Agenda Item 5: Implementation of Air Traffic Flow Management (ATFM)

Follow-up to the Implementation of ATFM

(Presented by the Secretariat)

SUMMARY

The purpose of this working paper is to update the status of implementation of ATFM in the Region and assess the progress made by States that have not yet implemented ATFM in the ACC units under their jurisdiction.

REFERENCES:

- SAM/IG meetings

ICAO strategic objectives:	*A - Safety* *B – Air navigation capacity and efficiency* *E – Environmental protection*

1. **Background**

1.1 At the RAAC/13 meeting (Colombia, December 2013), the civil aviation authorities of the Region, through the Bogota Declaration, undertook to attain the goal of having at least one FMU or FMP in ACCs by 2016 at the latest. Accordingly, utmost efforts must be made to achieve timely implementation.

1.2 The growth of demand foreseen for the SAM Region can have a domino effect on many States and might cause delays and losses for users, and a work overload in ATC units, in view of the insufficient number of management units for capacity/demand balancing.

2. **Discussion**

2.1 In 2013, 57% of SAM States conducted the corresponding runway capacity calculations. In 2014, Ecuador did runway capacity calculations for Quito and Guayaquil, and French Guiana submitted its runway capacity information for Cayenne. Guyana, Panama, Suriname, and Uruguay still need to complete these calculations. To date, 14% progress has been achieved with respect to 2013. No progress was made since the SAM/IG/13 meeting.

Percentage of States that have done runway and ATC sector capacity calculations

2013 57%	**ARG**	**BOL**	**BRA**	**CHI**	**COL**	**ECU**	**FGY**	**GUY**	**PAN**	**PAR**	**PER**	**SUR**	**URU**	**VEN**
	YES	YES	YES	YES	YES	NO	N/A	NO	NO	YES	YES	NO	NO	YES
2014 71%	**ARG**	**BOL**	**BRA**	**CHI**	**COL**	**ECU**	**FGY**	**GUY**	**PAN**	**PAR**	**PER**	**SUR**	**URU**	**VEN**
	YES	YES	YES	YES	YES	YES	YES	NO	NO	YES	YES	NO	NO	YES

2.2 Regarding the implementation of flow management units or positions, 35% of States met the goal in 2013 (Brazil, Chile, Colombia, Paraguay, and Venezuela). No progress has been made in the implementation of flow management units during 2014.

Percentage of States that have implemented ATFM in flow management units (FMUs) or flow management positions (FMPs)

2012 14%	**ARG**	**BOL**	**BRA**	**CHI**	**COL**	**ECU**	**FGY**	**GUY**	**PAN**	**PAR**	**PER**	**SUR**	**URU**	**VEN**
	NO	NO	YES	NO	YES	NO	N/A	NO	NO	NO	NO	NO	NO	NO
2013 36%	**ARG**	**BOL**	**BRA**	**CHI**	**COL**	**ECU**	**FGY**	**GUY**	**PAN**	**PAR**	**PER**	**SUR**	**URU**	**VEN**
	NO	NO	YES	YES	YES	NO	N/A	NO	NO	YES	NO	NO	NO	YES

2.3 Of a total of 100 international airports in the SAM Region, ATFM service is being provided in 45 airports (27 in Brazil, 8 in Colombia, 1 in Chile, 2 in Paraguay, and 7 in Venezuela), accounting for 45% of the airports in the Region. This percentage does not include airports in the process of implementation. See table below:

Total airports	Airports with ATFM service	% of airports with ATFM service
100	45	**45 %**

2.4 The States that responded to the ATFM survey as part of the ATFM Implementation Plan developed during the SAM/IG/11 meeting are the following: Argentina, Brazil, Chile, Colombia, Ecuador, Paraguay, Peru, Uruguay, and Venezuela. This survey is contained in **Appendix A** and must be completed by those States that have not done it yet.

2.5 Based on the responses sent by the States mentioned in the previous paragraph, **Appendix B** contains a summary of the results of the survey, which should be analysed by the SAM ATFM Implementation Group (SAM/ATFM/IG), with a view to defining the action required to attain the goal establish in the Bogota Declaration. The main conclusions of the survey are as follows:

a) The personnel with ATFM training are scarce in most SAM States.

b) There is a requirement to train ATFM personnel that should be met by the scarce trained personnel available in each State through the dissemination of information in national ATFM training courses, based on those courses already provided under Project RLA/ 06/901.

c) Runway and ATC sector capacity calculations must be broadened and updated.

d) There are no experts on apron capacity calculations. Only one State submitted apron capacity figures, obtained from calculations made by the airport administrator. The ATFM/SAM/IG must define whether airport capacity calculations, including apron capacity, should be done by the airport administration or if a harmonised calculation methodology should be established.

2.6 **Appendix C** contains an updated list of ATFM focal points, based on information available at the end of the SAM/IG/13 meeting. Information about these focal points needs to be kept up-to-date in order to stay in contact via email or teleconferences to perform tasks between SAM/IG meetings. Consequently, States are requested to update this information as applicable.

2.7 Updating procedures should include a review of the current ATFM action plan and provision of information on progress made by States in the completion of tasks and on the parties responsible for them. This plan is shown in **Appendix D** to this working paper.

2.8 The SAM/IG/2 meeting analysed the terms of reference and work programme of the SAM ATFM Implementation Group (SAM/ATFM/IG), which were never reviewed by subsequent SAM/IG meetings. Accordingly, such terms of reference and work programme should be reassessed, based on the proposals made by the Secretariat, shown in **Appendix E**.

2.9 **Improving traffic flow through sequencing (B0-RSEQ)**

2.9.1 The SAM/IG/13 meeting noted that PBN-based airspace concepts relied, to a large extent, on proper air traffic flow management, including the corresponding strategic, pre-tactical and tactical ATFM measures. The interaction between RNAV/RNP arrivals and departures, using CDO/CCO, and proper connection between STARs and approaches, depend on sequencing of optimised departures and arrivals, where air traffic controllers use radar vectoring only for specific cases.

2.9.2 In addition to preventing optimum profile flights, another adverse effect of radar vectoring in a "PBN environment", with a larger number of paths, is that air traffic controller workload increases to ensure aircraft separation, since the new paths used in radar vectoring are not "guaranteed" by "crossing altitude windows."

2.9.3 Accordingly, the SAM/IG/13 meeting noted that strategic ATFM measures should provide optimum traffic flow, avoid TMA overload, allow for the application of pre-tactical ATFM measures, especially tactics to ensure optimum arrival and departure sequencing, avoiding unnecessary radar vectoring and holding, which would prevent aircraft from applying their optimum flight profiles.

2.9.4 Based on discussions concerning the relationship between PBN and ATFM, the SAM/IG/13 meeting felt that the ATFM Action Plan should be revised to include activities enabling PBN and ATFM integration, including practical strategic, pre-tactical, and tactical ATFM measures to expedite the implementation of PBN airspace concepts.

2.10 **Brazil 2014 FIFA World Cup**

2.10.1 Following a detailed analysis of information provided by the Brazilian delegation, the SAM/IG/13 meeting concluded that various actions had to be taken to enable SAM States and ICAO to contribute to proper air traffic flow management during Brazil's 2014 FIFA World Cup.

2.10.2 Some SAM States established a Basic Action Plan containing the necessary measures for proper flow management, including: a preventive and corrective maintenance strategy for navigation and communication equipment, strengthening of operational and maintenance personnel, establishment of daily operational briefings for air traffic controllers, etc.

2.10.3 The ICAO SAM Regional Office organised 3 teleconferences on 9 May, 30 May, and 5 June 2014, for DECEA/CGNA to clarify any doubts SAM States might have regarding the air traffic flow management strategy developed by Brazil.

2.10.4 Some SAM States circulated AIC A05/14 and AIC A08/14, as well as other relevant information within their territory, in order to inform users about the rules to be followed for entry into, and operation in, Brazilian airspace.

2.10.5 Some SAM States had taken urgent actions as necessary to avoid or minimise the adoption of unilateral measures restricting traffic flow, mainly time-based measures that do not take into account the possibility of vertical separation. Distance-based separations were applied inasmuch as possible, taking advantage of existing ATS surveillance tools.

2.10.6 Teleconferences were held between South American ATC units and CGNA to coordinate operational actions and any ATFM measures that might be required during the course of each day. Initially, these teleconferences were to be held on a daily basis, but then, it was decided that they would be held as needed during the occurrence of the event.

2.11 **2014 Programme of ATFM activities of Project RLA/06/901**

2.11.1 The SAM/IG/13 noted that the SAM/IG/12 meeting had received from Project RLA/06/901 a request for assistance for the conduction of a 10-day theoretical/practical course on ATFM procedures, to be provided by suitable staff from the States, at the CGNA of Brazil, if possible during the second half of 2014.

2.11.2 The SAM Regional Office coordinated with CGNA and the course will be given from 17 to 28 November 2014 at the cited centre, located in Rio. The course is for air traffic controllers, supervisors and/or personnel performing ATFM tasks, who have taken courses on ATFM, CDM, airport and ATC sector capacity calculation, and/or who are involved in ATFM implementation and development processes in their respective State, especially those related to the attainment of the goal of the Bogota Declaration, established at the RAAC/13 meeting (December 2013): *"100% of the area control centres (ACCs) providing air traffic flow management (ATFM)".*

2.11.3 It is felt that, to optimise training, the experts participating in the aforementioned course should be expected to remain within the Administration for at least 5 years, to make sure that their knowledge is shared with other experts to ensure optimum implementation of ATFM processes.

2.11.4 The course will be given in Portuguese, and the documentation will be drafted in Portuguese and Spanish. The relevant material will be posted in due time on the website of the ICAO South American Regional Office (http://www.icao.int//SAM/Pages/ES/meetings_ES.aspx - *Theoretical/practical course on ATFM procedures*). The syllabus of the course is shown in **Appendix F**.

3. **Suggested action:**

3.1 The Meeting is invited to:

a) request States that have not done it yet to complete the survey shown in Appendix A;

b) analyse the survey completed by the States, shown in Appendix B, so as to identify the action required to attain the goal established in the Bogota Declaration;

c) update the contact information of ATFM focal points and add the focal points of the States not yet included in Appendix C;

d) review and complete the ATFM Action Plan shown in Appendix D;

e) assess and propose changes as deemed necessary and approve the terms of reference and work programme of the SAM/ATFM/IG as proposed in Appendix E**;**

f) analyse the activities that should be included in the SAM ATFM Action Plan to expedite PBN/ATFM integration, including practical strategic, pre-tactical and tactical ATFM measures that might expedite the implementation of PBN airspace concepts;

g) assess the experience of Brazil during the 2014 FIFA World Cup and the interaction between CGNA and SAM ATC units, to further the SAM ATFM implementation process; and

h) designate suitable participants to attend the operational ATFM course to be held from 17 to 28 November 2014 at CGNA, in Rio de Janeiro, Brazil.

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APPENDIX A

SURVEY ADDRESSED TO SAM STATES AS PART OF THE ATFM IMPLEMENTATION PLAN

Country /State: _____ Airport:_____

Person responding the survey:_____

Date: _____

1. Regarding the SAM ATFM implementation plan, indicate if FMU/FMP units have been established. If the answer is YES, indicate the responsible unit. If the answer is NO, indicate plans for ATFM implementation based on regional requirements.

_____
_____
_____
_____

2. Indicate if you have personnel trained in ATFM implementation and if such personnel is currently performing the corresponding functions in accordance with the implementation plan.

_____
_____
_____
_____

3. If NO trained personnel is available, indicate the number of people available for receiving training in the ATFM implementation plan.

_____
_____
_____
_____

4. In your State/country, how many airports have runway capacity calculation? List the most important ones. If your answer is NONE, indicate what airports have runway capacity calculation. List the most important ones. If your answer is NONE, indicate what airports you consider require such calculation.

_____
_____
_____
_____

5. In your State/country, how many airports have apron capacity calculation? List the most important ones. If your answer is NONE, which airports to you consider require such calculation?

_____
_____
_____
_____

6. In your State/country, what airports have ATS sector capacity calculation? List the most important ones. If your answer is NONE, what airports you think require it?

_____
_____
_____
_____

7. For the airport that you consider of greatest importance, indicate the following in terms of the number of operations per hour:

- Runway capacity: _____
- Apron capacity: _____
- ATS sector capacity: _____

8. For the airport that you consider of greatest importance, indicate the number of trained people in a position to calculate, in terms of operations per hour:

- Runway capacity: _____
- Apron capacity: _____

- ATS sector capacity _____

9. List the airports in which demand exceeds runway capacity and indicate the operational factors affecting them.

_____
_____
_____
_____
_____
_____

APPENDIX B

ATFM SURVEY	ARG (ANAC)	ARG (DGCTA)	BOL	BRA	CHI	COL	ECU	FGY	GUY	PAN	PAR	PER	SUR	URU	VEN	REMARKS
1 . Regarding the SAM ATFM implementation plan, confirm if FMUs/FMPs have been established. If YES, indicate which is the responsible unit. If the answer is NO, indicate what are your plans for ATFM implementation based on regional requirements.	**NO**	**NO**		YES	YES	YES	**NO**				YES	**NO**		**NO**	YES	**Argentina (ANAC)**: Discussions will be held with the air traffic service provider (DGCTA) on the possibility of implementing an FMU. **Argentina (DGCTA)**: They have not been established. The hiring of an ICAO expert has been foreseen for ATFM implementation (initially one FMU). **Brazil**: Brazil has already implemented ATFM (CGNA). **Chile**: On 1 November 2012, the FMP was established at the Santiago ACC, which is the unit responsible for that position. **Colombia:** Yes. Air traffic flow and capacity management units – FCMU COLOMBIA. **Ecuador**: To date, for various reasons, it has not been possible to implement FMU/FMPM units; however, according to the new policy of the Air Navigation Directorate concerning integration and harmonisation with ICAO regional requirements, the project for the creation of a national ATFM unit (FMU) under the administration of DNA will start in the coming months. It will be responsible for conducting a study and analysis to determine runway and ATC sector capacity at the main airports of the country, and for providing training to ATC personnel of the other aerodromes where local flow management units (FMP) need to be implemented. **Paraguay**: Paraguay has a central air traffic flow unit (C.F.M.U.), which will be responsible for implementing the ATFM system in Paraguay. **Peru**: The State is in the process of implementing ATFM through an FMU. **Uruguay**: Request support for personnel training. **Venezuela**: Yes, one FMU in Maiquetía

ATFM SURVEY	ARG (ANAC)	ARG (DGCTA)	BOL	BRA	CHI	COL	ECU	FGY	GUY	PAN	PAR	PER	SUR	URU	VEN	REMARKS
2. Confirm if you have personnel trained in the ATFM implementation plan and if this staff is currently performing the corresponding functions according to the implementation plan.	**YES**	**YES**		**YES**	**YES**	**YES**	**NO**				**YES**	**YES**		**NO**	**YES**	**Argentina (ANAC):** ANAC has few personnel trainined in ATFM and none has received a capacity calculation course. **Argentina (DGCTA)**: Yes, the staff is performing other functions. **Brazil:** Brazil has personnel trained in ATFM, which have been updated since the implementation. **Chile**: We have an ATFM specialist and 6 runway and ATC sector calculation experts. Only 2 persons are currently performing functions related to ATFM implemetation. **Colombia**: Yes, although better personnel management is required in this area. **Ecuador**: Only one person has been trained in Guayaquil, although he is now performing other activities, since he was recently reinstated in the DGAC after being seconded to the Ministry of Transportation. Quito does not have any trained personnel for the ATFM implementation plan; we have participated only in two seminar/workshops, which unfortunately did not get the support or continuity required to meet ICAO recommendations on the subject. **Paraguay**: We have personnel trained in ATFM implementation, who are responsible for the regulatory (CFMU) and operational aspects (FMU-SGAS and FMU-SGES) of this activity. **Peru**: We have personnel available, but they do not perform ATFM functions. **Uruguay**: The personnel who received training in the past are no longer available. **Venezuela**: We have personnel trained in the methodology adopted from Brazil, which is now being applied in Venezuela.

ATFM SURVEY	ARG (ANAC)	ARG (DGCTA)	BOL	BRA	CHI	COL	ECU	FGY	GUY	PAN	PAR	PER	SUR	URU	VEN	REMARKS
3. If NO trained personnel is available, indicate how many persons are available to receive training in the ATFM implementation plan.		**8**		**-**	**3**	**-**	**4**				**5**			**4**	**11**	**Argentina (ANAC)**: ANAC should designate personnel for this function. **Argentina (DGCTA)**: 8 persons are available. **Chile**: Although there is an ATC specialist in ATFM, more are needed, since implementation requires a work team. We currently have 3 persons available for training. **Colombia**: At least five (5) persons are needed. **Ecuador**: For the purpose being sought, it would be advisable to train at least 4 persons. **Paraguay**: Initially, 3 persons. Pending training would include: (1) Advanced course for ATS sector capacity calculation instructors; (1) ATFM management course; (3) runway capacity calculation (airport).
4. How many airports in your State/country have runway capacity calculation? List the main ones. If the answer is NONE, indicate which airports you think require such calculations.	**1**	**1**			**5**	**1**	**0**				**2**	**2**		**0**	**5**	**Argentina (ANAC)**: Aeroparque has runway capacity calculation. **Argentina (DGCTA)**: Aeroparque. Capacity calculations are being considered for the aerodromes of Ezeiza, Córdoba, and San Fernando. **Brazil**: Brazil submitted its list at the last SAM/IG meeting, but will send an updated runway capacity calculation list. **Chile**: Currently, we have runway capacity calculations for: SCEL, SCFA, SCCF, SCIE, and SCTE. **Colombia**: Only one. Calculations are required for eleven (11) international and five (5) domestic airports. **Ecuador**: Currently, none of the airports in the country has runway capacity calculations; however, I think the airports of Quito, Guayaquil, Nueva Loja, Coca, Shell Mera, Cuenca, and Manta require such calculations. **Paraguay**: International airports of "Silvio Pettirossi" in Asunción and "Guaraní" in Minga Guazú.

ATFM SURVEY	ARG (ANAC)	ARG (DGCTA)	BOL	BRA	CHI	COL	ECU	FGY	GUY	PAN	PAR	PER	SUR	URU	VEN	REMARKS
																Peru: Two airports, only one has been updated. **Uruguay**: SUMU, and SULS. **Venezuela:** SVMI, SVMC, SVMG, SVBC, and SVPR
5. How many airports in your State/country have apron capacity calculations? List the main ones. If the answer is NONE, indicate which airports you think require such calculations.	**0**	**0**		**1**	**0**	**0**	**0**				**0**	**0**		**0**	**0**	**Brazil:** Apron capacity calculations have been performed for one airport (Guarulhos international airport in São Paulo-SP). This information was provided by GRU- (Guarulhos Airport Administration). **Chile:** We believe that SCEL, SCIE, and Loa de Calama require this calculation. **Colombia**: None. It is required for several airports since airport capacity is not being managed to address growing demand. **Ecuador**: None of the airports in the country has apron capacity calculations. However, I think the airports of Quito, Guayaquil, Nueva Loja, Coca, Shell Mera, Cuenca, and Manta require these calculations. **Paraguay**: These calculations have not been performed due to lack of experts (specialists) duly trained for this purpose. Calculations are required for the two international airports mentioned above: "Silvio Pettirossi" in Asunción and "Guaraní" in Minga Guazú. **Peru**: Two airports require these calculations. **Uruguay**: SUMU and SULS. **Venezuela**: None. We still do not have personnel duly trained to conduct these calculations, which would be required for the international airport of Maiquetía.

ATFM SURVEY	ARG (ANAC)	ARG (DGCTA)	BOL	BRA	CHI	COL	ECU	FGY	GUY	PAN	PAR	PER	SUR	URU	VEN	REMARKS
6. How many airports in your State/country have ATS sector capacity calculations? List the main ones. If the answer is NONE, indicate which airports you think require such calculations.	**0**	**0**		**OBS**	**0**	**1**					**1**	**1**		**0**	**1**	**Argentina (ANAC)**: They are needed for: EZE FIR, Baires TMA, Ezeiza AD, Aeroparque AD, and San Fernando AD **Argentina (DGCTA)**: The airports of Aeroparque, Ezeiza, San Fernando, and Córdoba are being considered. **Brazil**: For most of them, it can be derived from the Brazilian ATC capacity. **Chile**: We think the airports of SCEL, SCIE, and Loa de Calama require these calculations. **Colombia**: One, at El Dorado; arrival sector; in process, north, south of the Bogota TMA and upper sectors of the SKED FIR. **Ecuador**: ATC sector calculations have not been established for any of the airports of the country. However, given the importance of this matter and knowing the limitations that exist in most airports and aerodromes, I think a study and analysis should be made for all of them in order to identify actions and recommendations for better operational management and safety. **Paraguay:** These calculations only exist for the international airport "Silvio Pettirossi" in Asunción and should also be conducted for the "Guaraní" airport in Minga Guazú. **Peru**: Lima. **Uruguay**: SUMU (TWR), SUMU (APP Radar) and SUEO (ACC Radar). **Venezuela**: Only the international airport of Maiquetía.
7. Number of operations per hour at the airport considered to be the most important one:																**Chile**: SCEL **Ecuador:** Inconsistency noted: No calculations were reported but figures were given. **Peru:** SPIM.
Runway capacity	**X**	**X**	**SBGR 47**		**SCEL 40**	**70 SKBO**	**15**				**SGAS 23**	**SPIM 23**		**X**	**SVMI 34**	
Apron capacity	**X**	**X**			**X**		**30**				**X**			**X**	**X**	
ATS sector	**X**	**X**	**10**		**X**	**30 arrivals**	**10**				**8**	**TMA**		**X**	**Sector**	

ATFM SURVEY	ARG (ANAC)	ARG (DGCTA)	BOL	BRA	CHI	COL	ECU	FGY	GUY	PAN	PAR	PER	SUR	URU	VEN	REMARKS
capacity			**Setor 2 FIR BS**			**SKBO**					**(number N)**	**8**			**1 26 Sector 2 28**	
8. For the airport considered to be the most important one, number of trained personnel capable of providing, in terms of operations per hour, calculations for:																**Ecuador:** Inconsistency noted: A lack of personnel was reported in the previous questions.
Runway capacidty	**X**	**X**			**SCEL 02**	**4**	**1**				**1**			**6**	**2**	
Apron capacity	**X**	**X**			**X**		**1**				**X**			**X**	**0**	
ATS sector capacity	**X**	**X**			**SCEL 02**	**4**	**1**				**1**			**6**	**2**	
9. List the airports in which demand exceeds runway capacity, and indicate the operational factors affecting them.																**Argentina (ANAC)**: We do not have this information. **Argentina (DGCTA)**: We do not have the necessary information. **Brazil**: There are no airports in Brazil that operate above their capacity, since critical airports have been coordinated by CGNA. However, the airport of SBGR sometimes requires ATFM capacity/demand balancing measures, since its aprons and gates are being expanded; however, when the reduction of ATC separation minima proposed for final approach is completed, its capacity will increase. **Chile:** At peak hours, SCEL exceeds its declared capacity (40 acft/h). The factors that cause this imbalance are: airline schedules; operation of CAT A and B aircraft; adverse weather conditions (low visibility-wind); and maintenance of the manoeuvering area. **Colombia**: El Dorado; factors involved: capacity

ATFM SURVEY	ARG (ANAC)	ARG (DGCTA)	BOL	BRA	CHI	COL	ECU	FGY	GUY	PAN	PAR	PER	SUR	URU	VEN	REMARKS
																of arrival/departure sectors; fleet mix; runway distribution; DEP parallel approaches. **Ecuador**: Quito airport: routes need to be redefined; ATC sectors and airspaces, in general, need to be improved and optimised; the airport administrator must improve planning, coordination and assignment of aircraft stands. Finally and most importantly, an ATFM unit needs to be implemented to recommend policies for infrastructure and/or equipment improvement and optimisation of available resources to meet the demand of operators without neglecting safety. Airports of Cuenca, Shell Mera, Manta, Coca, and Nueva Loja: demand exceeds runway capacity, since their runway, taxiway, apron, and terminal infrastructure is too small. Likewise, a comprehensive analysis of ATC units and sectors is required in terms of equipment and ATS routes, based on ATFM management criteria. International airport of Guayaquil: as in the case of the airport of the capital city, all ATS routes, airspaces and ATC sectors must be redefined and analysed in a comprehensive manner, based on ATFM, PBN, RNAV/RNP navigation, and other criteria. **Paraguay**: At present, in the ASU FIR, there are no operational indicators that affect our capacity to meet demand. **Peru:** Operational factors involved: apron management and design affect personnel capacity and skill. **Uruguay**: SULS in summer. Factors: runway capacity, apron capacity, and airport capacity. **Venezuela**: International airport of Maiquetía: Capacity is affected by 45° angles of runway 10/28, departures and arrivals of aircraft of different wing spans, runway threshold displacement.

APPENDIX C / APÉNDICE C

LIST OF CONTACTS FOR OPERATIONAL ATFM FOCAL POINTS AND ESTABLISHED ATFM UNITS

LISTA DE CONTACTOS PARA PUNTOS FOCALES ATFM OPERACIONALES Y UNIDADES ATFM ESTABLECIDAS

State/ Estado	STATE ATFM FOCAL POINTS PUNTOS FOCALES ATFM DEL ESTADO	OPERATIONAL ATFM FOCAL POINTS AND ESTABLISHED ATFM UNITS PUNTOS FOCALES ATFM OPERACIONALES Y UNIDADES ATFM ESTABLECIDAS
ARGENTINA*	Víctor Marcelo de Virgilio Jefe del Departamento Gestión del Espacio Aéreo Tel.: +5411 4317-6000, Ext 15130/14105 Cel: E-mail: dsna@faa.mil.ar Carlos Omar Torres Administración Nacional de Aeronáutica Civil (ANAC) Jefe Departamento Programación Técnica Tel: +54 11 5941-3000, Ext. 69193 E-mail: ctorres@anac.gov.ar	Enrique Muñoz Aeroparque Jorge Newbery Tel.: +5411 6894-0979, E-mail: enriquejmun@hotmail.com
BOLIVIA (Plurinational State of) / **BOLIVIA (Estado Plurinacional de)***	ATCO Miguel Castillo Ochoa Dirección General de Aeronáutica Civil (DGAC) Jefe de la Unidad ATM/SAR Tel.: +591 2211-4465 Cel.: +591 7204-6745 E-mail: mcastillo@dgac.gob.bo ATCO Daniel Bustamante Leyton Dirección General de Aeronáutica Civil (DGAC) Inspector ATM/SAR	ATCO. Marco Sergio Barrios Barzola Supervisor ACC La Paz Jefe Navegación Aérea Reg. La Paz Tel/Fax: +591 2 281-0203 (ACC/La Paz) Tel/Fax: +591 2 282-1717 (Nav. Aérea) Tel: +591 2 223-8339 (Home/domicilio) Cel.: +591 7 052-3884 E-mail: mbarrios@aasana.bo masebarbar@hotmail.com

State/ Estado	STATE ATFM FOCAL POINTS PUNTOS FOCALES ATFM DEL ESTADO	OPERATIONAL ATFM FOCAL POINTS AND ESTABLISHED ATFM UNITS PUNTOS FOCALES ATFM OPERACIONALES Y UNIDADES ATFM ESTABLECIDAS
	Tel.: Cel.: +591 7220-1865 E-mail: dbustamante@dgac.gob.bo	
BRAZIL / BRASIL*	TCel Luiz Roberto Barbosa Medeiros Centro de Gerenciamento e Navegação Aérea – CGNA Chefe da Divisão de Operações Tel.: +55 21 2101-6531 Cel.: +55 21 99499-1658 E-mail: medeiros@cgna.gov.br Cap José Airton Patricio Centro de Gerenciamento e Navegação Aérea – CGNA Oficial ATM Tel.: +55 21 2101-6448 Cel.: +55 21 98554-4425 E-mail: patriciojap@cgna.gov.br	Gerente Nacional – GNAC Tel.: +55 21 2101-6409 E-mail: gnac@cgna.gov.br Gerente Nacional de Fluxo – GNAF Tel.: +55 21 2101-6546 E-mail: grt@cgna.gov.br Gerencias Regionais – GER Tel.: +55 21 9949-6492 / +55 21 2101 98554 3598 E-mail: gr1@cgna.gov.br / gr2@cgna.gov.br
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State/ Estado	STATE ATFM FOCAL POINTS PUNTOS FOCALES ATFM DEL ESTADO	OPERATIONAL ATFM FOCAL POINTS AND ESTABLISHED ATFM UNITS PUNTOS FOCALES ATFM OPERACIONALES Y UNIDADES ATFM ESTABLECIDAS
COLOMBIA*	Mauricio José Corredor Monroy Unidad Administrativa Especial de Aeronáutica Civil (UAEAC) Jefe Grupo ATFCM Tel.: + 571 296-2628 E-mail: mauricio.corredor@aerocivil.gov.co Skype: mauricio.jose.corredor.monroy	Unidad de Gestión de Afluencia de Tránsito Aéreo y Capacidad – FCMU COL (DE 1100 A 0500 UTC) E-mail: cfmu.dsna@aerocivil.gov.co Please copy to / Favor copiar a: E-mail: cns.fmu@aerocivil.gov.co aga.fmu@aerocivil.gov.co Telefonos: MANAGER: +571 296-2656 CNS: +571 296-2100 AGA: +571 296-2200 DEPARTURE FLOW MANAGEMENT: +571 296-24 06 Celular: MANAGER: +57 317 517-10 46 AGA: +57 317 363- 88 11 CNS: +57 318 330-73 74

State/ Estado	STATE ATFM FOCAL POINTS PUNTOS FOCALES ATFM DEL ESTADO	OPERATIONAL ATFM FOCAL POINTS AND ESTABLISHED ATFM UNITS PUNTOS FOCALES ATFM OPERACIONALES Y UNIDADES ATFM ESTABLECIDAS
ECUADOR*	Antonio Arias Dirección General de Aviación Civil (DGAC) Tel.: +593 2 294-7400, Ext. 2222 +593 4 228-9616 Cel.: +593 9 9403-3240 E-mail: jose.arias@aviacioncivil.gob.ec Marco Marchan Tel.: +593 2 294-7400, Ext. 2216 +593 4 239-4960 Cel.: +593 9 9904-6953 +593 9 9352-0429 E-mail: marco.marchan@aviacioncivil.gob.ec	Operational focal points / Puntos focales operacionales: SUPERVISOR CENTRO DE CONTROL: DDI: +593 4 228-2851 REDDIG: 5060/5051/5052/ 5053
FR.GUIANA / GUYANA FRANCESA		
GUYANA		
PANAMÁ*	Gabriel Bernard Administración de Aeronáutica Civil Tel.: +507 6511-0730 +507 315-9880	Focal point in control center / Punto focal en el Centro de Control; Supervisor: +507 315-9880 Emergency focal point /Punto focal de Emergencia: Ricardo Deville Tel.: +507 6238-4009

State/ Estado	STATE ATFM FOCAL POINTS PUNTOS FOCALES ATFM DEL ESTADO	OPERATIONAL ATFM FOCAL POINTS AND ESTABLISHED ATFM UNITS PUNTOS FOCALES ATFM OPERACIONALES Y UNIDADES ATFM ESTABLECIDAS
PARAGUAY*	Lic. Esp. Enrique Espinoza Dirección Nacional de Aeronáutica Civl (DINAC) Gerencia Unidad Central de Tráfico Aéreo – CFMU (Unidad Normativa) Edificio Ministerio de Defensa Nacional, 6to. piso Tel./Fax: +595 21 210-628 Cel.: +595 982 348-350 E-mail: cfmu@dinac.gov.py cfmu.py@gmail.com	1-Unidad de Flujo (SGAS) – FMU SGAS (Unidad Operativa). Current responsible / Responsable actual de dicha Unidad: ATCO. Sindulfo Ibarrola Tel./Fax: +595 21 758-5110 Cel.: +595 983 35-0815 E-mail: fmu.asu@gmail.com Mariano Roque Alonso-Paraguay Edificio del Nuevo Centro de Control Unificado. 2-Unidad de Flujo (SGES) – FMU SGES (Unidad Operativa). Current responsable / Responsable actual de dicha Unidad: Lic. ATCO. David Gavilán Tel./Fax: +595 64 420-842 Cel.: +595 983 830-404 E-mai): daga_978@hotmail.com Minga Guazú-Paraguay Aeropuerto Internacional Guaraní.
PERÚ*	José Mondragón Hernández Dirección General de Aerónautica Civil (DGAC) Inspector de Navegación Aérea Tel.: +511 615-7881 Cel.: +51 99044-0563 E-mail: jmondragon@mtc.gob.pe	José Mondragón Hernández Inspector de Navegación Aérea Dirección General de Aerónautica Civil Tel.: +511 615-7881 Cel.: +51 99044-0563 E-mail: jmondragon@mtc.gob.pe

State/ Estado	STATE ATFM FOCAL POINTS PUNTOS FOCALES ATFM DEL ESTADO	OPERATIONAL ATFM FOCAL POINTS AND ESTABLISHED ATFM UNITS PUNTOS FOCALES ATFM OPERACIONALES Y UNIDADES ATFM ESTABLECIDAS
SURINAME	Mr. Soeknandan Andre Chief Air Traffic Services Tel.: +597 530-433 Cel.: +597 7 216-108 Fax: +597 491-743 E-mail : atmcnslvd@yahoo.com	Mr. Gaddum R Coordinator ATS Supervisor ATS unit Zanderij Phone: Operations : +597 032-5208 Cel : +597 853-1681 E- mail : g.rperez@hotmail.com
URUGUAY*	C.T.A. Luis A. Otheguy Dirección Nacional de Aeronáutica Civil (DINACIA) Director de Tránsito Aéreo (ATM) Tel.: +598 2 604-0408, Int. 5105 Fax: +598 2 604-0408, Int. 5155 Cel: +598 98 592-11 E-mail: dta@dinacia.gub.uy	ACC Montevideo teléfono directo +598 260-00619 REDDIG
VENEZUELA (Bolivarian Republic of) / **VENEZUELA (República Bolivariana de)***	Maribel Mayora Vallenilla Responsable ATFM Tel: +58212 303-4532 (13:00 – 21:00 UTC) Cel: +58416 611-0607 (H24) E-mail: atfm@inac.gob.ve m.mayora@inac.gob.ve Wilfredo Gil Sánchez Jefe ACC-Maiquetía Tel: +58212 355-2912 (13:00 – 21:00 UTC) Cel: +58416 632-6204 (H24) E-mail: w.gil.@inac.gob.ve	ACC-Maiquetía Tel: +58212 355-2216 (H24) Cel: +58416 623-6427 (H24) E-mail: Maruska Borges Rodríguez Unidad FMU/ATFM/Venezuela ATC/Aeropuerto Int´l. Maiquetía Tel.: +582 12 303-4532 (13:00 – 21:00 UTC) Cel: +584 14 299-3995 (H24) E-mail: ma.borges@inac.gob.ve

* Updated SAM/IG/13 / Actualizados en la SAM/IG/13

APPENDIX D

ACTION PLAN FOR THE IMPLEMENTATION OF ATFM AT SAM AIRPORTS

A: AIRPORT				
Task description	**Start**	**End**	**Responsible party (designate individual or organisation in charge)**	**Remarks**
1. Airport demand/capacity (runway capacity) analysis				The ATFM survey provides information on this subject
1.1 Carry out Calculation of Airport and Airspace Capacity of main airports by States. 1. Identify personnel available in each State to carry out calculation of runway capacity. 2. Identify which airports already have calculation of runway capacity. 3. Identify, prioritize and report what airports require calculation of runway capacity. 4. Carry out calculation of runway capacity. 5. Update calculation of runway capacity as necessary. ~~5~~6.. Identify airports exceeding runway capacity.	Sep 2009	SAM/IG/14	States	**Valid** States that have not yet done so are encouraged to submit the required information. Item 4 has to be presented to SAM/IG/14.
1.2 Notify the airports where periods exist where the demand is greater than existing capacity including simulations, if necessary, by States.	Sep/Oct 2009	Permanent	States	**Permanent** Brazil, Paraguay and Peru presented the data. Assure States that the aim of these tasks is to share information.
1.3 Determine operational factors affecting airport demand and capacity to optimise utilisation of existing capacity, including simulations, is necessary.	Sep/Oct 2009	Permanent	States	**Valid** Brazil, Paraguay and Peru presented the data.
1.4 Notify airport capacity in terms of aircraft operation in main airports.	SAM/IG/12		States	**Permanent** Updated in each SAM/IG.

A: AIRPORT				
Task description	**Start**	**End**	**Responsible party (designate individual or organisation in charge)**	**Remarks**
2. Coordination with the ATM community				
2.1 Promote seminars to the ATFM community considering the CDM concept for the implementation of ATFM and initiate corresponding coordination. 1. Consider the implementation of a CDM process in main airports. 2. States will notify airports with this process.	SAM/IG/11	Permanent	States	**Valid** ATFM operational concept, ATFM manual and ATFM roadmap will be taken into account.
3. Infrastructure and database				
3.2 Establish a data base format to be used for automation.	SAM/IG/11		States	**Valid**
4. Policy, standards, and procedures				
4.7 Provide AIP/AIC published information on ATFM.	SAM/IG/11		States	**Permanent** Information will be presented in each SAM/IG The format of the publication is in doc 8196
5. Training				
5.1 Establish courses on: a) FMP/FMU training b) Airport CMD training	SAM/IG/13	SAM/IG/14	States Project RLA/06/901	The participation of an AGA and an ATFM expert is expected for the A-CMD course
5.2 Draft ATFM training plans and submit them.	SAM/IG/11	SAM/IG/15	States	
5. 3 Establish courses on: a) Training in FMP/FMU b) Training in airport CMD	SAM/IG/11		States	**Permament**

A: AIRPORT				
Task description	**Start**	**End**	**Responsible party (designate individual or organisation in charge)**	**Remarks**
5.~~7~~4 Monitor the training of the ATM community.	SAM/IG/11		States	**Permanent**
6. Final implementation decision				
6.1 Review factors that may affect the implementation decision.			States	**Valid**
6.2 Declare the pre-operational implementation in the defined area.			States	**Valid**
6.3 Declare the final operational implementation in the defined area.			States	**Valid**
7. Monitor system performance				
7.1 Develop performance indicators according to CDM manual.	SAM/IG/11	SAM/IG/14	States	**Valid** States will present an information paper concerning the performance indicators.
7.2 Develop a performance indicators follow-up programme	SAM/IG/11	SAM/IG/15	States	**Valid**
7.3 Develop and implement an ATFM post-implementation follow-up programme at airports.	SAM/IG/13	SAM/IG/15	States	**Valid**

ACTION PLAN FOR ATFM IMPLEMENTATION IN THE SAM REGION				
B- AIRSPACE (ATC Sector)				
Task description	**Start**	**End**	**Responsible party (designate individual or office in charge)**	**Remarks**
1. Airspace demand and capacity analysis				
1.~~2~~1 Carry out ATC sectors calculation. 1. Identify personnel available in each State to carry out calculation of air space capacity. 2. Identify which sectors already count with calculation of capacity. 3. Identify, prioritize and report what sectors require calculation of capacity. 4. Identify sectors exceeding capacity.	SAM/IG/11	SAM/IG/1~~3~~4	States	**Permanent** States that have not yet done so are encouraged to submit the required information.
1.~~2~~4 Carry out the States estimate airspace ATC sector capacity calculation and their terminal areas at the major airports.	Sep 2009	SAM/IG/1~~3~~4	States	**Valid**
1.3 Update, as necessary, the estimate airspace ATC sector capacity calculation and their terminal areas at States' major airports	SAM/IG/14	SAM/IG/15	States	**Valid**
1.~~5~~4. Identify airspace sectors where demand sometimes exceeds capacity, including simulations by the States, if necessary.	TBD		States	**Permanent** Brazil has presented their studies.
1.~~6~~5 Identify factors affecting airspace demand and capacity in order to optimise the use of existing capacity, including simulations if necessary.	TBD		States	**Permanent** Brazil has presented their studies.
1.~~7~~6 Present conclusions on the existing airspace capacity.	TBD		States	**Permanente** Brazil has presented their studies.
2. Evaluate improvement of traffic flow by sequencing (B0-RSEQ) in order to allow an optimal application of new airspace concepts baed on PBN, mainly using CDO and CCO	**SAM/IG/14**	**SAM/IG/15**	SAM/ATFM/IG States	

ACTION PLAN FOR ATFM IMPLEMENTATION IN THE SAM REGION				
B- AIRSPACE (ATC Sector)				
Task description	**Start**	**End**	**Responsible party (designate individual or office in charge)**	**Remarks**
2.1. Pre-tactic and mainly tactic ATFM measures that guarantee an optimal sequencing of arrivals and departures, avoiding application of radar vectors and holdings.	SAM/IG/14	SAM/IG/15	SAM/ATFM/IG States	
~~2~~3. Coordination with the ATM community				
~~2.2~~ 3.1.Promote seminars to the ATFM community considering the airspace capacity concept for the implementation of ATFM and initiate corresponding coordination.	SAM/IG/11		States	**Valid**
~~3~~4. Infrastructure and database				
~~3~~4.1 The ATFM/IG Group will present the basic requirements for a regional automated system.	SAM/IG/12	SAM/IG/13	ATFM/IG	**Valid** Brazil has already implemented. Colombia presented their preliminary requirements.
~~3~~4.2 Coordinate implementation activities with the Automation Group.	SAM/IG/13		ATFM/IG	**Valid** Depends on information of 3.1.
~~4~~5. Policy, standards, and procedures	TBD	Jun 2013	States	
~~4.2~~5.1 Develop a regional strategy and framework for the implementation of Centralized ATFM units.	2008	2016	Project RLA/06/901	**Valid**
~~4.3~~5.2 Develop template/contents for operational agreements between Centralized ATFM units for interregional demand/capacity balancing.	2008	2016	Project RLA/06/901	**Valid**

ACTION PLAN FOR ATFM IMPLEMENTATION IN THE SAM REGION				
B- AIRSPACE (ATC Sector)				
Task description	**Start**	**End**	**Responsible party (designate individual or office in charge)**	**Remarks**
~~4.4~~5.3 Define common elements of situational awareness between FMUs; • common traffic displays; • common weather displays (Internet); • communications (teleconferences, web):	2008		States	**Permanent**
~~4.5~~5.4 Review the regional ATFM implementation roadmap to be used by States as FMU/FMP implementation guide.	SAM/IG/11	Permanent	States	**Valid**
~~4.6~~5.5 Apply a national strategy to implement the use of a flexible upper airspace (FUA), on the basis or the Guideline for the Implementation of the Flexible Use of Airspace (FUA) Concept in the South American Region: • evaluate the management processes in the use of the airspace; • improve the current domestic airspace management to adjust dynamic changes to the traffic flows in tactical stages; • introduce improvements to the ground ATS systems and associated procedures for the extension of the FUA with dynamic management processes in the use of the airspace; • dynamically implement ATC sectorization with the aim of providing a better balance between demand and capacity that responds in real time to changing situations in the traffic flows and to accommodate in the short-term the users preferred trajectories.	2008	2015	States	**Valid**
~~5~~6. Training	**TBD**	**TBD**		
~~5~~6.1 Train personnel in the sector capacity calculation and subjects related to ATFM for the airspace.	TBD	TBD	States	**Permanent**
~~5~~6.2 Prepare plans and ATFM training material	TBD	TBD	States	**Valid**

ACTION PLAN FOR ATFM IMPLEMENTATION IN THE SAM REGION				
B- AIRSPACE (ATC Sector)				
Task description	**Start**	**End**	**Responsible party (designate individual or office in charge)**	**Remarks**
~~5~~6.3 Conduct training of personnel involved.	TBD	TBD	States	**Valid**
~~6~~7. Final implementation decision				
~~6~~7.1 Analyse factors affecting the implementation decision.	N/A		States	**Valid**
~~6~~7.2 Declare pre-operational implementation in the area defined.	N/A		States	**Valid**
~~6~~7.3 Declare definitive operational implementation in the area defined.	N/A		States	**Valid**
~~7~~8. Monitor system performance				
~~7~~8.1 Draft performance indicators	2010		Project RLA/06/901	**Valid**
~~7~~8.2 Develop an indicators follow-up programme.	TBD		States	**Valid**

APPENDIX E

TERMS OF REFERENCE AND WORK PROGRAMME FOR THE SAM REGION AIR TRAFFIC FLOW MANAGEMENT IMPLEMENTATION GROUP (SAM/ATFM/IG)

1. TERMS OF REFERENCE

Coordinate the SAM ATFM Implementation according to the ICAO Strategic Objectives, the Aviation System Block Upgrades methodology (B0-RSEQ, B0-NOPS) and the goals established by the Bogota Declaration.~~Develop specific studies and guidance material for the implementation of a SAM Air Traffic Flow Management implementation system, according to the ICAO Strategic Objectives and Global Plan Initiatives (GPI) on this matter (GPI 1, 6 and 7).~~

2. WORK PROGRAMME

a) Evaluate and perform the changes as deemed necessary in the SAM ATFM Implementation Project;

b) Evaluate, insert and harmonize the activities of SAM ATFM Project related to ATFM implementation action plans of SAM States;

~~a)~~c) Review existing national plans on ATFM; as well as other ATFM plans in other regions or international organizations;

~~b)~~d) Review ATFM technical and operational aspects;

e) Prepare the necessary ATFM documentation;

~~c)~~f) Evaluate the improvement of traffic flow by sequencing (B0-RSEQ), in order to allow an optimal application of new airspace concepts based on PBN, mainly using CDO and CCO.

~~d) Develop an Action Plan Model for ATFM Airport Strategic implementation and the corresponding guidelines, for the implementation of FMU or FMP.~~

~~e) Develop an Action Plan Model for Airport Tactical ATFM implementation and the corresponding guidelines, for the incorporation of new procedures applicable in FMU and FMP.~~

~~f) Develop an Action Plan Model for ATFM Airspace Strategic implementation and the corresponding guidelines, for the incorporation of new procedures applicable in FMU and FMP.~~

~~g) Develop an Action Plan Model for ATFM Airspace Tactical implementation and the corresponding guidelines, for the incorporation of new procedures applicable in FMU and FMP.~~

~~h)~~g) ~~Develop an Action Plan Model for a SAM ATFM Centralised implementation~~.

~~i)~~ g) Follow-up of ATFM implementation in order to ensure its intra and inter-regional harmonisation, as well as among States involved.

h) Establish training requirements with regard to ATFM.

~~j)~~ i) In coordination with the ICAO NACC Regional Office in Mexico, consider the necessary activities to ensure harmonization of ATFM implementation in the CAR and SAM Regions, in accordance with GREPECAS ATFM Programme;

~~k) In coordination with the GREPECAS ATM/CNS Subgroup, ATM Committee, ATFM Task Force, consider the necessary activities to ensure harmonisation of ATFM standards and procedures in the CAR and SAM Regions.~~

3. COMPOSITION

Argentina, Bolivia, Brazil, ~~Bolivia,~~ Chile, Colombia, French Guiana, Guyana, Ecuador, Panama, Paraguay, Peru, Suriname, Uruguay, Venezuela and IATA.

4. RAPPORTEUR

Víctor Marcelo de Virgilio (Argentina)
Mauricio Corredor Monroy (Colombia)~~.~~

~~**Assisted by**~~

~~José Vagner Vital (Brazil).~~

COMANDO DA AERONÁUTICA
DEPARTAMENTO DE CONTROLE DO ESPAÇO AÉREO

COURSE ON ATFM PROCEDURES

(Rio de Janeiro, Brazil, 17 to 28 November 2014)

WEEK: 1/2 WEEKLY WORKING SCHEDULE TURN: 01/2014

COURSE ON ATFM PROCEDURES				
DATE	**SCHEDULE**	**ACTIVITY**	**INSTRUCTOR**	**SITE**
17/11/14 Monday	08:00-08:45	REGISTER	CGNA TEAM	AUDITORIUM
	08:55-09:40	OPENING	CHIEF OF CGNA	
	09:40-10:10	COFFEE BREAK	-	RECREATION AREA
	10:20-11:05	GENERAL INFORMATION	BRA	AUDITORIUM
	11:15-12:00	PRESENTATION OF THE COURSE	BRA	
	13:00-13:45	ATM EVOLUTION	FLO	
	13:55-14:40			
	14:50-15:35	ATFM SERVICE	FLO	
	15:45-16:30			
18/11/14 Tuesday	08:00-08:45	ATFM SERVICE	FLO	
	08:55-09:40			
	09:40-10:10	COFFEE BREAK	-	RECREATION AREA
	10:20-11:05	ATFM SERVICE	FLO	AUDITORIUM
	11:15-12:00			
	13:00-13:45	CDM	FLO	
	13:55-14:40			
	14:50-15:35	CDM	FLO	
	15:45-16:30			
19/11/14 Wednesday	08:00-08:45	GETA	REN	
	08:55-09:40	PLCO	JOR	
	09:40-10:10	COFFEE BREAK	-	RECREATION AREA
	10:20-11:05	AGR	SAN	AUDITORIUM
	11:15-12:00	AIS	JOR	
	13:00-13:45	METEOROLOGY	RES	
	13:55-14:40	MOSU	MAM	
	14:50-15:35	CIS	MON	
	15:45-16:30	GEA	CAR	
20/11/14 Thursday	08:00-08:45	ASM	PAT	
	08:55-09:40			
	09:40-10:10	COFFEE BREAK	-	RECREATION AREA
	10:20-11:05	ASM	PAT	AUDITORIUM
	11:15-12:00			
	13:00-13:45	RUNWAY CAPACITY	PIN	
	13:55-14:40			
	14:50-15:35	ATC CAPACITY	BRI	
	15:45-16:30			
21/11/14 Friday	08:00-08:45	STATISTICS	GUI	
	08:55-09:40			
	09:40-10:10	COFFEE BREAK	-	RECREATION AREA
	10:20-11:05	PLN A/B/C	JAD	AUDITORIUM
	11:15-12:00			
	13:00-13:45	SIGMA	MAR	
	13:55-14:40			
	14:50-15:35			
	15:45-16:30	VISIT TO CGNA	CGNA TEAM	

GENERAL COORDINATOR: Ten Cel Av Ricardo
INSTRUCTION COORDINATOR: 1° Ten CTA Brasil
INSTRUCTORS: Cel R1 Freitas Lopes (FLO), Maj Marcelo (MAR), Cap Armstrong (ARM), Cap Patrício (PAT), Cap Resende (RES) Cap R1 Mamede (MAM), Ten Carlos (CAR), Ten Jorge (JOR), Ten Renato (REN), Ten Brito (BRI), Ten Pinheiro (PIN), Ten Santarone (SAN), Ten Guimarães (GUI), 2S Mills (MIL), 2S Jader e CV Mônica (MON).

COMANDO DA AERONÁUTICA
DEPARTAMENTO DE CONTROLE DO ESPAÇO AÉREO

COURSE ON ATFM PROCEDURES
(Rio de Janeiro, Brazil, 17 to 28 November 2014)

WEEK: 2/2 WEEKLY WORKING SCHEDULE TURN: 01/2014

COURSE ON ATFM PROCEDURES				
DATE	**SCHEDULE**	**ACTIVITY**	**INSTRUCTOR**	**SITE**
24/11/14 Monday	08:00-08:45	ICA 100-22	ARM	AUDITORIUM
	08:55-09:40			
	09:40-10:10	COFFEE BREAK	-	RECREATION AREA
	10:20-11:05	ICA 100-22	ARM	AUDITORIUM
	11:15-12:00			
	13:00-13:45	ICA 100-22	ARM	AUDITORIUM
	13:55-14:40			
	14:50-15:35	AIP BRAZIL	MIL	AUDITORIUM
	15:45-16:30			
25/11/14 Tuesday	08:00-08:45	NOGEF – ATFM OPERATIONAL STANDARDS	REN	AUDITORIUM
	08:55-09:40			
	09:40-10:10	COFFEE BREAK	-	RECREATION AREA
	10:20-11:05	NOGEF – ATFM OPERATIONAL STANDARDS	REN	AUDITORIUM
	11:15-12:00			
	13:00-13:45	PROCESSES AND FLOWCHARTS	SAN	AUDITORIUM
	13:55-14:40			
	14:50-15:35	PROCESSES AND FLOWCHARTS	SAN	AUDITORIUM
	15:45-16:30			
26/11/14 Wednesday	08:00-08:45	SUPERVISED OPERATIONAL PRACTICE	ATFMU TEAM	OPR. ROOM
	08:55-09:40			
	09:40-10:10	COFFEE BREAK	-	COPA
	10:20-11:05	SUPERVISED OPERATIONAL PRACTICE	ATFMU TEAM	OPR. ROOM
	11:15-12:00			
	13:00-13:45			
	13:55-14:40			
	14:50-15:35			
	15:45-16:30			
27/11/14 Thursday	08:00-08:45	EVALUATION	CGNA TEAM	AUDITORIUM
	08:55-09:40			
	09:40-10:10	COFFEE BREAK	-	RECREATION AREA
	10:20-11:05	EVALUATION DISCUSSION	CGNA TEAM	AUDITORIUM
	11:15-12:00			
	13:00-16:00	FRATERNIZATION	GUESTS	RECREATION AREA
28/11/14 Friday	08:00-08:45	CRITICS ON THE COURSE	CGNA TEAM	AUDITORIUM
	08:55-09:40			
	09:40-10:10	COFFEE BREAK	-	RECREATION AREA
	10:20-11:05	CLOSING	CHIEF OF CGNA	AUDITORIUM
	11:15-12:00			
	13:00-16:00	----------	----------	----------

Approved by: Ary Rodrigues Bertolino – Cel Av
Chief of CGNA