E/CAR DCA/21 - WP/09
International Civil Aviation Organization 30/01/08
North American, Central American and Caribbean Office
Twenty First Meeting of Directors of Civil Aviation of the Eastern Caribbean (21st E/CAR DCA)
Tortola, British Virgin Islands 11 to 14 February 2008

Agenda Item 3: Air Navigation Issues
3.6 Other Air Navigation Issues

AIR TRAFFIC FLOW MANAGEMENT IN THE NORTH AMERICAN AND CARIBBEAN REGIONS

(Presented by the United States of America)

SUMMARY

This paper describes the excellent work accomplished by the Air Traffic Flow Management (ATFM) Task Force in preparing the Caribbean/South American ATFM Concept of Operations (CAR/SAM ATFM CONOPS). The Task Force identified and organized the vast majority of elements that form an ATFM system. This paper strives to build on the Task Force's work by highlighting the fact that many of these ATFM elements have been successfully developed, tested, and implemented in other States and regions. Both Air Traffic Service Providers and customers in the CAR/SAM regions can now take advantage of the ATFM development work, lessons learned, and operational benefits of other States and regions.
An appendix has been included with further details.

1. INTRODUCTION

1.1 At the second meeting of the ATFM Task Force of the GREPECAS ATM/CNS Subgroup, ATM Committee, the group prepared the final version of the CAR/SAM ATFM CONOPS. The document was presented as a Working Paper in April 2007 at GREPECAS in San Jose, Costa Rica. The CAR/SAM ATFM CONOPS is a high-level document that will assist and guide planners in the design and development of ATFM in the CAR/SAM regions.

1.2 This paper endeavors to build on the Task Force's excellent work by highlighting the fact that many elements of ATFM have been successfully developed, tested, and implemented in other States and regions. Air Traffic Service Providers, customers, and other system stakeholders in the CAR/SAM regions can now benefit from the ATFM development work and lessons learned by other States and regions. Some of these key lessons learned, as well as some of the significant operational benefits, are listed below. This information is drawn from the ATFM work and coordination accomplished to date between Piarco ACC, Centro de Control de Flujo de Mexico (CCFMEX), NAV CANADA National Operations Centre (NOC), and the Federal Aviation Administration's Air Traffic Control System Command Center (ATCSCC).

1.3 Again, this paper highlights the important "lessons learned" and also notes the operational benefits that have been realized, to date, by other States and regions. The Meeting is invited to endorse and support the further development of the CAR/SAM ATFM CONOPS taking into consideration the lessons learned.

2. OPERATIONAL BENEFITS

2.1 The ATFM system in the NAM region has realized a number of operational benefits. These include:

a) Increased information flow to customers regarding system constraints, route options, and terminal delays.

b) Reduced operating costs for customers through fuel savings and crew scheduling due to the type and amount of ATFM information available on a real-time basis.

c) Increased situational awareness by the ATFM Command Centers and Flow Management Units regarding air traffic flows and weather conditions. This has contributed significantly to enhancing system safety.

d) Increased operational communication and coordination between the ATFM Command Centers and Flow Management Units in the NAM/CAR regions. This has contributed to a more efficient use of airspace and the reduction of operational delays.

e) Enhanced management of trans-regional flows of air traffic, especially during periods of convective activity, during hurricane events, or during periods of reduced terminal capacity.

3. LESSONS LEARNED

3.1 The primary lessons learned during the development and implementation of ATFM between Piarco ACC, CCFMEX, NOC, and ATCSCC include:

a) Involve the customers, airport authorities, and other system stakeholders very early in the ATFM development process

This is the essence of the Collaborative Decision Making (CDM).

For example, the ACC's, customers and airport authorities have contributed numerous ideas and suggestions regarding the management of flights into key destination airports such as: Port of Spain and Grantley Adams during the 2007 Cricket World Cup games; St. Maarten, Cancun and Los Cabos during the 2008 winter vacation season. By considering their input, we have been able to minimize delays and maximize airport throughput.

b) Utilize a common suite of ATFM tools to evaluate air traffic flows, weather conditions, demand, and capacity.

As traffic managers in the NAM/CAR regions, we have come to rely very heavily on the Enhanced Traffic Management System (ETMS). Based on input from system stakeholders, ETMS has developed into a very comprehensive tool that accepts an array of flight plan messages, applies aircraft performance information, displays weather information, and models demand/capacity information.

Customers that participate in the CDM process have direct access to ETMS through an interface designed specifically for them known as the Common Constraint System Display (CCSD).

c) Develop ATFM with the neighboring States first. Then develop a regional approach to ATFM.

We have learned that the greatest traffic flow challenges exist with the first-tier (neighboring) States. As a result, it is important to develop, coordinate, test, and implement procedures for managing these traffic flows. These procedures then become the basis for bilateral ATFM Letters of Agreement with the first-tier States.

This tier-based approach to ATFM allows States the flexibility they need to address specific traffic flow issues and to develop the procedures needed to manage the traffic.

d) Allow flexible timeframes in which to implement the various aspects of ATFM.

We have learned that the development of ATFM is not always a linear process. What looks good in theory is not always feasible in practice. For example, what seemed to be a simple process of flowing traffic smoothly to airports in first-tier States has been impacted by both State regulations and airport management requirements. Consequently, customer concerns and airport management issues had to be evaluated and addressed before flow solutions could be reached.

4. CONCLUSION

4.1 The ATFM/TF/3 created a comprehensive CAR/SAM ATFM CONOPS. The Task Force identified and organized the vast majority of elements that form an ATFM system. An important next step is to recognize the fact that many of these ATFM elements have been successfully developed, tested, and implemented in other States and regions. Air Traffic Service Providers and customers in the CAR/SAM regions can take advantage of the ATFM development work and lessons learned that have already been accomplished in other regions.

5. RECOMMENDATION

5.1 The Meeting is invited to:

a) Review the:

1) the ATFM lessons learned; and

2) operational benefits already realized by the NAM/CAR regions;

b) Endorse and support the further development of the CAR/SAM ATFM CONOPS taking into consideration the lessons learned; and

c) Endorse and support the Caribbean ATFM telcon held daily at 1315 UTC.

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