International Civil Aviation Organization
South American Regional Office
Fourth Meeting of Air Navigation and Flight Safety Directors of the SAM Region
(Lima, Peru, 2 to 4 October 2017)

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

FOLLOW-UP TO PBN IMPLEMENTATION GOALS

(Presented by the Secretariat)

SUMMARY

This working paper presents a report on implementation activities related to projects under the PBN programme. These activities fall within ASBU blocks B0-APTA, B0-FRTO, B0-CDO and B0-CCO.

References:

- Report of the GREPECAS/17 meeting
- SAM/IG meeting reports
- ATSRO meeting reports
- Reports of the PBN and PANS-OPS implementation workshops
- Report of the RAAC/14 meeting
- Report of the Fourth meeting of the Programmes and Projects Review Committee (PPRC/4)

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

1. Introduction

1.1 Pursuant to GREPECAS Decisions 16/45 and 16/47, the *"Performance-based navigation (PBN)"* Programme was structured with the following associated projects:

a) PBN operational implementation; and
b) Air navigation systems in support of PBN.

2. Discussion

2.1 The status of implementation of activities related to projects under Programme A: *Performance-based navigation (PBN),* is as follows:

Project A1 "PBN operational implementation"

2.2 The meetings of the South American Implementation Group (SAM/IG) have focused mainly on delivering the results foreseen for the en-route, TMA and approach phases. **Appendix A** to this working paper describes in detail the main activities under the SAM PBN Project.

Updating of PBN national plans

2.3 The results obtained until the SAM/IG/19 meeting show that 100% of States have submitted their updated PBN national plans.

	ARG	BOL	BRA	CHI	COL	FGY	ECU	GUY	PAN	PAR	PER	SUR	URU	VEN
May 2017 100%	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES

PBN concept of operations

2.4 In order to consolidate the tasks for compliance with the Declaration of Bogota, while providing a conceptual frame of reference for the SAM Performance-based air navigation implementation plan (SAM-PBIP), a draft PBN concept of operations (CONOPS) for SAM airspace was developed within the context of Project RLA/06/901, by two experts from 1-18 November 2016.

2.5 In May 2017, the SAM/IG/19 meeting reviewed the first text of the CONOPS and agreed to the content of the project. Likewise, taking into account that the dissemination process was still under way, it proposed the modification of the period of validity of the document to the triennium 2018-2020.

2.6 The CONOPS proposes a table with metrics and performance indicators to measure the degree of continuity and the results of PBN implementation. In this regard, emphasis is placed on the importance of developing indicators to measure performance goals in each PBN implementation, which could be expressed in improvement rates linked to en-route delays, aircraft departure delays, fuel consumption, ATC workload, increased capacity *vs* demand, etc.

2.7 Within the context of the review and updating of the SAM-PBIP, which will continue in 2018, it has been deemed advisable to incorporate the PBN Concept of operations for SAM airspace 2018-2020 as an attachment to the aforementioned implementation plan.

PBN en route

2.8 The implementation of PBN en route is addressed at the ATSRO meetings, based on the route network version concept, to ensure the best possible airspace structure within an integrated development concept.

2.9 As a result of the teleconferences held in 2016 as a follow-up to the activities of ATSRO/7 for route implementation, 9 RNAV routes were added, 9 RNAV routes and 1 conventional route were aligned, and 16 conventional routes and 1 RNAV route were eliminated.

2.10 The Region has continued optimising the SAM route network, covering 65% of total upper airspace routes. The 60% goal established in the *Declaration of Bogota* has been exceeded by 5%, as shown in the following table:

Total upper airspace ATS routes	Conventional routes	PBN routes	% PBN routes implemented	Indicator of the Declaration of Bogota: % PBN routes
145	52	93	65 %	60%

2.11 As approved at the RCC/10 meeting, in order to continue activities for airspace optimisation and PBN implementation in the en-route segment, a preliminary draft of Version 04 of the SAM Route Network was prepared in June 2017 in accordance with the SAM PBN Concept of Operations - Period 2018-2020. In summary, this version contained 91 optimisation initiatives for:

- deleting 57 regional conventional routes;
- deleting 6 regional RNAV routes for optimisation and harmonisation purposes;
- implementing 33 new RNAV routes;
- modifying 62 RNAV routes, including the realignment, extension or shortening of existing RNAV routes; and
- reducing flight distance in 52 proposals; if all proposal were implemented, a total reduction of 682 NM of flight would be achieved.

2.12 The ATSRO/8 meeting was held on 11-15 September 2017, where States accepted thirty (30) route improvement initiatives, including interregional routes that also affected CAR airspace. Furthermore, fifty-two (52) route initiatives were considered feasible, on a preliminary basis, and coordination would continue with those States that could not attend the meeting, in addition to coordination for harmonisation with the Mexico NACC Office.

2.13 The meeting approved Conclusion ATSRO/8-1, which, *inter alia*, defined a three-stage timetable for the publication of route modifications on AIRAC dates of June, August and October 2018, taking into account two AIRAC cycles prior to effective implementation. In summary, optimisation is being planned and coordinated for almost 80 regional and interregional routes, which would be completed by December 2018.

2.14 A SAM meeting is scheduled for April 2018 for updating letters of agreement and contingency plans. The meeting will review data on optimised routes concerning flight transfer and ATS management, as well as coordination with the Mexico NACC Office for the development of joint route improvement initiatives based on NAM and CAR flows.

Environmental benefits from CO_2 reduction during the period 2013-2017

2.15 The reduction of CO_2 emissions in the SAM Region is based on the implementation of PBN flight procedures and more efficient RNAV routes. As part of the airspace optimisation process, the IFSET tool calculates the reduction in flight distance and the efficiency of aircraft arrival/departure profiles, leading to the identification of fuel savings for a given number of operations, expressed in reduced CO_2 emissions.

2.16 It has been estimated that, between January 2014 and June 2017, the set of airspace improvements in the SAM Region resulted in total CO_2 savings in the order of 93,516 tonnes, as shown in the following table:

Year	Tonnes of CO_2
2014	51,132
2015	23,351
2016	11,000
2017 *	8,033
Total	**93,516**

** as of June 2017*

2.17 As part of the lessons learned, the need was identified to highlight feedback on fuel savings and CO_2 emission calculations using data originated by aircraft operators, and to include the increase in the number of aircraft operations along the traffic flows of the Region amongst the variables to be analysed.

PBN design in the terminal area (TMA)

2.18 Redesign of the main South American TMAs using PBN was encouraged through workshops on PBN implementation, conducted under Regional Project RLA/06/901. In 2016, two PBN training workshops were conducted, as well as a PANS-OPS workshop, on the design of flight procedures and the corresponding criteria established by ICAO, which reinforced the competencies of the designers in the Region and allowed for the exchange of information on user requirements. Likewise, the second PANS-OPS workshop was conducted on the week of 18 September 2017, with the participation of 25 State designers and airline experts.

2.19 In August 2017, the new PBN airspace at the Asunción FIR and TMA and the International Airport Silvio Pettirossi entered into force. Furthermore, on 12 October, Aerocivil of Colombia will implement the new Bogota TMA with RNAV/RNP approach procedures and standard routes for El Dorado airport, which included the realignment of the main flows to/from Medellin and to/from the Colombian Caribbean region.

2.20 PBN optimisation of East-West flows between Brazil, Argentina and Uruguay is still under way. Through the PBN SUL project, which will enter into force on 12 October, significant improvements have been made in the Curitiba FIR and the main airports in the southern part of Brazil, resulting in a set of realigned routes that were coordinated with Uruguay, but still with no changes in the FIR boundary points; that is, they would be ready to connect with the paths resulting from the improvements made to the Baires terminal.

2.21 PBN procedures have already been implemented at the Argentinian airports of Aeroparque, Córdoba, Salta and Iguazú, *inter alia*. It is expected that the implementation of Version 04 of the route network will create the conditions for connecting the airspaces serving flows between Curitiba, Montevideo and Buenos Aires, and *vice versa*. Likewise, the Baires TMA design and reorganisation, which includes ATC personnel training, is to be completed by the first semester of 2019.

2.22 Delays are observed in the Panama Project, which is currently defining a process to promote airspace improvement activities at the TMA of the Tocumen airport.

2.23 An important aspect is the investment made in PANS-OPS training, which has been provided to personnel from the administrations of Argentina, Bolivia, Ecuador, Guyana, Peru, and Uruguay. The lack of PANS-OPS designers is being gradually resolved in the Region.

2.24 SAM States are working in the update of their action plan implementation dates. The following table shows that 93% of the States that have submitted their updated action plans for PBN redesign in selected airspaces:

May 2017 93%	ARG	BOL	BRA	CHI	COL	FGY	ECU	GUY	PAN	PAR	PER	SUR	URU	VEN
	YES	YES	YES	YES	YES	NO	YES	YES	YES	YES	YES	YES	YES	YES

States that have submitted their updated action plans for PBN redesign in selected airspaces

Implementation of SIDs, STARs and PBN approach procedures

2.25 The *Declaration of Bogota* binds States to implement PBN SIDs and STARs at international aerodromes in order to achieve the established goals, based on CDO and CCO methods. The aforementioned Declaration also urges States to implement APV approach procedures with a view to complying with ICAO Assembly Resolution A37-11.

2.26 The AN&SF/3 meeting took note that SID/STAR implementation in the Region had reached a level of 70%. Taking into account recent implementations in Argentina, Brazil, Colombia and Paraguay, the number of PBN standard routes at international airports will have increased by 59 by 12 October 2017, reaching a level of implementation of PBN SIDs/STARs of 72.5%. The goal set in the *Declaration of Bogota* was 60% by 2016. See the table below:

Total international airports	**Total SIDs/STARs**	**Total PBN SIDs/STARs**	**Indicator: % of PBN SIDs/STARs at international airports**	**Indicator: % of PBN SIDs/STARs at international airports**
			12 October 2017	**Goal 2016**
99	1680	1218	72.5%	60%

2.27 Associated with the design of arrival and departure procedures is the application of CDO and CCO methods, which have achieved the following percentages of implementation: CDO 22% and CCO 26%.

2.28 Regarding the commitment assumed by States at the 37th General Assembly of ICAO, pursuant to Resolution A37-11, related to the implementation of PBN approaches, the States are making efforts to achieve the 100% goal that should have been attained in 2016. The following table shows the status of implementation:

Total international airports	Total runway thresholds	Total APV or RNP AR or LNAV IAPs	A37-11 ICAO indicator % APV by IFR runways	
			12 October 2017	Goal 2016
99	175	139	79 %	100 %

3. **Conclusion**

3.1 Under Project RLA/06/901, direct assistance continued to be provided to SAM States for PBN implementation in selected airspaces. The tools used to this end by the SAM Regional Office have been the ATSRO workshops, PBN and PANS-OPS workshops, and implementation meetings (SAM/IG).

3.2 This strategy has generated synergies amongst providers, regulators, airlines, industry and users, which has an impact on the performance of PBN implementation activities by the States of the Region.

3.3 Activities for optimising SAM airspace based on the application of PBN have a positive impact on efficiency and safety. During this year, improvements have been made to TMA airspaces in Argentina, Brazil, Colombia and Paraguay. However, other States are still having problems for managing these projects.

3.4 Likewise, an RNAV route implementation cycle is being promoted with Version 04 of the route network, expecting to extend the scope of optimisation to adjacent airspaces in the CAR Region.

3.5 **Appendix A** to this working paper describes the progress made in the execution of activities under Project A1 of the SAM Region, based on the PBN Programme approved by GREPECAS.

4. **Suggested action**

4.1 The Meeting is invited to:

a) take note of the information contained in this working paper; and

b) review the activities and status of the project in Appendix A and formulate any other action it may deem appropriate.

APPENDIX A

PROJECT A1 - PBN OPERATIONAL IMPLEMENTATION

SAM Region	**PROJECT DESCRIPTION (DP)**	DP N° A1	
Programme	**Title of the Project**	**Start**	**End**
SAM Airspace Optimisation (Programme Coordinator: Fernando Hermoza Hübner)	PBN Operational Implementation *Project coordinator:* *Julio de Souza Pereira (IATA)*	2011	2019
Objective	Support the optimisation of the South American airspace structure through the optimisation of the ATS route structure in terminal (RNAV/RNP SIDs/STARs) and en-route (RNAV/RNP) airspace, as well as the implementation of PBN approaches pursuant to ICAO Assembly Resolution A37-11, aiming to achieve the goals established in the Bogota Declaration.		
Scope	The implementation project contemplates the optimisation of the South American airspace through the implementation of PBN and the application of the flexible use of airspace (FUA) concept, as well as the phased optimisation of the ATS route network of the Region.		
Metrics	• Reduction of CO_2 emissions in tonnes for each route optimisation version. • Percentage of RNAV and/or RNP SIDs/STARs implemented at international airports. • Percentage of continuous descent and climb operations implemented at international airports. • Number of RNAV/RNP routes implemented, realigned and/or eliminated. • Percentage of thresholds with APV approaches in international airports.		

Strategy	The conduction of project activities will be coordinated among project members, the Project Coordinator, and the Programme Coordinator, at SAM/IG meetings, ATS route optimisation meetings (ATS/RO) and other events deemed necessary (PBN workshops, hiring of experts, etc.). The Project Coordinator will coordinate with the Programme Coordinator the inclusion of additional experts, if warranted by the tasks and works to be executed. Furthermore, the States must check their respective national PBN implementation programmes for consistency with the PBN Project. Activities involving the review, implementation, modification, or elimination of routes in the SAM Region are foreseen in order to continue with the optimisation of the ATS route structure.
Goals	• Implementation of Version 03 of the ATS route network, based on PBN, to meet the current requirements of airspace users by the end of 2017. • Achieve the goals established in the Bogota Declaration. • 30% of main SAM TMAs redesigned based on PBN by 2016, 50% by 2018. • Development of Version 04 of the ATS Route Network based on PBN and TMAs designed with base on PBN. • Optimisation of longitudinal separation.

Rationale	The 37th ICAO General Assembly established Resolution A37-11 (*Performance-based navigation global goals*), noting that Planning and Implementation Regional Groups (PIRGs) have completed regional PBN implementation plans and urged States to implement air traffic services (ATS) routes and approach procedures in accordance with the ICAO PBN concept laid down in the *Performance-based Navigation (PBN) Manual* (Doc 9613). It resolved that States complete a PBN implementation plan as a matter of urgency to achieve: 1) implementation of RNAV and RNP operations (where required) for en route and terminal areas according to established timelines and intermediate milestones; 2) implementation of approach procedures with vertical guidance (APV) (Baro-VNAV and/or augmented GNSS), including LNAV only minima, for all instrument runway ends, either as the primary approach or as a back-up for precision approaches by 2016 with intermediate milestones as follows: 30% by 2010, 70% by 2014; and 3) implementation of straight-in LNAV only procedures, as an exception to 2) above, for instrument runways at aerodromes where there is no local altimeter setting available and where there are no aircraft suitably equipped for APV operations with a maximum certificated take-off mass of 5 700 kg or more. Furthermore, the Global Air Navigation Plan (GANP), Chapter 2 (implementation) establishes Performance-based Air Navigation as its highest priority. The GANP indicates that "*the introduction of PBN procedures has thus far met or exceeded the expectations of the entire aviation community. Current implementation plans should help deliver additional benefits but remain contingent upon adequate training, expert support to States, continued maintenance and development of international SARPs, and closer coordination between States and partnering organizations."* Thus, this Project provides specialized support and performs close coordination between States and other stakeholders, in order to ensure a harmonized implementation of PBN in all corresponding flight phases: En route, TMA and approach.
Related projects	• Flexible use of airspace. • Automation. • Air navigation systems in support of PBN.

Project deliverables	Relationship with the performance-based regional plan	Responsible party	Status of Implemen-tation*	Delivery date	Comments
Implementation of Version 01 of the ATS route network, based on RNAV, with the necessary PBN values to meet current requirements of airspace users.	B0-FRTO	Alexandre Luiz Dutra Bastos		October 2010	FINALISED
Implementation of RNAV-5 in the SAM Region.	B0-FRTO	Alexandre Luiz Dutra Bastos		October 2011	FINALISED
Action plan for the implementation of Version 02 of ATS route network optimisation.	B0-FRTO	Alexandre Luiz Dutra Bastos		ATSRO/3	FINALISED

Traffic data to understand airspace traffic flows.	B0-FRTO	ICAO coordinator		SAM/IG/6	FINALISED
Fleet navigation capacity.	PFF SAM ATM 01	Alexandre Luiz Dutra Bastos		SAM/IG/9	FINALISED
Listing of gateways of the main TMAs in the SAM Region.	PFF SAM ATM 02	Alexandre Luiz Dutra Bastos		SAM/IG/9	Support was given to States in the re-design of their TMAs so as to expedite PBN implementation, training their experts in airspace planning. Several States are delayed with their projects.
Letters of Agreement and Contingency with adjacent States	PFF SAM ATM 01	Alexandre Luiz Dutra Bastos		SAM/IG/10	FINALISED
Detailed study of the SAM ATS route network, route network Version 02	B0-FRTO	Alexandre Luiz Dutra Bastos		April 2012	FINALISED
Risk analysis for the implementation of Version 02 of the ATSRO Programme	B0-FRTO	External consultants		SAM/IG/10	FINALISED
SAM Route Network optimisation					
Planning Version 03 - Stage 1	B0-FRTO	External consultants		SAM/IG/14	FINALISED

Implementation Version 03 - Stage 1 - Flow 1 (Argentina - Chile - Paraguay)	B0-FRTO	States SAM Regional Office		April 2015	FINALISED
Implementation Version 03 - Stage 1 - Flow 2 (Argentina - Brazil - Uruguay	B0-FRTO	States SAM Regional Office		March 2017	The optimisation of this traffic flow is delayed.
Implementation Version 03 - Stage 1 - Flow 3 (Panama - CENAMER - Caribbean)	B0-FRTO	States SAM Regional Office		March 2017	Coordination with CAR Region States was initiated. The optimisation of this traffic flow is delayed. Panama will initiate optimisation process of TMA space and FIR. Improvement Panama-Jamaica has been coordinated during ATSRO/8.
Implementation Version 03 - Stage 1 - Flow 3 (Brazil - Guyana - French Guiana - Suriname - Venezuela - Caribbean	B0-FRTO	States SAM Regional Office		October 2016	Optimisation of main flows has been coordinated.
Airspace concept Version 03 - Stage 2	B0-FRTO	States SAM Regional Office		ATSRO/7	Main SAM TMA validated PBN airspace concept has been agreed.
Implementation Version 03 - Stage 2	B0-FRTO	States SAM Regional Office		November 2017	FINALISED in October 2016. Routes that had no direct dependency on TMAs restructurings were implemented. Remaining initiatives have been moved to Version 04.

Operational Concept development on the structure of PBN routes (ATS, SIDs, STARs routes) for the period 2017-2019.	B0-FRTO	States SAM Regional Office		November 2016	FINALISED. Hiring of experts and invitation to States for providing human resources. CONOPS was presented during SAM/IG/19 and ATSRO/8.
Regional strategy and work programme for the implementation of the flexible use of airspace, applying a phased approach, starting with a more dynamic sharing of reserved airspace	B0-FRTO	States SAM Regional Office		2013-2018	Flexible use of airspace is being optimised with the routes optimisation.
Reduction of conventional longitudinal separation from 80 to 40 NM for GNSS equipped aircraft.	B0-FRTO	States SAM Regional Office		2016-2017	This task has advanced greatly it is expected to be completed on time. Some States like Venezuela depend on the actions of contiguous CAR States. A regional workshop to follow the implementation will be held in November 2017.
Reduction of conventional longitudinal separation from 40 to 20 NM for GNSS equipped aircraft.	B0-FRTO	States SAM Regional Office		2017-2018	
Reduction of conventional longitudinal separation from 20 to 10 NM for scenarios where ATS surveillance systems are used and these systems cover FIRs boundaries considered.	B0-FRTO	States SAM Regional Office		2019	

PBN TMA					
Update PBN implementation action plans for main TMA	PFF SAM ATM 02	States		May 2017	FINALISED Conclusion SAM/IG/14-6. 100% of States which updated their action plans has been achieved.
Update SID/STAR PBN status of implementation	PFF SAM ATM 02	States		September 2017	Update by 30 June and by 31 December annually, according to Conclusion SAM/IG/14-4. Updated during ATSRO/8 meeting. No information available from French Guiana.
Update Table AOP-1	PFF SAM ATM 02	States		TBD	Conclusion SAM/IG/15-3
Approach					
Update IAC APV status of implementation	PFF SAM ATM 03 B0 APTA	States		30 June 2016	Update by 30 June and by 31 December annually, according to Conclusion SAM/IG/14-4. Implementation of RNP APCH procedures with vertical guidance Baro-VNAV or RNP AR APCH, must be informed. Updated during ATSRO/8 meeting. No information available from French Guiana.

Meetings/Workshops					
SAM/IG/07	PFF SAM ATM	States SAM Regional Office		May 2011	SAM PBN Implementation Group
SAM/IG/08	PFF SAM ATM	States SAM Regional Office		October 2011	SAM PBN Implementation Group
SAM/IG/09	PFF SAM ATM	States SAM Regional Office		May 2012	SAM PBN Implementation Group
SAM/IG/10	PFF SAM ATM	States SAM Regional Office		October 2012	SAM PBN Implementation Group
SAM/IG/11	PFF SAM ATM	States SAM Regional Office		May 2013	SAM PBN Implementation Group
SAM/IG/12	PFF SAM ATM	States SAM Regional Office		October 2013	SAM PBN Implementation Group
SAM/IG/13	PFF SAM ATM	States SAM Regional Office		May 2014	SAM PBN Implementation Group

SAM/IG/14	PFF SAM ATM	States SAM Regional Office		October 2014	SAM PBN Implementation Group
SAM/IG/15	PFF SAM ATM	States SAM Regional Office		May 2015	SAM PBN Implementation Group
SAM/IG/16	PFF SAM ATM	States SAM Regional Office		October 2015	SAM PBN Implementation Group
SAM/IG/17	PFF SAM ATM	States SAM Regional Office		May 2016	SAM PBN Implementation Group
SAM/IG/18	PFF SAM ATM	States SAM Regional Office		October 2016	SAM PBN Implementation Group
SAM/IG/19	PFF SAM ATM	States SAM Regional Office		May 2017	SAM PBN Implementation Group
ATSRO/03	PFF SAM ATM 03	States SAM Regional Office		July 2011	SAM route network optimisation
ATSRO/04	PFF SAM ATM 03	States SAM Regional Office		July 2012	SAM route network optimisation
ATSRO/05	PFF SAM ATM 03	States SAM Regional Office		July 2013	SAM route network optimisation

ATSRO/06	PFF SAM ATM 03	States SAM Regional Office		October 2014	SAM route network optimisation
ATSRO/07	PFF SAM ATM 03	States SAM Regional Office		October 2015	SAM route network optimisation
ATSRO/08	PFF SAM ATM 03	States SAM Regional Office		September 2017	SAM route network optimisation
ATSRO/09	PFF SAM ATM 03	States SAM Regional Office		July 2018	SAM route network optimisation
Hiring of experts for the consolidation of Version 04 of the SAM ATS route network	PFF SAM ATM 03	States SAM Regional Office		June 2017	FINALISED. Two exerts of the Region were hired. Deliverable of Version 04 of route network was developed, including 91 route optimisation initiatives.
Hiring of experts for the consolidation of Version 05 of the SAM ATS route network	PFF SAM ATM 03	States SAM Regional Office		September 2018	SAM route network optimisation
Workshop on PBN Airspace Design	B0 APTA B0 CCO B0 CDO	States SAM Regional Office		March 2013	Initial training on PBN airspace planning
PBN/1 Workshop	B0 APTA B0 CCO B0 CDO	States SAM Regional Office		May 2014	FINALISED Objective: Training and preliminary PBN design of Asuncion and Bogota TMAs

PBN/2 Workshop	B0 APTA B0 CCO B0 CDO	States SAM Regional Office		September 2014	FINALISED Objective: Preliminary PBN design of main South American TMAs
PBN/ 3 Workshop	B0 APTA B0 CCO B0 CDO	States SAM Regional Office		March 2015	FINALISED Objective: Validation of preliminary PBN design of main South American TMAs
PBN/4 Workshop	B0 APTA B0 CCO B0 CDO	States SAM Regional Office		September 2015	FINALISED Objective: Guide implementation of main South American TMAs
PBN/IMP/1 Workshop	B0 APTA B0 CCO B0 CDO	States SAM Regional Office		April 2016	Review the implementation phase of States with implementation date expected for the first half of 2016.
PBN/IMP/2 and other related PANS-OPS activities Workshop	B0 APTA B0 CCO B0 CDO	States SAM Regional Office		September 2016	FINALISED Review the implementation phase of States with implementation date expected for the second half of 2016 and perform related PANS-OPS activities.
Others					
Update and forward national PBN implementation plans	B0 APTA B0 CCO B0 CDO	States		SAM/IG/15	95% of States have fulfilled this task. French Guiana is still remaining. Headquarters has requested to forward National PBN implementation plans.
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**
Blue	**Task completed**