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## **FOURTEENTH AIR NAVIGATION CONFERENCE**

**Montreal, Canada, 26 August to 6 September 2024**

**Agenda Item 3: Air Navigation System Performance Improvement**

**3.1: Proposals to improve the efficiency of air navigation services contributing to LTAG**

### **AIR TRAFFIC FLOW MANAGEMENT (ATFM) DEVELOPMENT IN SOUTH AMERICAN (SAM) REGION**

(Presented by Brazil)

#### **EXECUTIVE SUMMARY**

This Information Paper presents some of the results of the Collaborative Air Traffic Flow Management (ATFM) training carried out at the Air Navigation Management Center (CGNA), in Rio de Janeiro, Brazil.

## **1. INTRODUCTION**

1.1 During the Twenty-Ninth Workshop/Meeting of the SAM Implementation Group (SAM/IG/29), Brazil presented WP/2.6 to invite the States of the Region to participate in the ATFM Workshop, offered in order to collaborate with the development of the processes provided for in phase II-A of the Guide for Implementation of the ATFM Service in the SAM Region.

1.2 The workshop, provided for in the schedule of activities of the Regional Project RLA/06/901 adopted at the Seventeenth Meeting of the Coordination Committee (RCC/17, Lima, October 26, 2023), was planned with the objective of strengthening and/or consolidating the implementation of the ATFM service and providing learning experiences that will enable students to carry out activities related to the strategic, pre-tactical and tactical phases of the ATFM Service, in addition to post-operations analysis.

## **2. DISCUSSION**

2.1 Held in three weeks, the workshop had two phases: in the first phase, there was instruction in a virtual classroom, from April 1 to 5; in the second phase, in-person instruction from April 8 to 19, in Rio de Janeiro, Brazil, with the participation of the following States: Bolivia (Plurinational State of), Chile, Ecuador, Panama, Peru, Dominican Republic, Uruguay and Venezuela (Bolivarian Republic of).

2.2 During the first phase, concepts established in the *Manual on Collaborative Air Traffic Flow Management* (Doc 9971) about collaborative decision making (CDM); the strategic, pre-tactical and tactical phases of the ATFM service; and the activities inherent to post-operations analysis were revisited.

2.3 Then the provisional agenda was followed, which established that the participants, based on the operational scenario of their respective ATFM units (runway capacity, airspace and sectorization, demand requirements, imbalances, growth forecast, etc.), would make a presentation in the beginning of the first week of in-person classes at CGNA, in order to analyze solutions for real or hypothetical situations of imbalance and/or capacity limitation.

2.4 All the presentations were very interesting and complete. The time initially planned for the task was extended so that the opportunity to know in detail the ATFM scenario of each State was not lost. One of the objectives of the presentations was to guarantee a reliable exchange of information and, at the same time, reduce the distance between participants, providing them with greater trust, empathy and a willingness to collaborate.

2.5 It is important to highlight that the collaborative environment sought was not designed exclusively for the workshop activities. One of the opportunities considered by the CGNA team would be beyond the period planned for the workshop: the integration between participants from each State could favor future coordination regarding capacity limitations, among other factors that may affect international flights. Knowing the reality of other States could facilitate understanding of the operational scenario and optimize the search for ATFM solutions.

2.6 Considering that the time for the presentations of each State was extended, the schedule was adjusted to encourage debate on some specific topics that, in some way, were common to the operational scenario presented by each participant. This was done for work on ATFM phases and post-operations analysis, and represented a great challenge, taking into account that the specificities of each State play an important role – especially due to the fact that the implementation of ATFM has different degrees of progress in each one.

2.7 Two aspects of the dynamics of the face-to-face phase of the course deserve to be highlighted: the roles played by the CGNA team and by the participants as a whole. From the first contact, it was clear that the entire structure and all members of the CGNA team were available to the participants. These, in turn, demonstrated a willingness to participate in the proposed activities, designed for such a diverse group and which, at the same time, knew how to achieve the level of cohesion necessary for the program to function. The interactions observed and the activities carried out confirmed this.

2.8 The strategic phase practices allowed participants to think about solutions for their operational scenarios. Some of them, already existing and applied in Brazil, were presented at GESEA (Study Group for Airspace Planning in SAM Region) meetings and in other editions of SAM/IG, such as vertical or lateral sectorization and the adoption of the High Intensity Runway Operations (HIRO) concept – optimizing, respectively, operations at the airspace level and at the airport level.

2.9 During the pre-tactical phase practices, after learning some examples of ATFM analysis related to events that may affect the capacity of the airspace sectors and/or airports, the participants carried out an analysis exercise considering the specificities of their own scenario. They also had the opportunity to test for the first time some of the features of the ATFM Portal being developed for the SAM Region – highlighting how simple and practical it is to prepare the PDA with that tool.

2.10 The activities related to the tactical phase made the participants think about potential situations they had not experienced before or might yet experience. Some participants found themselves thinking for the first time about situations they had already gone through as traffic controllers, but now with

an ATFM perspective. The importance of recording events (such as in an occurrence book or a log sheet) was also highlighted, especially those that affect the flow of air traffic, so that the recorded information could be used, for example, to better understand the results of some performance indicators.

2.11 Regarding post-operations analysis, a broad view was proposed for everything that can be produced in order to provide feedback to multiple stakeholders. Participants shared their experiences on the topic, indicating that some have weekly or monthly reports – sometimes with limited scope. A set of products developed in CGNA (daily, weekly, monthly and annual) was presented that serve various purposes and users. In addition, data sharing was assessed through some of the functionalities of the ATFM Operations Plan for the SAM Region (OPSAM) dashboard.

### 3. CONCLUSION

3.1 The knowledge generated in the course transcends the physical and temporal barriers of the applied program because it involved more than knowledge transmission. The course promoted exchange between participants from each State in order to strengthen our ability to approach and understand the intra-regional and inter-regional needs. With the program, the unavoidable need for integration and coordination at a cross-border level was seen.

3.2 It was clear, at the end of the course, that participants were able to understand and benefit from the training offered. We have already identified some opportunities for improvement and suggestions were made to enhance the program. 94 per cent of the participants who were willing to complete the course evaluation form prepared for that purpose considered the program “Excellent” (highest score).

3.3 We are sure that, with the contributions made by the participants and the dedication of our team, the next editions will be better. Brazil remains available to continue supporting the implementation and/or improvement processes of the ATFM Service.

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