



International Civil Aviation Organization

South American Office

Fourth Meeting of Air Navigation and Flight Safety Directors of the SAM Region

(Lima, Peru, 2 to 4 October 2017)

AN & FS/4-WP/03

15/09/17

Agenda Item 1: Follow-up to the implementation of air navigation priorities

ATFM PROJECT (ASBU: B0-SEQ, B0-FRTO, B0-NOPS and B0-ACDM)

(Presented by the Secretariat)

SUMMARY

This working paper presents to the Meeting the current status of implementation of ATFM in the SAM Region, according to the commitments assumed in the Declaration of Bogota.

References:

- GREPECAS/17 meeting report
- SAM/IG meetings reports
- ATSRO meetings reports
- PBN implementation workshops reports
- RAAC/14 meeting report
- AN & FS/3 meeting report
- Fourth Programmes and Projects Review Committee meeting report (PPRC/4)

ICAO Strategic Objectives:

*B - Air Navigation capacity and efficiency
E - Environmental protection*

1. Introduction:

1.1 Activities concerning the implementation of Project B1 “*Improve demand/capacity balancing*” have been dealt with during SAM/IG meetings.

2. Discussion

GREPECAS Project B “ATFM implementation in the SAM Region”

2.1 To analyse the achievement of ATFM goals, following indicators were used:

- Percentage of States that have conducted runway and ATC sector capacity calculations.

- Percentage of States that have implemented ATFM in Flow Management Units (FMU) or Flow Management Positions (FMP).

2.2 To date, 85% of the States of the Region have performed their ATC runway capacity calculations as pre-implementation tasks, as shown in the following table:

May 2017	ARG	BOL	BRA	CHI	COL	ECU	FGI	GUY	PAN	PAR	PER	SUR	URU	VEN
85%	YES	YES	YES	YES	YES	YES	YES	NO	YES	YES	YES	NO	YES	YES

Percentage of States that have conducted their ATC runway capacity calculations

2.3 As shown in the table below, six States of the Region have performed ATC sector capacity calculations as previous task for the implementation. Five of them have not fulfilled this activity and information from three States is still pending:

May 2017	ARG	BOL	BRA	CHI	COL	ECU	FGI	GUY	PAN	PAR	PER	SUR	URU	VEN
	NO	NO	YES	YES	**	YES	NO	**	YES	NO	YES	NO	**	YES

Percentage of States that have conducted their ATC sector capacity calculations

2.4 With regard to the metric concerning implementation of flow units in the SAM Region, 63% ATFM implementation is maintained in the Region, as shown in following table:

May 2017	ARG	BOL	BRA	CHI	COL	ECU	FGI	GUY	PAN	PAR	PER	SUR	URU	VEN
63%	NO	NO	YES	YES	YES	YES	NO	NO	YES	YES	YES	NO	YES	YES

Percentage of States that have implemented ATFM Flow Management Units (FMU) or Flow Management Positions (FMP)

2.5 Argentina has developed its CONOPS AFTM document and basic Manuals in the first half of 2017 and ATFM unit implementation in ACC EZEIZA is expected for June 2018. There is no progress so far this year in the other pending States.

2.6 During SAM/IG/19, Suriname expressed that the operational reality of its State, with one single international airport and one FIR that showed no capacity/demand gaps, did not warrant the need for ATFM implementation.

2.7 The meeting agreed that, beyond the attainment of the objectives of the Declaration of Bogota, the States should focus on the basic implementation of at least one FMP or having personnel to fulfil these functions in the area control centre, that is properly trained and empowered to coordinate with the ATFM services of adjacent States any situation that might require the implementation of ATFM initiatives.

2.8 Moreover, said meeting noted that the material and reference documents for regional implementation of ATFM required gradual updating, taking into account the recent publication of ICAO Doc 9971, now consisting of three parts, and the reference documentation published in other Regions since 2013.

Use of NOTAMs as an ATFM measure

2.9 In May 2017, SAM/IG/19 meeting analysed the persistent situation of NOTAM emission with unilateral flow control measures issued by ACC without coordinating previously with their own FMP and/or adjacent ACC or FMP.

2.10 During this meeting, it was noted that it was essential to follow all implementation phases rather than jumping directly to the use of improvised flow restrictions, applied according to the criteria of each ATC shift, as some States are currently doing. The Strategic, Pre-tactical and Tactical sequence should be followed, especially conducting a post-operational analysis, since an analytical process is carried out during this last phase to measure, investigate and inform on the operational processes and activities, which is fundamental for the development of best practices and/or teachings that will further improve operational processes and activities.

2.11 In this sense, Conclusion SAM/IG/19-01 was formulated, instructing States to strengthen the functions of Flow Management Positions (FMPs) or Units (FMUs) with resources and trained personnel empowered to coordinate with ATS services the application of ATFM initiatives (TMIs) in situations that generate air traffic capacity/demand gaps caused by scheduled or unforeseen events.

3. Conclusion:

3.1 Based on the above, it is required that States not having yet done so, implement at least one ATFM Flow Management Position (FMP) for each FIR under its jurisdiction, in order to balance air operations demand and airspace and international airports service capacity values, considering as well meteorological, volcanologists events and/or temporal interruptions of air navigation services.

3.2 In such sense, the implementation by States of actions indicated in Conclusion SAM/IG/19-01 is of utmost importance.

3.3 It is necessary to schedule the updating of the regional Manuals and the ATFM CONOPS in the CAR and SAM Regions. In this regard, coordination has been initiated for joint work with the NACC Office in Mexico.

3.4 Updated information on ATFM implementation activities for the SAM Region can be found under **Appendix A**.

4. Suggested action:

4.1 The Meeting is invited to:

- a) take note of the information provided in this working paper;
- b) request States that have not yet done, double efforts in order to implement at least one ATFM post (FMP) per FIR;

- c) request States to avoid the implementation of ATFM measures that affect users and impact on safety, especially those Administrations not having established units to adequately manage TMIs; and
- d) recommend other actions as deemed appropriate.

APPENDIX A

PROJECT B1: IMPROVE DEMAND/CAPACITY BALANCING

<i>SAM Region</i>	PROJECT DESCRIPTION (DP)	DP N° B1	
<i>Programme</i>	Title of the Project	Start	End
<i>Air traffic flow management (ATFM)</i> <i>(Programme Coordinator: Fernando Hermoza Hübner)</i>	<i>Improve demand/capacity balancing</i> <i>Project Coordinator: Martha Soto Ansaldi</i>	2012	2016
Objective	Avoid overloading the ATC and airport systems, while strengthening safety, taking into account the reduction in the number of delays caused by meteorological and traffic conditions, thus reducing fuel consumption and contaminating emissions. Likewise, improve prediction and management of surplus demand for services in ATC sectors and aerodromes.		
Scope	The scope of this project establishes that ATFM implementation should start with airport and airspace monitoring in order to identify significant increases in ground delays and in-flight holding, as well as bottlenecks (ATC sector, runway, apron, and airport facilities). Furthermore, capacity calculation and air traffic demand analysis are important elements to improve demand/capacity balancing.		
Metrics	<ul style="list-style-type: none"> • % of States that have calculated runway and ATC sector capacity. • % of States that have implemented ATFM in Flow Management Units (FMU) or Flow Management Positions (FMP). 		

Strategy	Project execution defines ATFM implementation in the SAM Region through an airspace demand and capacity analysis, taking into account that States that are in the process of implementation shall coordinate with the ATM community to define the actions required for ATFM implementation. The infrastructure and the database, as well as the policy, standards, and procedures, are important components for the execution of this Project.
Goals	<ul style="list-style-type: none">• SAM States with experts trained in the calculation of runway capacity and airspace (ATC SECTOR) capacity of States' airspace regions.• ATFM system performance oversight plan.• CAR/SAM inter-regional coordination.
Rationale	GREPECAS considered that early ATFM implementation should ensure optimum air traffic flow to or through certain areas during periods in which demand exceeded or was expected to exceed the available capacity of the ATC system. Therefore, the ATFM system should reduce aircraft delays, both in flight as on the ground, and avoid system overload.
Related projects	<ul style="list-style-type: none">• Automation.

Project deliverables	Relationship with the performance-based regional plan (PFF)	Responsible party	Status of implementation*	Delivery date	Comments
Assess the progress made in the ATFM implementation work programme	B0-NOPS	Programme Coordinator		2016	Permanent task
Calculation of airspace (ATC SECTOR) capacity.	B0-NOPS	Juarez Franklin Gouveia		SAM/IG/9	Brazil and Colombia submitted their studies.
List of airspace sectors subject to periods in which demand exceeds the existing capacity, including, if necessary, simulations by the States.	B0-NOPS	Juarez Franklin Gouveia		SAM/IG/9 SAM/IG/10	Brazil and Colombia submitted their studies.
List of operational factors affecting demand and airspace capacity for the optimisation of the existing capacity, including simulations, if necessary.	B0-NOPS	Juarez Franklin Gouveia		SAM/IG/9	Brazil and Colombia submitted their studies. Brazil, Paraguay and Peru presented data at the SAM/IG/11 meeting.
Definition of the common elements of situational awareness	B0-NOPS	Paulo Vila		2012	The States that exchange information are: Chile, Colombia, Paraguay and Venezuela.

Personnel trained in strategic ATFM measures for airspace	B0-NOPS	Project RLA/06/901		2010	In 2010, an ATFM/CDM course was conducted in Brazil with the participation of several States. In March 2009, a course on runway and ATC sector capacity calculation was conducted in Brazil. In 2012, a course for training instructors on runway and ATC sector capacity calculation was conducted in Lima.
List of factors affecting the implementation decision	B0-NOPS	Programme Coordinator		2010	The following causes were identified at the SAM/IG/11 meeting: - States that do not have the requirement or the need to implement ATFM; - Budgetary and organisational reasons; - Lack of personnel specifically devoted to ATFM activities; - The personnel responsible for ATFM is involved in other functions.
Update the calculation of runway capacity.	B0-NOPS	Programme Coordinator		November 2015	85% of States updated runway capacity calculations. Guyana and Suriname lack capacity calculation.
Update the calculation of airspace (ATC SECTOR) capacity.	B0-NOPS	Programme Coordinator		November 2015	6 States of the Region performed ATC sectors capacity calculations, as previous tasks for implementation. 5 of them have not been able to carry out this activity while information from 3 States is still pending.

<p>Airspace monitoring processes. Air traffic demand analysis. ATFM standards and procedures of an FMU/FMP. Implementation of preliminary ATFM measures. Implementation of TMI. ATFM messaging. Coordination of special events. Civil/military coordination processes and ATFM exemption procedures.</p>	<p>B0-NOPS</p>	<p>CGNA Course Project RLA/06/901</p>		<p>November 2014</p>	<p>Completed on schedule</p>
<p>Replication of ATFM courses at national level</p>	<p>B0-NOPS</p>	<p>States</p>		<p>15/05/2015</p>	<p>FINALISED States replicated the ATFM courses at national level.</p>
<p>ATFM measures during the realization of Olympic and Paralympic Games Rio 2016 in Brazil</p>	<p>B0-NOPS</p>	<p>Brazil</p>		<p>13/05/2016</p>	<p>FINALISED Detail of Brazilian AIC can be found under following link on the internet: http://publicacoes.decea.gov.br/?i=publicacao&id=4339</p>
<p>ATFM Implementation Status</p>	<p>B0-NOPS</p>	<p>Programme Coordinator</p>		<p>31/10/2015</p>	<p>To May 2017, 63% of States implemented ATFM.</p>
<p>Resources required</p>	<p>Designation of experts in the execution of some of the deliverables.</p>				

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Grey *Task not started*

Green *Activity underway as scheduled*

Yellow *Activity started with some delay but expected to be completed on time*

Red *It has not been possible to implement this activity as scheduled; mitigating measures are required*

Blue *Task finalised*