International Civil Aviation Organization
South American Office
Third Meeting of Air Navigation and Flight Safety Directors of the SAM Region
(Lima, Peru, 22 to 24 August 2016)

Agenda Item 1: Declaration of Bogota: 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 status of implementation of ATFM in the SAM Region, according to the commitments assumed in the Declaration of Bogota.

References:

- GREPECAS/17 meeting report
- SAMIG/16 and SAMIG/17 meeting reports
- ATSRO/7 meeting report
- PBN implementation workshop reports
- RAAC/14 meeting report
- AN & FS/2 meeting report
- Fourth Programmes and Project s Review Committee meeting report (PPRC/4)

ICAO Strategic Objectives:	*B - Air Navigation capacity and efficiency* *D - 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 and ATC sector capacity calculations as pre-implementation tasks, as shown in the following table:

May 2016 85%	ARG	BOL	BRA	CHI	COL	ECU	FGI	GUY	PAN	PAR	PER	SUR	URU	VEN
	YES	YES	YES	YES	YES	YES	YES	NO	YES	YES	YES	NO	YES	YES

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

2.3 Regarding this table, the delegate of French Guiana stated that runway capacities had been calculated, but ATC sector capacity calculations had not been done yet. He also stated that inadequate staffing directly affected progress in accordance with operational requirements and sector allocation. The Secretariat provided French Guiana with the Capacity Calculation Guide presented at the SAM/IG/5 meeting.

2.4 With regard to the metric concerning implementation of flow units in the SAM Region, which was 35% at the last AN&FL/2 meeting, Ecuador, Peru and Uruguay have implemented FMP, increasing the regional average to 56% ATFM implementation. Thus, the progress achieved in the implementation of flow management units was 21%, as shown in the following table:

May 2016 56%	ARG	BOL	BRA	CHI	COL	FGY	ECU	GUY	PAN	PAR	PER	SUR	URU	VEN
	NO	NO	YES	YES	YES	NO	YES	NO	NO	YES	YES	NO	YES	YES

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

2.5 Argentina informed of its plans to implement ATFM in EZEIZA ACC and reported that they had installed an FMP at the Jorge Newbery airport for operations at Aeroparque and that implementation in ACC BAIRES is expected during 2016.

2.6 Panama stated that ATFM implementation was delayed because of lack of personnel to carry out this process.

2.7 In Ecuador, the FMP of the Guayaquil ACC was implemented on 26 May 2016.

2.8 SAM/IG/17 meeting (May 2016) recommended that each State establish a 24h operational point of contact to be used in case of urgency/contingency, so as to guarantee the dissemination of information between States/ANSP, and to users through ICAO and IATA. Brazil requested that forms were sent in PDF format.

Use of NOTAMs as an ATFM measure

2.9 An important issue discussed was concerning the use of NOTAMs as an ATFM measure. In this regard, it was noted that ATFM measures were specified in ICAO Doc 9971, and that they did not include NOTAMs.

2.10 The NOTAM, by nature, is a static tool that should not be used as a tactical ATFM measure, since it relied on the specific operational scenario and should be flexible and applied as needed. The tactical measures that should be implemented, if so required, are those specified in the ICAO ATFM Manual.

2.11 The NOTAM that establishes specific separations, especially those applied regardless of the flight level to overcome any CNS or personnel deficiencies, should be considered as a contingency measure and not as an ATFM measure.

2.12 Based on the above, participant States in SAM/IG meetings were instructed to use NOTAM according to the indicated in Annex 15.

Plan for the implementation of the ATFM service in Argentina

2.13 Argentina completed the **Plan for the implementation of the ATFM service**, which was proposed to the aeronautical authority to be published as an AIC to allow the aeronautical community to get acquainted with it.

ATFM implementation in Peru

2.14 Peru presented an ATFM implementation process that could be considered as a model of implementation of strategic ATFM, and could be used by those States that had not yet implemented ATFM or that needed to improve the ATFM procedures being applied.

2.15 This plan includes the following:

a) Process for establishing and organising itineraries.
b) Lessons learned in the process of increasing ATC, runway, and airport infrastructure capacity.
c) Use of CTOT, ATFM flow basic tool of INDRA AIRCON 2100 system.
d) Process for eliminating flow control NOTAMs.
e) Benefits and difficulties resulting from applying 95% runway capacity.
f) Use of indicators to verify ATFM performance.
g) Use of Excel table for itinerary planning to identify potential congestion schedules.

2.16 Both the Secretariat and IATA recognized this very well planned and implemented achievement of Peru, and recommended all States that had already implemented ATFM to make a brief presentation at the SAM/IG/18 meeting of the benefits obtained from the implementation of ATFM.

2.17 Peru also supported the ATFM Project, authorizing its expert Ms. Martha Soto to act as Project Coordinator.

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, volcanological events and/or temporal interruptions of air navigation services.

3.2 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 strategically manage flow control measures; and

d) recommend other actions as deemed appropriate.

- - - - - -

APPENDIX A

PROJECT B1: IMPROVE DEMAND/CAPACITY BALANCING

SAM Region	**PROJECT DESCRIPTION (DP)**	DP N° B1	
Programme	**Title of the Project**	**Start**	**End**
Air traffic flow management (ATFM) *(Programme Coordinator: Roberto Arca Jaurena)*	*Improve demand/capacity balancing* *Project Coordinator: Martha Soto Ansaldi*	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	• % 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	• 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	• 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 airspace (ATC SECTOR) capacity and runway capacity.	B0-NOPS	Programme Coordinator		November 2015	85% of States updated ATC sectors and runway capacity calculations. Guyana and Suriname lack capacity calculation; French Guiana lack ATC sectors calculation.

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.	B0-NOPS	CGNA Course Project RLA/06/901		November 2014	Completed on schedule
Replication of ATFM courses at national level	B0-NOPS	States		15/05/2015	States replicated the ATFM courses at national level.
ATFM measures during the realization of Olympic and Paralympic Games Rio 2016 in Brazil	B0-NOPS	Brazil		13/05/2016	Detail of Brazilian AIC can be found under following link on the internet: http://publicacoes.decea.gov.br/?i=publicacao&id=4339
ATFM Implementation Status	B0-NOPS	Programme Coordinator		31/10/2015	56% of States implemented ATFM.
Resources required	Designation of experts in the execution of some of the deliverables.				

*

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*