONOPS) | November 23, 2015 | January 7, 2016 | |
| | Develop FMU/FMP Manual of Ops/Training Manual | January 11, 2016 | January 15, 2016 | |
| | Develop the inter-FIR coordination procedures for the initial implementation of ATFM (Letters of Agreements) | January 11, 2016 | January 22, 2016 | |
| | Develop ATFM Standard Operating Procedures (SOPs) | January 25, 2016 | January 29, 2016 | |
| | Document contact information (phone/fax numbers, AFTN addresses, email addresses) for each stakeholder | January 25, 2016 | January 29, 2016 | |
| ATFM Training | Interview and select staff for initial ATFM training | January 11, 2016 | January 15, 2016 | |
| | Conduct Training on; <ul style="list-style-type: none"> • FMU/FMP Course • TMI Course • CDM Course; For initial ATFM OJT Instructors. | February 22, 2016 | March 4, 2016 | <i>(Note: Initially trained staff would conduct training on additional interested staff who would be</i> |

| TASKS/ACTIVITIES | DETAILS (Subtasks/Description) | START DATE | FINISH DATE | REMARKS |
|---|--|-------------------|-------------------------------|--|
| | | | | <i>selected for TT-ATFM operations.)</i> |
| PUBLICATION, POLICIES AND SAFETY STANDARDS | | | | |
| Operational Trials | Conduct ATFM operational Trials | March 8, 2016 | March 18, 2016 | <i>(Note: Ops trials may include; inter-FIR/TMA ATFM coordination processes utilizing ATFM tools, FMU/ACC coordination, stakeholder CDM utilizing shared board, etc...)</i> |
| Safety Study and Analysis | Conduct safety study and analysis on ATFM processes. | March 8, 2016 | March 24 th , 2016 | <i>(Note: Safety Study would coincide with operational trials, plus, additional time to draft a report on study and implement any recommended changes to procedures based on safety report.)</i> |
| Coordination with the ATM Community | Draft and present a model ATFM AIRAC Supplement for approval AND publication. | March 21, 2016 | March 24, 2016 | |
| | Publish the AIP Supplements | AIRAC DATE | | Aeronautical Information Regulation And Control (AIRAC) |
| OPERATIONAL READINESS | | | | |
| Final Implementation Decision | Identify and Review <u>factors</u> that may affect the implementation decision | April 4, 2016 | April 8, 2016 | <i>(Note: Such factors may include, but not limited to:</i> |

| TASKS/ACTIVITIES | DETAILS (Subtasks/Description) | START DATE | FINISH DATE | REMARKS |
|-----------------------------------|---|-----------------------|------------------------|--|
| | | | | <ul style="list-style-type: none"> • <i>Staff</i> • <i>CNS outages</i> • <i>Weather</i> • <i>Regulatory decisions, etc.)</i> |
| | Declare Pre-operational implementation in defined area | April 11, 2016 | April 29, 2016 | <i>(Note: A draft for a post-operational implementation follow-up programme should commence at this stage.)</i> |
| | Final implementation of live TT-ATFM operations | May 2, 2016 | May 20, 2016 | |
| POST IMPLEMENTATION REVIEW | | | | |
| Monitor system performance | Finalize draft the ATFM post-implementation follow-up programme | TBD | May 13, 2016 | |
| | Implement the post-implementation follow-up programme | May 16, 2016 | On-going | |

**TRINIDAD AND TOBAGO
CIVIL AVIATION AUTHORITY**

DATE: OCTOBER 30, 2015



**TTCAA AIR TRAFFIC FLOW MANAGEMENT (ATFM)
IMPLEMENTATION PLAN**

Project Period June 5, 2015 – May 20, 2016

Trinidad and Tobago Civil Aviation Authority (TTCAA) Air Traffic Flow Management (ATFM) Implementation Plan

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Trinidad and Tobago Civil Aviation Authority (TTCAA) Air Traffic Flow Management (ATFM) Implementation Plan

1. Introduction

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.

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). A FMP will be implemented at each of the ATC Towers located at Piarco and A.N.R Robinson.

Trinidad and Tobago, through the assistance of a professional contractor, IDS-North America (IDS-NA), 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, IDS-NA 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

Trinidad and Tobago has since contracted IDS-NA, to obtain automated ATFM software/hardware tools and equipment to assist with situational awareness, demand and capacity balancing, and Collaborative Decision Making (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.

During the month of November 2015, Trinidad and Tobago will conduct an ATFM/CDM workshop with local stakeholders (Airport authorities, Operators etc.), adjacent FIRs and States whose TMAs lie within the Piarco FIR, and international entities, (ICAO, IATA and CANSO). The objective will be to ensure that all relevant stakeholders form part of the ATFM implementation, and decision making, process.

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

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.

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, for a regional concept of ATFM implementation in the NAM/CAR Region.

Trinidad and Tobago Civil Aviation Authority (TTCAA) Air Traffic Flow Management (ATFM) Implementation Plan

2. Project Approach

One of the objectives of Trinidad and Tobago's ATFM process is to provide common methodologies and procedures with all stakeholders, and communicate operational information to airspace operators, airports, and air traffic services (ATS) providers in a timely and efficient manner.

Trinidad and Tobago's ATFM implementation would require the development of processes and procedures to increase Collaborative Decision Making (CDM), and the modification of many of the current practices related to the provision of Air Navigation Services (ANS).

As such, the development of ATFM in Trinidad and Tobago would be approached in three stages;

- **Stage one: Basic ATFM operations**

In this stage the Flight Management Unit/Position (FMU/FMP) would be configured and set up within the TTCAA Area Control Centre (ACC). A flight management position would also be set up within the Piarco Control Tower. Hardware and Software would be installed at this stage to resolve the initial needs of:

- Collaborative Decision Making (CDM)
- Up to Date aircraft situational awareness
- Understanding of the Demand-Capacity balance at Piarco and A.N. Robinson airports
- Training on ATFM by a Subject Matter Expert

During this stage, and continuing into the following stage of ATFM implementation, IDS-NA will:

- Evaluate the technical CNS infrastructure, ATS procedures, staffing practices; and then consult with the TTCAA ATFM project team, to recommend any required changes to improve existing capacity,
- Conduct traffic observations in the ACC and tower, to collect data towards the calculation of Sector Capacities, (*The TTCAA would also provide to IDS-NA any other statistical data that may be required for this purpose.*)
- Collect and observe data for evaluating staffing requirements and make recommendations to optimize staffing and resources considering the new ATM & ATFM procedures that are to be proposed.

At this initial stage, the TTCAA shall begin consultation with the IDS-NA team to prepare Standard Operating Procedures (SOPs), Communication Processes, Airspace Evaluation, and Initial Capacity Calculations.

Trinidad and Tobago Civil Aviation Authority (TTCAA) Air Traffic Flow Management (ATFM) Implementation Plan

- **Stage two: FMU implementation**

The major ATFM implementation steps will take place during this stage of implementation. This is where detailed analysis of capacities, operating procedures, evaluation of the complete technical infrastructure, the conduction of information sessions for stakeholders, and expansion of the system and its capabilities will take place.

At this stage, the capabilities of the system would be expanded to the Piarco and A.N. Robinson airport towers. TTCAA shall consult with the IDS-NA contractors to finalize its implementation of the ATFM hardware and software tools and commence full operations and coordination with internal and external stakeholders.

- **Stage three: Complete ATFM Implementation**

This final stage will be primarily focused on the On-the-Job Training (OJT) and the analysis of system performance, personnel capabilities, coordination with neighboring FIRs, agreements for data sharing (Level of Service), as well as finalizing the FMU Sector manual which defines all the operational procedures of the TT-ATFM office.

3. Collaborative Decision Making (CDM)

CDM brings together aircraft operators, ATS providers, Airport Authorities, military, and other relevant stakeholders for the purpose of improving ATFM decision making process. This is accomplished through the exchange of operational information, the sharing of flight data, and the development of shared automated ATFM decision support tools.

The primary objectives of CDM include:

- Providing Real-Time operational information to all stakeholders in order to help ensure an accurate prediction of air traffic congestion and to enhance capacity utilization requiring that all system stakeholders function in an equitable manner for the betterment of the system.
- Exchanging decision-making information among the stakeholders to increase system capacity and thus improve:
 - Operational quality and stability
 - Operational reliability and predictability
 - Demand and capacity balancing
 - Airspace organization, which is critical for maximizing capacity and enhancing system safety

The primary communications channels for the Trinidad and Tobago ATFM (TT-ATFM) process shall be based on the ATFM software suite that is to be implemented by IDS-NA.

Trinidad and Tobago Civil Aviation Authority (TTCAA) Air Traffic Flow Management (ATFM) Implementation Plan

The identification of the communications channels and methodologies will allow for the effective sharing of information through CDM. The TT-(ATFM) FMU Sector Manual will consist of a list of all: contacts, telephone lines, emergency telephone lines, and fax numbers.

ATFM message templates will also be developed and prioritized indicating preferred method(s) of communication. Where deemed appropriate Email, using group addresses, may also be used as a communications method to expedite ATFM communications.



One of the initial steps to implementing ATFM is identifying each of the key stakeholders in the ATFM operations (i.e. Airlines, Airports, Other ANSPs, Ground/Apron Management, Military, etc.) and designating whether they are contributors (Read/Write Operations) or simply users (Read Operations).

Read/Write Operations are stakeholders that have systems which will contribute information to the ATFM process that all stakeholders may access. Read Operations are simply users of the system that will be provided access but not contribute data to the process (For Information Only).

Trinidad and Tobago Civil Aviation Authority (TTCOA) Air Traffic Flow Management (ATFM) Implementation Plan

4. TTCOA ATFM Action Plan

ATFM Project Contact List

|  ATFM Project Team Contact List | | | | | | |
|---|---|--------------------------------------|--|---------------|--------------------------|--|
| NAMES | POSITION - DEPARTMENT | PROJECT ROLE | EMAIL CONTACT | PHONE CONTACT | T/phone 1868-66TTCOA/EXT | |
| Riaaz Mohammed | Manager - Planning & Development | Coordinator | rmohammed@caa.gov.tt | 18687202900 | 2544 | |
| Curtis Fraser | ATM Officer - Planning & Development | Project manager | cfraser@caa.gov.tt | 18687549321 | 2560 | |
| Ian Gomez | Unit Chief ANS Safety | Project Quality & Safety Manager | igomez@caa.gov.tt | 18687888284 | 2530 | |
| Andrew Ramkissoon | CNS Engineer | Technical Authority-Primary | aramkissoon@caa.gov.tt | 18687744234 | 2520 | |
| Veronica Ramdath | Manager CNS | Technical Authority-Secondary | vramdath@caa.gov.tt | 868 774 4180 | 2502 | |
| Javed Khan | Maintenance Technician - Property Maintenance & Engineering | TTCOA-Electrical/Maintenanc | jkhan@caa.gov.tt | 18687842075 | 2405 | |
| Curtis Peters | Unit Chief ACC/APP Operations | Services Authority ACC/APP-Primary | cpeters@caa.gov.tt | 18687744220 | 2511 | |
| Dayanand Rajnath | Unit Chief ACC/APP | Services Authority ACC/APP-Secondary | drainath@caa.gov.tt | 18687402824 | 2531 | |
| Krishna Ingraham | Unit Chief Aerodrome Operations | Services Authority Tower-Primary | kingraham@caa.gov.tt | 18687233872 | 2513 | |
| Vivikananda Persad | ATS Supervisor - Aerodromes Unit | Services Authority Tower-Secondary | vpersad@caa.gov.tt | 18683409024 | 2558 | |
| Sandra Warner | Corporate Secretary/Legal Officer | Legal | swarner@caa.gov.tt | TTCOA Ext | 2182 / 2184 | |
| Sonah Goinda | Manager Finance | Accounts Manager-Primary | sgoinda@caa.gov.tt | TTCOA Ext | 2146 | |
| Kervyn Billouin | Unit Chief ANS Training | | kbillouin@caa.gov.tt | 18687591284 | 2546 | |
| TBA | | Accounts Manager-Secondary | | | | |
|  ATFM Project Team Contact List | | | | | | |
| NAMES | POSITION - DEPARTMENT | PROJECT ROLE | EMAIL CONTACT | PHONE CONTACT | | |
| Dario Rossilli | CEO - IDS North America | Sponsor | drossilli@idscorporation.ca | 613-298-1986 | | |
| Miki Sandhu | Deployment Manager | Advisor | msandhu@idscorporation.ca | 613-796-1764 | | |
| Doug Hall | Project Manager | Project Manager | d.hall@idscorporation.ca | 613-410-8013 | | |
| Dave Rome | Director - Business Analysis | Business Analyst | d.rome@idscorporation.com | 613-612-0847 | | |
| Doug Robertson | Contractor - Business Analysis | Business Analyst | d.robertson@idscorporation.ca | 613-850-1437 | | |
| Ed Sprague | Contractor - Business Analysis | Business Analyst | e.sprague@idscorporation.ca | 613-809-2106 | | |
| Robert Metzger | Manager - Information Technology | Network & Hardware | rmetzger@idscorporation.ca | 613-291-5356 | | |
| Kieran Gubbins | Director - Engineering | Software Customization | kgubbins@idscorporation.ca | 613-898-1498 | | |

Trinidad and Tobago Civil Aviation Authority (TTCAA) Air Traffic Flow Management (ATFM) Implementation Plan

ATFM ACTION PLAN

| TASKS/ACTIVITIES | DETAILS (Subtasks/Description) | START DATE | FINISH DATE | REMARKS |
|--|---|------------------------|---------------------------|-----------|
| Project Kickoff TT-ATFM Program | | June 9 2015 | June 11 2015 | Completed |
| INITIAL REQUIREMENTS | | | | |
| Determine operational areas for ATFM | Identify an area within the ACC for ATFM (FMU/FMP) | | | Completed |
| | Identify an area within the TWR for FMP | | | Completed |
| TTCAA to Train IDS SMEs on procedures for ACC and Tower | | August 24, 2015 | September 25, 2015 | Completed |
| | Collect all relevant operational documents, SOPs, and airspace charts that would be used for training | August 24, 2015 | September 4, 2015 | |
| | Prepare lesson plans and slides for training | September 7 | September 18, 2015 | |
| | Conduct Training | September 22, 2015 | September 25, 2015 | |
| Operations Review | IDS team to review ACC and Tower operation, and make recommendation towards improving procedures to increase capacity | October 19, 2015 | October 23, 2015 | Completed |
| Staffing Review | IDS to review various shift cycles and rostering practices | December 7, 2015 | December 11, 2015 | |
| SECTOR CAPACITY | | | | |
| | IDS to collect traffic data information from | September 28, 2015 | November 27, 2015 | |

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| TASKS/ACTIVITIES | DETAILS (Subtasks/Description) | START DATE | FINISH DATE | REMARKS |
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| Airport and Sector Capacity Calculations | observations conducted at ACC and Tower | | | |
| | TTCAA to collect traffic data information from selex traffic statistical software for IDS team to use in the sector capacity calculations | September 28, 2015 | September 29, 2015 | Completed |
| | Carry out Calculation of Airport and Airspace Sector Capacity | September 28, 2015 | November 27, 2015 | <i>(Note: IDS personnel will carry out the actual calculations and train the TTCAA personnel on methodology.)</i> |
| STAKEHOLDER DEFINITION | | | | |
| ATFM Workshop to be conducted at the TTCAA | ATFM workshop | November 16, 2015 | November 18, 2015 | |
| Identify Stakeholders | Identify key stakeholders who would be part of the ATFM process | January 4, 2016 | January 15 th , 2016 | |
| | Designate the stakeholders that would be contributors (read/write operators) to, or users (read only) of, the shared ATFM tools. | | | |
| CDM PROCESS DEFINITION | | | | |

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| FMU ATFM daily plan (ADP) | Finalize Template for the FMU ATFM daily plan (ADP) | January 18, 2016 | February 5, 2016 | <i>(Note: Trinidad and Tobago has already collaborated with the Eastern Caribbean States on the creation and formalization of this ADP)</i> |
| | Get ATFM addresses for airlines and ANSPs for ADP distribution | | | <i>Partially Completed. AFTN addresses for airlines are outstanding</i> |
| Dissemination of operational information | Create a structure for the dissemination of information; example a website for an Operational Information System (OIS) or Shared board | | TBD | TBD |
| ATFM HARDWARE/SOFTWARE TOOLS | | | | |
| Hardware Installation | Hardware procurement, installation, acceptance test | September 14, 2015 | February 19, 2016 | <i>(Note: Hardware procurement has been completed. Installation is expected to commence Dec 10, 2015)</i> |

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| TRAINING, RELEVANT DOCUMENTATION AND ATFMU DEVELOPMENT | | | | |
| Development of Documentation and Agreements | Develop ATFM/CDM Concept of Operations (TT-ATFM CONOPS) | November 23, 2015 | January 7, 2016 | |
| | Develop FMU/FMP Manual of Ops/Training Manual | January 11, 2016 | January 15, 2016 | |
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| | Document contact information (phone/fax numbers, AFTN addresses, email addresses) for each stakeholder | January 25, 2016 | January 29, 2016 | |
| ATFM Training | Interview and select staff for initial ATFM training | January 11, 2016 | January 15, 2016 | |
| | Conduct Training on; <ul style="list-style-type: none"> • FMU/FMP Course • TMI Course • CDM Course; | February 22, 2016 | March 4, 2016 | <i>(Note: Initially trained staff would conduct training on additional interested staff who</i> |

Trinidad and Tobago Civil Aviation Authority (TTCOA) Air Traffic Flow Management (ATFM) Implementation Plan

| TASKS/ACTIVITIES | DETAILS (Subtasks/Description) | START DATE | FINISH DATE | REMARKS |
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| | For initial ATFM OJT Instructors. | | | <i>would be selected for TT-ATFM operations.)</i> |
| PUBLICATION, POLICIES AND SAFETY STANDARDS | | | | |
| Operational Trials | Conduct ATFM operational Trials | March 8, 2016 | March 18, 2016 | <i>(Note: Ops trials may include; inter-FIR/TMA ATFM coordination processes utilizing ATFM tools, FMU/ACC coordination, stakeholder CDM utilizing shared board, etc...)</i> |
| Safety Study and Analysis | Conduct safety study and analysis on ATFM processes. | March 8, 2016 | March 24 th , 2016 | <i>(Note: Safety Study would coincide with operational trials, plus, additional time to draft a report on study and implement any recommended changes to procedures based on safety report.)</i> |
| Coordination with the ATM Community | Draft and present a model ATFM AIRAC Supplement for approval AND publication. | March 21, 2016 | March 24, 2016 | |
| | Publish the AIP Supplements | AIRAC DATE | | Aeronautical Information Regulation And Control (AIRAC) |

Trinidad and Tobago Civil Aviation Authority (TTCAA) Air Traffic Flow Management (ATFM) Implementation Plan

| TASKS/ACTIVITIES | DETAILS (Subtasks/Description) | START DATE | FINISH DATE | REMARKS |
|--------------------------------------|--|----------------|----------------|---|
| OPERATIONAL READINESS | | | | |
| Final Implementation Decision | Identify and Review factors that may affect the implementation decision | April 4, 2016 | April 8, 2016 | <p><i>(Note: Such factors may include, but not limited to:</i></p> <ul style="list-style-type: none"> • <i>Staff</i> • <i>CNS outages</i> • <i>Weather</i> • <i>Regulatory decisions, etc.)</i> |
| | Declare Pre-operational implementation in defined area | April 11, 2016 | April 29, 2016 | <i>(Note: A draft for a post-operational implementation follow-up programme should commence at this stage.)</i> |
| | Final implementation of live TT-ATFM operations | May 2, 2016 | May 20, 2016 | |
| POST IMPLEMENTATION REVIEW | | | | |
| Monitor system performance | Finalize draft the ATFM post-implementation follow-up programme | TBD | May 13, 2016 | |
| | Implement the post-implementation follow-up programme | May 16, 2016 | On-going | |