



## AFRICAN FLIGHT PROCEDURE PROGRAMME(AFPP)

### Strategic Action Plan

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NB: The present document is available at the AFPP website: <http://www.icao.int/WACAF/African-FPP/Pages/default.aspx>

## 1. INTRODUCTION

1.1. The African Flight Procedure Programme (AFPP) was officially launched on 2<sup>nd</sup> June 2014, with 19 Member States, Active Participating States (APS) and User States (US). To date, 25 African States are members, 23 APS and 2 US. The Office is based in Dakar.

1.2. The AFPP programme objective, as stated in The AFPP Programme Document, is to assist States to develop sustainable capability in the instrument flight procedure (IFP) domain so as to meet their commitments under Assembly Resolution A37-11 for Performance-based Navigation (PBN) implementation and their obligations for the quality of their IFPs. This will be accomplished through training, assistance with quality assurance, procedure design and access to IFP-related automation solutions.

1.3. The Steering Committee, having reviewed the current status of PBN implementation at the global and regional levels, identified the need for a strategy to address the low rate of progress by individual AFI States. The applicable decisions of the Steering Committee meeting are stated in Appendix A.

1.4. This Strategic Action Plan describes the actions by the AFPP to implement the expected outcomes of AFPP Programme Document:

- a) Increase the number of National PBN Implementation plans;
- b) Increase the number of PBN IFPs in accordance with A37-11; and
- c) Improve the rate of PBN Operations Approvals.

1.5. This document is consistent with the AFPP Programme Document and provides:

- a) The 2015 work plan validated by the Steering Committee and the envisaged work plans for the years 2016 and 2017 (Appendix B); and
- b) The 2015 annual budget (Appendix C).

1.6. The document also identifies possible implementation support from industry partners and other stakeholders that may assist the AFPP with its work programme.

## 2. PBN IMPLEMENTATION IN AFRICAN STATES, CHALLENGES, OPPORTUNITIES AND RISKS

### 2.1. Challenges

2.1.1. In order to determine the framework of the future activities, the AFPP Programme Document identified, the following issues and problems currently faced by States:

- a) Insufficient number of procedure designers;
- b) Insufficient procedure design work in some States to attain or maintain proficiency;
- c) Lack of airspace and procedure design training: initial, OJT, and/or recurrent;
- d) Lack of knowledge to integrate procedure design efficiently into airspace design;
- e) Lack of depth in procedure design organization to perform quality assurance (QA);
- f) Insufficient expertise in procedure design organization to provide adequate QA of procedures;
- g) Lack of procedure design and obstacle data storage automation in the States;
- h) Lack of operational approval expertise to obtain proper operational approval and to oversee operators for PBN operations;
- i) Lack of regulatory expertise to oversee the process leading to procedure publication; and
- j) Lack of service provision for ATC/ATM training for PBN implementation.

### 2.2. Opportunities

2.2.1. To cope with the previously mentioned issues, the AFPP Programme Document identified the following AFPP tasks:

- a) Assist State procedure and airspace designers in developing their procedures with priority for PBN procedures;
- b) Assist State with Quality Assurance (QA) including flight procedure regulatory approval
- c) Provide training course, refresher course and OJT to procedure designers, remotely, on-site or at the AFPP location;
- d) Provide training course and OJT for QA including flight procedure regulatory approval;
- e) Provide training course and OJT for operators approval for PBN operations
- f) Assist State for PBN Plan implementation through operational assessment, business case, and activity planning for PBN Implementation
- g) Assist State in developing PBN-related regulations
- h) Develop procedures implementation for States that have no procedure design capability;
- i) Assist State with data origination
- j) Assist State with ground and flight validation;
- k) Assist State in operators approval for PBN operations
- l) Provide training course and OJT for ATC/ATM and operators about PBN flight procedures operations
- m) Provide State with any other associated assistance as required.
- n) Provide States access to procedure design software applications at the AFPP location; and
- o) Provide States access to electronic terrain and obstacle data storage as needed during trainings;

2.2.2. The AFPP Programme Document also identified the expected outcomes of the AFPP activity:

- a) States in the region will have significantly improved competency in procedure and airspace design, and regulatory approval (PBN operational approval, IFP design approval), as evidenced by implementation and training accomplished
- b) Increase in robust State PBN implementation Plans;
- c) Increase in the number of PBN procedures implemented and published in States AIP;
- d) Increase in the number of TMAs with approved PBN operations;
- e) Increase in the number of approved local carriers for PBN operations; and
- f) Demonstrated evidence for improved safety and efficiency of flight operations.

2.2.3. In view of the above, the strategy of the AFPP is to implement a holistic approach in order to make the African States to reach the 2016 ICAO targets related to the implementation of PBN instrument flight procedures. It consists of:

- a) Encouraging and assisting African States with developing and implementing appropriate PBN action plans;
- b) Ensuring that an activity conducted for the benefit of a State is in accordance with the AFPP Programme Document, ICAO SARPS and guidance material;
- c) Developing PBN flight procedures when State internal capability is not available and sustainable;
- d) Training experts for States to develop a sustainable flight procedure design and oversight capability; and
- e) Presenting in Workshops and Seminars detailed and advanced knowledge for PBN implementation.

2.2.4. The AFPP has considerable high-level expertise in flight procedures design for either conventional or PBN instrument flight procedures. The team is composed of flight procedures designers who were trained on every aspects of the design. The proposed rate for design is in accordance with the ICAO Plan for PBN products and services

2.2.5. The AFPP has also the expertise to train experts from African States as the team is also composed of instructors for flight procedure designers. The training for flight procedure designer is free of tuition fees for AFPP Active Participating States.

2.2.6. The AFPP will involve industry partners and other stakeholders in order to promote this holistic approach. Section 3.8 identifies possible cooperative initiatives.

### **2.3. Risks**

2.3.1. Some risks inherent to the environment could intervene and reduce the implementation flow of AFPP actions. These risks, partly inherent to the environment or working methods, could cause difficulties in managing AFPP actions.

2.3.2. Regarding the Financial domain:

- a) Failure of some States to commit and participate in the AFPP although they need to implement PBN flight procedures;
- b) Failure of States to cover the costs of their membership and services provided;
- c) Delay in payments for services rendered; and
- d) Delay in transfer of funds to ICAO.

2.3.3. Regarding the expertise domain:

- a) Delay in secondment of additional experts from participating States and/or in identification of suitably qualified candidates for positions would prevent the AFPP from getting adequate number of experts to implement the actions; and
- b) Difficulties in sourcing of implementation workshop facilitator would cause delays in workshops organisation.

2.3.4. Regarding the support domain:

- a) Failure of donors and other stakeholders to support the Programme.

## **3. STRATEGIC ACTION PLAN**

### **3.1. State focal point for the AFPP**

The National PBN Programme Manager/Coordinators will be the AFPP focal point for each State. This individual will be responsible for:

- a) Consistency of AFPP requested activities in accordance with the State's National PBN Implementation Plan; and
- b) Any State follow-up of actions decided during AFPP's workshop/seminars, training, design support and assistance activities.

### **3.2. Current situation of PBN flight procedures implementation in African States**

3.2.1. According to the information included in the tables presented in Appendix D, Parts C and D, the tables here under present the current status for conventional and PBN (RNP approach) flight procedures implemented in International airports in Africa.

3.2.2. Flight Procedures implementation in ESAF and WACAF areas

In Eastern and Southern African (ESAF) area, 24 States represent:

- a) 65 International airports;

- b) 80 runways and 160 QFUs;
- c) 48 RNP approach procedures implemented; and
- d) 112 RNP approach procedures to implement, in 19 States.

Table 1. Number of runways related to flight procedures implemented status, in ESAF area

	Procedures on 2 QFUs	<i>Number of States</i>	Procedure on 1 QFU	<i>Number of States</i>	Total of runways	No procedure	<i>Number of States</i>
Conventional implemented	32		29		61	19	
RNP approach implemented	20	14	8	5	28	52	19
RNP approach to implement	0		8	5		52	19

Western and Central African (WACAF) Office is accredited with 24 Contracting States, which represent:

- a) 69 International airports;
- b) 73 runways and 146 QFUs;
- c) 72 RNP approach procedures implemented; and
- d) 74 RNP approach procedures to implement, in 17 States.

Table 2. Number of runways related to PBN flight procedures to implement, in WACAF area

	Procedures on 2 QFUs	<i>Number of States</i>	Procedure on 1 QFU	<i>Number of States</i>	Total of runways	No procedure	<i>Number of States</i>
Conventional implemented	50		9		59	14	
RNP approach implemented	33	14	6	4	39	34	16
RNP approach to implement	0		6	4		34	16

### 3.3. PBN implementation - Status of the States

3.3.1. The current PBN implementation status of the States will be updated through the completion of the attached questionnaire (see Appendix D, parts A and B).

3.3.2. This questionnaire will be sent by the ICAO ESAF and WACAF Offices to the CAAs and copied by the AFPP to the National PBN Plan Managers/Coordinators (NPPM/Cs). The information from the questionnaire will be used by the Regional Offices to update the status of PBN implementation by each State.

3.3.3. The completed questionnaire should be forwarded to the AFPP.

3.3.4. The results of the survey will give a better view of the African States capability in PBN flight procedure implementation and the volume of PBN flight procedures to be implemented in African airports for States to meet the ICAO implementation requirements.

### 3.4. Implementation Objectives for Years 2015, 2016 and 2017

3.4.1. The total number of RNP approach procedures to implement is 186 procedures considering all the instrument runways in the 134 airports of the 48 ESAF and WACAF States.

3.4.2. The present(October 2014) implementation represents 30% in ESAF area and 49% in WACAF area of the possible total of RNP approach procedures.

3.4.3. The percentage of 100% should be obtained by the end of 2016 to meet the ICAO resolution A37-11 on OBN flight procedures implementation.

3.4.4. Considering the need for major international airports to have, at least as an initial goal, one runway with 2 QFUs with RNP approach procedures implemented, and the most important airports with commercial traffic, it could be proposed to implement a minimum number of 70 (in ESAF area) and 40 (in WACAF area) RNP approach procedures to reach a minimum percentage of 75% of all the instrument runways in mid-2017.

3.4.5. The proposed repartition to implement procedures for Years 2015 to 2017 is as follows:

	Oct 2014	2015		2016		Mid 2017	
ESAF	48	+18	66	+35	101	+18	119
160	30%		41%		63%		75%
WACAF	72	+10	82	+20	102	+10	112
146	49%		56%		70%		80%

3.4.6. The implementation of an instrument flight procedure includes the design of the flight procedure and the related actions of which the regulatory approval.

3.4.7. The result will be obtained using the internal capability of States where the flight procedure implementation expertise exists or is partly or fully externalised. The AFPP will propose to States to provide assistance to implement RNP approach procedures and meet the aims presented in the table here above and concerning the design and the regulatory approval process, in regard to Quality Assurance process described in Doc 9906, Quality Assurance for flight procedure design.

3.4.8. The States will also have the responsibility to develop PBN Operational Approval process for local air carriers. Assistance would be proposed by AFPP as necessary.

3.4.9. The States will have the opportunity to learn new skill in PBN flight procedures implementation through the training, assistance and support activities proposed by the AFPP and presented in the section 3.6 in the present document, in accordance with the AFPP Programme Document.

### **3.5. AFPP Actions concerning National PBN Implementation Plans**

3.5.1. ESAF and WACAF offices will monitor and follow up on the number of PBN Implementation Plans published by African States. The ICAO Regional Offices will assess the information on each questionnaire related to the PBN Implementation Plan and will propose, if needed, corrective actions to the Sates.

3.5.2. The AFPP will maintain a record of State PBN Implementation Plans and will encourage States to develop and implement appropriate PBN Implementation Plan. Therefore, when a State assistance activity is conducted, the AFPP will ensure that this activity is consistent with the State's National PBN Implementation Plan.

3.5.3. Upon request of the State, AFPP may also give provide advice on specific topics (i.e. the necessity of the State to have internal flight procedure design capability). Preferably, a State should have as a minimum, the expertise to oversee the full flight procedure implementation process (ICAO Doc 9906).

### **3.6. AFPP Actions concerning Instrument Procedure Design, Ops Approval and Airspace Design**

#### 3.6.1. Holistic approach

When an instrument procedure design assistance activity is conducted, the AFPP will ensure that the State implements the whole QA process and will follow up of its implementation.

#### 3.6.2. Details of activities proposed by the AFPP

AFPP proposes workshop/seminars, training, design support and assistance activities as described in attached Annual Work Plan (see Appendix B).

These activities would:

- a) Develop the internal capability of State for PBN implementation;
- b) Assist them with their PBN implementation; and
- c) Assist them to develop local carriers PBN Operations approval.

#### 3.6.2.1. Workshops/Seminars

- a) Workshops/Seminars will be organized to cover all the domains of the PBN Flight Procedure Implementation process. Following domains are concerned:
  1. Quality Assurance, based on ICAO Doc 9906 “Quality Assurance Manual for Flight Procedure Design”;
  2. Airspace design;
  3. Data origination;
  4. Ground and flight validation; and
  5. PBN training courses for ATM
- b) The expected outputs of the Workshops/Seminars activity are:
  1. Knowledge and expertise provision for the flight procedure implementation process through Quality Assurance workshop;
  2. Knowledge and expertise provision for airspace design associated to flight procedure design including PBN through Airspace Design workshop; and
  3. Knowledge and expertise provision to ATM personnel of the PBN flight procedures concept and use through PBN Training workshop for ATM.

#### 3.6.2.2. Training activities

- a) The main training activity will consist of flight procedure design training courses for AFPP Member State personnel. This training should enable a State to implement an internal flight procedure design capability. The course contents will cover conventional and PBN flight procedure design, including OJT;
- b) Each course will be conducted by AFPP instructors, twice a year for 15 AFPP Member State candidates. It will be divided in two different sessions and will include OJT;
- c) In addition, PBN Operational Approval training will be provided to the Regulatory Authorities of the AFPP Member States and Air Operators, in order to improve the understanding of the process and improve the approval timeframe; and
- d) The expected outputs of the Training activity are:
  1. Completed flight procedure design training for African States personnel; and
  2. Improved knowledge of Air Operators’ PBN Operational Approval by both regulatory authorities and air operators.

#### 3.6.2.3. Support activities

- a) The AFPP team will have the expertise for designing flight procedures, focusing on PBN. The implementation will follow the process described in the ICAO Doc 9906 and the design will be provided in respect to the ICAO Flight Procedure Design relevant documentation (Doc 8168 “Aircraft Operations” and others). This activity will be conducted primarily on request for AFPP Active Participating States (APS) and User States (US); and



- b) On State request, the AFPP will propose a project study. This technical and detailed agreement will be signed between the AFPP and the concerning State authorities. The AFPP will conduct the full implementation process taking into account the environment and possible constraints of the concerned airport. It will request the State to provide experts for participation in the project, as part of the initial step of the internal oversight service implementation.

#### 3.6.2.4. Assistance activities

- a) The AFPP will conduct assistance activities according to requests received from African States, and related to the PBN flight procedure implementation domain as described in the AFPP Programme Document;
- b) Assistance would also consist of help in the establishment of a State flight procedure design and implementation service; and
- c) The expected outputs of the assistance activity include increased knowledge and expertise in the provision of PBN flight procedure design in the specific State.

### 3.7. Performance Monitoring

The AFPP will monitor the progress of PBN implementation by reviewing the following indicators on an annual basis:

- a) Total Number of State PBN implementation Plans;
- b) Total Number of PBN procedures implemented and published in States AIP;
- c) Total Number of TMAs with approved PBN operations;
- d) Total Number of approved local carriers for PBN operations; and
- e) Demonstrated evidence for improved safety and efficiency of flight operations.

### 3.8. Support from industry partners and other stakeholders

3.8.1. Support to AFPP activities could be provided by partners and stakeholders. This support could consist of expertise provision, logistical support or donation, including financial or personnel secondments.

3.8.2. Any expertise provided by partners or stakeholder will be related to PBN except for procedure design. This capability will be conducted solely by the AFPP experts and will be coordinated with the partners and stakeholders.

3.8.3. Any support provided by partners and stakeholders will be aimed at improving aviation safety in Africa.

3.8.4. Example of support that could be provided by partners or stakeholders: Participation in an AFPP proposed training showcase. Based on a dedicated airport and air operator, the showcase would focus on the implementation of all required steps in ICAO Doc 9906 (Quality Assurance for flight procedures design). This show case would be facilitated by the AFPP and include partner and/or stakeholder experts recognized by AFPP.

**Appendix A****RECOMMENDATION OF THE 1ST STEERING COMMITTEE OF THE AFPP  
STRATEGIC ACTION PLAN TO ACCELERATE PBN IMPLEMENTATION**

- a) The SC having reviewed the current status of PBN implementation at the global and regional levels decided there is need for a strategy to address the low rate of progress in individual AFI States as well as on a regional basis;
- b) The AFPP is requested to develop, by 1st March 2015, a Strategic Action Plan with clear objectives and consistent with the AFPP Programme Document, for expeditious implementation of PBN to ensure that all African States implement PBN approach procedures by the end of 2016 in accordance with Assembly Resolution A37-11, and have the relevant activities of this plan reflected in the 2015 work programme;
- c) In the AFPP strategic plan, the AFPP should identify available or possible implementation support from industry partners and other stakeholders, and coordinate with such entities as necessary;
- d) The AFPP prepares an implementation framework with clear steps and tasks in order to assist States develop and implement appropriate PBN action plans; and
- e) The AFPP effectively applies the principles of Collaborative Decision Making with industry and other stakeholders.

<b>Appendix B</b> <b>WORK PROGRAMME</b>
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<b>2015 AFPP WORK PROGRAMME</b>
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The 2015 Work Programme was approved by the AFPP SC/1, held in Nairobi, Kenya on 16-17 December 2014.

## 1. Seminars/workshops

### Quality Assurance for Flight Procedure Implementation Process Workshop

- a) Workshop in Douala, Cameroon, 26-29 May 2015, 30 participants; French language;
- b) Workshop in Nairobi, Kenya, 14-17 September 2015, 30 participants; English language;
- c) Expertise: consultant and AFPP;
- d) Venues: Douala (Cameroon) and Nairobi (Kenya); and
- e) Expected results: Knowledge and expertise provision of the flight procedure implementation process.

### Airspace design Workshop

- a) including CDO/CCO;
- b) 27-30 October 2015, 30 participants;
- c) Expertise: consultant and AFPP;
- d) Venue: Dakar, Senegal; and
- e) Expected results: Knowledge and expertise provision for airspace design associated to flight procedure design including PBN.

### PBN Training Workshop for ATM

- a) 30 November – 04 December 2015, 30 participants;
- b) Expertise: AFPP (Instructors) and African State;
- c) Venue: African State form ESAF; and
- d) Expected results: Knowledge and expertise provision to ATM personnel of the PBN flight procedures concept and use.

## 2. Training courses

### PBN Operational Approval Course

- a) 5-9 October 2015, 20/30 participants;
- b) Expertise: consultant and AFPP;
- c) Venue: Abidjan (Côte d'Ivoire) (*to be confirmed*); and
- d) Expected results: Knowledge and expertise provision for Air Operators PBN Operational Approval by regulatory authorities and air operators.

**Flight Procedure Design PBN Training Course (session 1, part B)**

- a) *To continue FPD Initial Course (session 1, part A), 2014;*
- b) 2-26 June 2015;
- c) 20 days, 15 participants;
- d) Expertise: DGAC France (ENAC);
- e) Additional expertise: AFPP (Instructor);
- f) Venue: Dakar, Senegal; and
- g) Expected results: Final training for African States expert to become flight procedures designers.

**Flight Procedure Design Initial Course (session 2, part A)**

- a) 10 August – 04 September 2015, 15 participants;
- b) Expertise: AFPP (Instructors);
- c) Venue: Dakar, Senegal; and
- d) Expected results: Initial training for African States expert to become flight procedures designers.

**Flight Procedure Design PBN training course (session 2, part B)**

- a) *To continue FPD Initial Course (session 2, part A), 2015;*
- b) 3-27 November 2015, 15 participants;
- c) Expertise: AFPP (Instructors);
- d) Venue: Dakar, Senegal; and
- e) Expected results: Final training for African States expert to become flight procedures designers.

**2015 AFPP ASSISTANCE, SUPPORT AND DESIGN ACTIVITIES****1. ASSISTANCE**

- a) Assistance to Cote d'Ivoire to implement a flight procedure design service in SODEXAM (ANSP);
- b) Assistance for regulatory approval of PBN flight procedures in Djibouti;
- c) Assistance to Gabon for regulatory approval of PBN procedures in Gamba;
- d) Assistance to Togo for implementation of a regulatory approval service for flight procedures;
- e) Assistance to Mali for implementation of PBN procedures in 4 airports;
- f) Assistance to Namibia for implementation of PBN procedures in several airports; and
- g) Other assistance for APS or US.

**2. SUPPORT**

- a) OJT for designers from Cape Verde, Ghana, Kenya, Niger and Uganda; and
- b) Participation to AIRBUS project for full PBN deployment process for an airport.

**3. FLIGHT PROCEDURE DESIGN**

- a) Procedure design (conventional and PBN) for Cote d'Ivoire (SODEXAM, ANSP), Bouaké, Korhogo, Man and Odiene airports;
- b) Procedure design (conventional and PBN) for Cameroon CAA, Maroua-Salak airport;
- c) Procedure design for Ghana, Kumasi;
- d) Procedure design (PBN) for Namibia CAA; and
- e) Other design activities for APS or US.

<b>DRAFT 2016 AND 2017 AFPP WORK PROGRAMME</b>
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The draft 2016 and 2017 Work Programme is meant to be modified according to the requests received from Member States or decided by the SC meeting.

The following table summarizes the workshops/seminars and training courses proposed during each year of the AFPP phase 1 (2015/2017).

Title	Type	2015	2016	2017
Quality Assurance, Flight Procedure Implementation process	Workshop	2	2	1
Airspace Design	Workshop	1	1	1
PBN training for ATM	Workshop	1	1	
Data origination	Workshop		1	1
Ground and Flight Validation	Workshop		1	
PBN Operational Approval Course	Course	1	2	1
Initial Flight Procedure Design training	Course	1	2	1
PBN Flight Procedure Design training	Course	2	2	1
Flight Procedure Design Refresher training	Course		1	

## Appendix C

### ANNUAL BUDGET 2015

The 2015 Annual Budget was approved by the AFPP SC/1 held in Nairobi, Kenya on 16-17 December 2015.

PROJECT BUDGET				in US Dollars		
PROGRAMME TITLE	AFRICAN FLIGHT PROCEDURE PROGRAMME					
PROJECT NUMBER	RAF-14501					
YEAR 2015			Expenses	Donation		Expenses (including donation)
				source	amount	Revenue
<b>ACTIVITIES</b>			total			168880
PBN Airspace Design W/S, Dakar			total			16240
		expertise	16240			
		organization	n/a			
		Mission travel (airfares+DSA)	n/a			
PBN FP Quality Assurance W/S, ESAF			total			23380
		expertise	13460			
		organization		Host State		
		Mission travel (airfares+DSA)	8920			
PBN FP Quality Assurance W/S, WACAF			total			22380
		expertise	14460			
		organization		Host State		
		Mission travel (airfares+DSA)	7920			
OPS approval Course, WACAF			total			47060
		expertise	34480			
		organization		Host State		
		Mission travel (airfares+DSA)	8480			
PBN Training W/S for ATM, ESAF			total			23380
		expertise	8480			
		organization		Host State		
		Mission travel (airfares+DSA)	14880			
PBN Design Course (1B), Dakar			total			
		expertise		France		
		organization	n/a			
		Mission travel (airfares+DSA)	n/a			
PANS-OPS Initial Course (2A), Dakar			total			
		expertise	n/a			
		organization	n/a			
		Mission travel (airfares+DSA)	n/a			
PBN design (2B) Course, Dakar			total			
		expertise	n/a			
		organization	n/a			
		Mission travel (airfares+DSA)	n/a			
Instructor Course			total			20200
		expertise		France		
		organization		France		
		Mission travel (airfares+DSA)	20200			
Meeting participation			total			7800
	ESAF	Mission travel	4400			
	WACAF	Mission travel	3400			
Steering Committee			total			11380
		organization	5000			
		Mission travel	6380			
<b>OFFICE</b>			total			8000
		software annual maintenance	0			
		documentation	3000			
		FPD training course package	0			
		miscellaneous	3000			
<b>CONTRIBUTION</b>			total			250000
		Active Participating States (25)				250000
<b>ACTIVITY INCOMES</b>			total			52800
		Expense: 3 activities, 3 days/activity				4800
		Procedure design: 3 airports				4800
<b>SUB TOTAL</b>			178880	0	176880	302800
					<b>BALANCE</b>	125920
<b>DONATION</b>			total			559100
		PBN Design (1B) - Dakar	69900		69500	
	France	Instructor Course	35100		35100	
		Manager Salary	115000		115000	
		GeoTDB	199100		199100	
	ASECNA	Premises rental	125000		125000	
		water, electricity, telephone, internet	5000		5000	
		office supplies	10000		10000	
<b>OVERALL TOTAL</b>			735980	559100	176880	302800
					<b>BALANCE</b>	125920
<b>SURPLUS 2014</b>						47710
					<b>BALANCE</b>	173630

<b>Appendix D</b>
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<b>QUESTIONNAIRE TO STATES</b>
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**Part A:** Survey for African States National PBN Implementation Plan

ICAO Region: \_\_\_\_\_

State/Administration: \_\_\_\_\_

Surname/Name: \_\_\_\_\_

Title: \_\_\_\_\_

Telephone: \_\_\_\_\_

Email: \_\_\_\_\_

Date: \_\_\_\_/\_\_\_\_/\_\_\_\_

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1. Is your State/Administration currently a member of AFPP? Yes  No

1.1. If yes, what type? Active Participating State  User State

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2. Has your State/Administration started the development of the National PBN Implementation Plan?

Yes  No

1.2. If yes, which date?

Year	2009	2010	2011	2012	2013	2014	2015
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3. If information available, indicate current/expected date for the achievement of the National PBN Implementation Plan

Year	2015						2016					
Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec

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4. If your State/Administration has not developed or achieved the National PBN Implementation Plan, please specify the challenges impeding the development, in the following domains?

4.1. PBN Plan template availability:

4.2. Updated knowledge on GNSS, PBN concept and/or RNAV/RNP flight procedures:

4.3. Implementation strategy at short, medium and long-term for En Route, terminal and approach areas:

4.4. PBN equipage of the aircraft:

4.5. Role of stakeholders:

4.6. Other points:



5. Regarding the legislation for GNSS use, has your State/Administration developed related documentation and published a relevant Air Information Circular (AIC)?

5.1. Documentation                      Yes     No

5.2. If yes, AIC                      Yes  date:    No

5.3. Comments:

---

6. Please indicate the type of assistance you may request from the ICAO (AFPP)/AFCAC to achieve your National PBN Implementation Plan in short delays.

**PartB:** Survey for PBN flight procedures implemented in African Airports

ICAO Region: \_\_\_\_\_

State/Administration: \_\_\_\_\_

Surname/Name: \_\_\_\_\_

Title: \_\_\_\_\_

Telephone: \_\_\_\_\_

Email: \_\_\_\_\_

Date: \_\_\_\_/\_\_\_\_/\_\_\_\_

1. Is your State/Administration currently a member of AFPP? Yes  No 1.1. If yes, what type? Active Participating State  User State 

2. Did your State/Administration implement an instrument flight procedure implementation oversight service?

Yes  No  Pending , date (if available):

3. Did your State/Administration implement a flight procedure design service?

Yes  No  Pending , date (if available):

4. Did your State/Administration implement conventional and/or PBN flight procedures?

4.1. Conventional: Yes  No  Pending , date (if available):4.2. PBN: Yes  No  Pending , date (if available):

5. Did your State/Administration approve conventional and PBN flight procedures?

5.1. Conventional: Yes  No  Pending , date (if available):5.2. PBN: Yes  No  Pending , date (if available):

6. Please indicate the type of workshop, included in the AFPP Work Programme, you intend to participate to:

6.1. Quality Assurance for conventional or PBN flight procedure implementation

6.2. Airspace design

6.3. PBN for ATC/ATM personnel

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7. Please indicate the type of training session, included in the AFPP Work Programme, you intend to participate to:

7.1. Train flight procedures designers (indicate number)

7.2. PBN Operational Approval

---

8. Please indicate the type of assistance you may request from the ICAO (AFPP)/AFCAC

8.1. Implementation of a flight procedure implementation oversight service

8.2. Design conventional and/or PBN flight procedures



## PartC1

## STATES PBN (RNAV GNSS APCH, SIDs &amp; STARs) IMPLEMENTATION STATUS FOR TERMINAL AIRSPACE - OCTOBER 2014 (ESAF STATES)

A	B	C	D	E	F	G	I	J	K	% of PBN RNAV APCH	% of SID Implemented	% of STAR Implemented	Total % RNAV GNSS APCH	Total % RNAV SID	Total % RNAV STAR
NO	ICAO REGION	STATE ICAO DESIGNATOR	AIRPORT NAME	No of Rwy's	RWY Orientation	No of INST RWYS	RNAV/RNP APCH	RNAV/RNP SID	RNAV/RNP STAR						
<b>1</b>	<b>ANGOLA</b>												25%	25%	0%
a.	ESAF	FNHU	Huambo	2	11/29	2	0	0	0	0%	0%	0%			
b.	ESAF	FNLU	Luanda	2	05/23	2	Rwy23	Rwy 23	0	50%	50%	0%			
<b>2</b>	<b>BOTSWANA</b>												8%	8%	8%
a.	ESAF	FBFT	Francistown	4	13/31 11/29	2 0	0 0	0 0	0 0	0%	0%	0%			
b.	ESAF	FBSK	Gaborone (SK)	2	08/26	2	Rwy08	Rwy08	Rwy08	50%	50%	50%			
c.	ESAF	FBKE	Kasane	2	08/26	0	0	0	0	0%	0%	0%			
d.	ESAF	FBMN	Maun	2	08/26	2	0	0	0	0%	0%	0%			
e.	ESAF	FBSP	Selebi-Phikwe	2	12/30	1	0	0	0	0%	0%	0%			
<b>3</b>	<b>BURUNDI</b>												0%	0%	0%
a.	ESAF	HBBA	Bujumbura	2	17/35	2	0	0	0	0%	0%	0%			
<b>4</b>	<b>COMOROS</b>												50%	0%	16%
a.	ESAF	FMCV	Anjouan	2	10/28	0	0	0	0	0%	0%	0%			
b.	ESAF	FMCZ	Dzaoudzi	2	16/34	2	Rwy16/34	0	0	100%	0%	0%			
c.	ESAF	FMCH	Moroni	2	02/20	1	Rwy02	0	Rwy02	50%	0%	50%			
<b>5</b>	<b>DJIBOUTI</b>												0%	0%	0%
a.	ESAF	HDAM	Djibouti	2	09/27	2	0	0	0	0%	0%	0%			
<b>6</b>	<b>ERITREA</b>												50%	0%	0%
a.	ESAF	HHAS	Asmara	2	07/25	1	Rwy07/25	0	0	100%	0%	0%			
b.	ESAF	HHSB	Assab	2	12/30	1	0	0	0	0%	0%	0%			
<b>7</b>	<b>ETHIOPIA</b>												66%	0%	33%
a.	ESAF	HAAB	Addis Ababa	4	07R/25L 07L/25R	1 1	Rwy07R/25L Rwy07L/25R	0	Rwy07R Rwy07L	100%	0%	50%			
b.	ESAF	HADR	Dire Dawa	2	15/33	1	0	0	0	0%	0%	0%			

## PartC2

## STATES PBN (RNAV GNSS APCH, SIDs &amp; STARs) IMPLEMENTATION STATUS FOR TERMINAL AIRSPACE - OCTOBER 2014 (ESAF STATES)

A	B	C	D	E	F	G	I	J	K						
NO	ICAO REGION	STATE ICAO DESIGNATOR	AIRPORT NAME	No of Rwy's	RWY Orientation	No of INST RWYS	RNAV/RNP APCH	RNAV/RNP SID	RNAV/RNP STAR	% of PBN RNAV APCH	% of SID Implemented	% of STAR Implemented	Total % RNAV GNSS APCH	Total % RNAV SID	Total % RNAV STAR
8	KENYA												66%	66%	66%
a.	ESAF	HKEL	Eldoret	2	08/26	1	0	0	0	0%	0%	0%			
b.	ESAF	HKMO	Mombasa	2	03/21	2	Rwy03/21	Rwy03/21	Rwy03/21	100%	100%	100%			
c.	ESAF	HKJK	Nairobi	2	06/24	2	Rwy06/24	Rwy06/24	Rwy06/24	100%	100%	100%			
9	LESOTHO												100%	0%	0%
a.	ESAF	FXMM	Maseru	2	04/22	1	Rwy04/22	0	0	100%	0%	0%			
10	MADAGASCAR												42%	14%	28%
a.	ESAF	FMMI	Antananarivo	2	11/29	2	Rwy11/29	Rwy11/29	Rwy11/29	100%	100%	100%			
b.	ESAF	FMNA	Antsiranana	2	13/31	1	0	0	0	0%	0%	0%			
c.	ESAF	FMNM	Mahajanga	2	14/32	2	Rwy14/32	0	Rwy14/32	100%	0%	100%			
d.	ESAF	FMNN	Nosy-Be	2	05/23	1	0	0	0	0%	0%	0%			
e.	ESAF	FMMS	Sainte-Marie	2	01/19	2	0	0	0	0%	0%	0%			
f.	ESAF	FMMT	Toamasina	2	01/19	2	Rwy01/19	0	0	100%	0%	0%			
g.	ESAF	FMSD	Tolagnaro	2	08/26	2	0	0	0	0%	0%	0%			
11	MALAWI												33%	66%	66%
a.	ESAF	FWCL	Blantyre	4	10/28 15/33	0 0	0 0	Rwy10/28 0	Rwy10/28 0	0%	50%	50%			
b.	ESAF	FWLI	Lilongwe	2	14/32	2	Rwy14/32	Rwy14/32	Rwy14/32	100%	100%	100%			
12	MAURITIUS												100%	100%	100%
a.	ESAF	FIMP	Mauritius (SSR)	2	14/32	2	Rwy14/32	Rwy14/32	Rwy14/32	100%	100%	100%			
13	MOZAMBIQUE												100%	100%	100%
a.	ESAF	FQBR	Beira	2	12/30	1	Rwy12/30	Rwy12/30	Rwy12/30	100%	100%	100%			
b.	ESAF	FQMA	Maputo	2	05/23	1	Rwy05/23	Rwy05/23	Rwy05/23	100%	100%	100%			

## PartC3

## STATES PBN (RNAV GNSS APCH, SIDs &amp; STARs) IMPLEMENTATION STATUS FOR TERMINAL AIRSPACE - OCTOBER 2014 (ESAF STATES)

A	B	C	D	E	F	G	I	J	K						
NO	ICAO REGION	STATE ICAO DESIGNATOR	AIRPORT NAME	No of Rwy's	RWY Orientation	No of INST RWYS	RNAV/RNP APCH	RNAV/RNP SID	RNAV/RNP STAR	% of PBN RNAV APCH	% of SID Implemented	% of STAR Implemented	Total % RNAV GNSS APCH	Total % RNAV SID	Total % RNAV STAR
<b>14</b>	<b>NAMIBIA</b>												12%	0%	0%
a.	ESAF	FYKT	Keetmanshoop	2	04/22	1	0	0	0	0%	0%	0%			
b.	ESAF	FYWB	Walvis Bay	2	09/27	2	0	0	0	0%	0%	0%			
c.	ESAF	FYWH	Windhoek	4	08/26 16/34	1 0	Rwy26 0	0 0	0 0	0%	0%	0%			
<b>15</b>	<b>RWANDA</b>												0%	0%	0%
a.	ESAF	HRYR	Kigali	2	10/28	1	0	0	0	0%	0%	0%			
<b>16</b>	<b>SEYCHELLES</b>												100%	100%	100%
a.	ESAF	FSIA	Seychelles	2	13/31	2	Rwy13/31	Rwy13/31	Rwy13/31	100%	100%	100%			
<b>17</b>	<b>SOMALIA</b>												0%	0%	0%
a.	ESAF	HCM1	Berbera		05/23	0	0	0	0	0%	0%	0%			
b.	ESAF	HCMV	Burao		13/31	0	0	0	0	0%	0%	0%			
c.	ESAF	HCMH	Hargeisa		06/24	0	0	0	0	0%	0%	0%			
d.	ESAF	HCMK	Kisimayu		05/23	0	0	0	0	0%	0%	0%			
e.	ESAF	HCMM	Mogadishu		05/23	0	0	0	0	0%	0%	0%			

Part C4

STATES PBN (RNAV GNSS APCH, SIDs & STARs) IMPLEMENTATION STATUS FOR TERMINAL AIRSPACE - OCTOBER 2014 (ESAF STATES)

A	B	C	D	E	F	G	I	J	K						
NO	ICAO REGION	STATE ICAO DESIGNATOR	AIRPORT NAME	No of Rwy's	RWY Orientation	No of INST RWYS	RNAV/RNP APCH	RNAV/RNP SID	RNAV/RNP STAR	% of PBN RNAV APCH	% of SID Implemented	% of STAR Implemented	Total % RNAV GNSS APCH	Total % RNAV SID	Total % RNAV STAR
18	SOUTH AFRICA												30%	50%	45%
a.	ESAF	FABL	Bloemfontein	4	02/20 12/30	2	0	0	0	0%	0%	0%			
b.	ESAF	FACT	Cape Town	4	01/19 16/34	2	0	Rwy01/19	Rwy01/19	0%	100%	100%			
c.	ESAF	FADN	Durban	2	06/24	2	Rwy06/24	Rwy06/24	Rwy06/24	100%	100%	100%			
d.	ESAF	FAOR	OR Tambo	4	03L/21R 03R/21L 06L/24R	2 2 1	Rwy21L Rwy03R	03R/21L 03L/21R	Rwy21L Rwy03R	50%	100%	50%			
e.	ESAF	FALA	Lanseria	6	06R/24L 07/25	2 1	0 Rwy07	0 0	0 0	50%	0%	25%			
f.	ESAF	FAMM	Mafikeng	2	04/22	1	0	0	0	0%	0%	0%			
g.	ESAF	FANS	Nelspruit	2	04/22	1	0	0	0	0%	0%	0%			
h.	ESAF	FAPB	Pietersburg	4	01/19 05/23	1	0	0	0	0%	0%	0%			
i.	ESAF	FAPE	Port Elizabeth		08/26 17/35	2 0	0	0	Rwy08/26 0	0%	100%	100%			
j.	ESAF	FAUP	Upington		17/35 01/19 08/26	1 0 0	0 0 0	0 0 0	0 0 0	0%	0%	0%			
19	SOUTH SUDAN												100%	100%	100%
a.	ESAF	HSSJ	Juba	2	13/31	2	Rwy13/31	Rwy13/31	Rwy13/31	100%	100%	100%			
20	SWAZILAND												0%	0%	0%
a.	ESAF	FDMS	Manzini/Mats	2	07/25	1	0	0	0	0%	0%	0%			



## Part C5

## STATES PBN (RNAV GNSS APCH, SIDs &amp; STARs) IMPLEMENTATION STATUS FOR TERMINAL AIRSPACE - OCTOBER 2014 (ESAF STATES)

A	B	C	D	E	F	G	I	J	K						
NO	ICAO REGION	STATE ICAO DESIGNATOR	AIRPORT NAME	No of Rwy's	RWY Orientation	No of INST RWYS	RNAV/RNP APCH	RNAV/RNP SID	RNAV/RNP STAR	% of PBN RNAV APCH	% of SID Implemented	% of STAR Implemented	Total % RNAV GNSS APCH	Total % RNAV SID	Total % RNAV STAR
<b>21</b>	<b>UGANDA</b>												0%	50%	50%
a.	ESAF	HUEN	Entebbe	2	17/35 12/30	2 0	0 0	Rwy17/35 0	Rwy17/35 0	0%	50%	50%			
<b>22</b>	<b>UNITED REP OF TANZANIA</b>												66%	66%	66%
a.	ESAF	HTDA	Dar Es Salaam	2	05/23	2	Rwy05/23	Rwy05/23	Rwy05/23	100%	100%	100%			
b.	ESAF	HTKJ	Kilimanjaro	2	09/27	1	Rwy09/27	Rwy09/27	Rwy09/27	100%	100%	100%			
c.	ESAF	HTZA	Zanzibar	2	18/36	1	0	0	0	0%	0%	0%			
<b>23</b>	<b>ZAMBIA</b>												20%	40%	40%
a.	ESAF	FLLI	Livingstone	2	10/28	2	0	Rwy10/28	Rwy10/28	0%	100%	100%			
b.	ESAF	FLLS	Lusaka	2	10/28	2	Rwy10/28	Rwy10/28	Rwy10/28	100%	100%	100%			
c.	ESAF	FLMF	Mfuwe	2	08/26	1	0	0	0	0%	0%	0%			
d.	ESAF	FLND	Ndola	4	10L/28R 10R/28L	1 0	0 0	0 0	0 0	0%	0%	0%			
<b>24</b>	<b>ZIMBABWE</b>												0%	0%	0%
a.	ESAF	FVBU	Bulawayo	2	13/31	1	0	0	0	0%	0%	0%			
b.	ESAF	FVHA	Harare	2	05/23	2	0	0	0	0%	0%	0%			
c.	ESAF	FVFA	Victoria Falls	2	12/30	1	0	0	0	0%	0%	0%			

Note: The above data was derived from Table AOP 1 of the AFI Air navigation Plan (AFI ANP) and Jeppesen Airway Manuals

## Part D1

## STATES PBN (RNAV GNSS APCH, SIDs &amp; STARs) IMPLEMENTATION STATUS FOR TERMINAL AIRSPACE - OCTOBER 2014 (WACAF STATES)

A	B	C	D	E	F	G	I	J	K							
NO	ICAO REGION	STATE ICAO DESIGNATOR	AIRPORT NAME	No of Rwy's	RWY Orientation	No of INST RWYS	RNAV/RNP APCH	RNAV/RNP SID	RNAV/RNP STAR	% of PBN RNAV APCH	% of SID Implemented	% of STAR Implemented	Total % RNAV GNSS APCH	Total % RNAV SID	Total % RNAV STAR	
<b>1</b>	<b>BENIN</b>												100%	0%	100%	
a.	WACAF	DBBB	Cotonou	2	06/24	2	Rwy06/24	0	Rwy06/24	100%	0%	100%				
<b>2</b>	<b>BURKINA FASO</b>												66%	0%	66%	
a.	WACAF	DFOO	Bobo-Dioulasso	2	06/24	2	Rwy06/24	0	Rwy06/24	100%	0%	100%				
b.	WACAF	DFFD	Quagadougou	4	04L/22R 04R/22L	4	04L/22R 0	0 0	04L/22R 0	50%	0%	50%				
<b>3</b>	<b>CAMEROON</b>												58%	25%	50%	
a.	WACAF	FKKD	Douala	2	12/30	2	Rwy30	Rwy12	Rwy12/30	50%	50%	100%				
b.	WACAF	FKKR	Garoua	2	09/27	2	Rwy09/27	0	Rwy09/27	100%	0%	100%				
c.	WACAF	FKKL	Maroua	2	13/31	1	0	0	0	0%	0%	0%				
d.	WACAF	FKKN	N'gaoundere	2	02/20	1	0	0	0	0%	0%	0%				
e.	WACAF	FKYS	Yaounde	4	01/19 03/21	2	Rwy01/19 Rwy03/21	Rwy01/19 0	Rwy01/19 0	100% 100%	100% 0%	100% 0%				
<b>4</b>	<b>CAPE VERDE</b>												0%	100%	100%	
a.	WACAF	GVFM	Praia	2	03/21	2	0	RWY03/21	RWY03/21	0%	100%	100%				
b.	WACAF	GVAC	Sal/Amilcar C.	2	01/19	2	0	RWY01/19	Rwy01/19	0%	100%	100%				
<b>5</b>	<b>CENTRAL AFRICAN REPUBLIC</b>												50%	0%	50%	
a.	WACAF	FEFF	Bangui	2	17/35	2	RWY17/35	0	Rwy17/35	100%	0%	100%				
b.	WACAF	FEFT	Berberati	2	17/35	0	0	0	0	0%	0%	0%				
<b>6</b>	<b>CHAD</b>												100%	0%	100%	
a.	WACAF	FTTJ	N'Djamena	2	05/23	2	Rwy05/23	0	RWY05/23	100%	0%	100%				
<b>7</b>	<b>CONGO</b>												33%	33%	100%	
a.	WACAF	FCBB	Brazzaville	4	05L/23R 05R/23L	2	0 0	Rwy05L/23R 0	Rwy05L/23R Rwy05R/23L	0%	50%	100%				
b.	WACAF	FCPP	Point Noire	2	17/35	2	Rwy17/35	0	Rwy17/35	100%	0%	100%				

## Part D2

## STATES PBN (RNAV GNSS APCH, SIDs &amp; STARs) IMPLEMENTATION STATUS FOR TERMINAL AIRSPACE - OCTOBER 2014 (WACAF STATES)

A	B	C	D	E	F	G	I	J	K							
NO	ICAO REGION	STATE ICAO DESIGNATOR	AIRPORT NAME	No of Rwys	RWY Orientation	No of INST RWYS	RNAV/RNP APCH	RNAV/RNP SID	RNAV/RNP STAR	% of PBN RNAV APCH	% of SID Implemented	% of STAR Implemented	Total % RNAV GNSS APCH	Total % RNAV SID	Total % RNAV STAR	
8	COTE D'IVOIRE												50%	0%	50%	
a.	WACAF	DIAP	Abidjan	2	03/21	2	Rwy03/21	0	Rwy03/21	100%	0%	100%				
b.	WACAF	DIBK	Bouake	?	?	?	?	?	?	0%	0%	0%				
9	DEM. REP OF CONGO												60%	60%	60%	
a.	WACAF	FZNA	Goma	?	?	?	?	?	?	0%	0%	0%				
b.	WACAF	FZAA	Kinshasa	2	06/24	2	Rwy06/24	Rwy06/24	Rwy06/24	100%	100%	100%				
c.	WACAF	FZIC	Kisangani	2	13/31	0	Rwy13/31	Rwy13/31	Rwy13/31	100%	100%	100%				
d.	WACAF	FZQA	Lubumbashi	2	07/25	1	Rwy07/25	Rwy07/25	Rwy07/25	100%	100%	100%				
e.	WACAF	FZWA	Mbuji Mayi	?	?	?	?	?	?	?	?	?				
10	EQUATORIAL GUINEA												100%	0%	100%	
a.	WACAF	FGSL	Malabo	2	04/22	2	Rwy04/22	0	Rwy04/22	100%	0%	100%				
11	GABON												83%	33%	16%	
a.	WACAF	FOON	Franceville	2	15/33	2	Rwy15/33	0	0	100%	0%	0%				
b.	WACAF	FOOL	Libreville	2	16/34	1	Rwy16	Rwy16/34	Rwy16	50%	100%	50%				
c.	WACAF	FOOG	Port Gentil	2	03/21	2	Rwy03/21	0	0	100%	0%	0%				
12	GAMBIA												100%	0%	0%	
a.	WACAF	GBYD	Banjul	2	14/32	2	Rwy14/32	0	0	100%	0%	0%				
13	GHANA												100%	66%	66%	
a.	WACAF	DGAA	Accra	2	03/21	2	Rwy03/21	Rwy03/21	Rwy03/21	100%	100%	100%				
b.	WACAF	DGSI	Kumasi	2	02/20	2	Rwy02/20	Rwy20	Rwy20	100%	50%	50%				
c.	WACAF	DGLE	Tamale	2	05/23	2	Rwy05/23	Rwy23	Rwy23	100%	50%	50%				

## Part D3

## STATES PBN (RNAV GNSS APCH, SIDs &amp; STARs) IMPLEMENTATION STATUS FOR TERMINAL AIRSPACE - OCTOBER 2014 (WACAF STATES)

A	B	C	D	E	F	G	I	J	K							
NO	ICAO REGION	STATE ICAO DESIGNATOR	AIRPORT NAME	No of Rwys	RWY Orientation	No of INST RWYS	RNAV/RNP APCH	RNAV/RNP SID	RNAV/RNP STAR	% of PBN RNAV APCH	% of SID Implemented	% of STAR Implemented	Total % RNAV GNSS APCH	Total % RNAV SID	Total % RNAV STAR	
14	<b>GUINEA</b>												25%	25%	25%	
a.	WACAF	GUCY	Conakry	2	06/24	1	Rwy06/24	Rwy06/24	Rwy06/24	100%	100%	100%				
b.	WACAF	GUXN	Kankan	?	?	?	?	?	?	0%	0%	0%				
c.	WACAF	GULB	Labe	2	06/24	2	0	0	0	0%	0%	0%				
d.	WACAF	GUNZ	N'Zerekore	2	18/36	1	0	0	0	0%	0%	0%				
15	<b>GUINEA-BISSAU</b>												100%	0%	0%	
a.	WACAF	GGOV	Bissau	2	03/21	2	Rwy03/21	0	0	100%	0%	0%				
16	<b>LIBERIA</b>												100%	0%	100%	
a.	WACAF	GLRB	Monrovia	2	04/22	2	Rwy04/22	0	Rwy04/22	100%	0%	100%				
17	<b>MALI</b>												28%	0%	14%	
a.	WACAF	GABS	Bamako	2	06/24	2	Rwy06/24	0	Rwy06/24	100%	0%	100%				
b.	WACAF	GAGO	Gao	2	07/25	2	0	0	0	0%	0%	0%				
c.	WACAF	GAKY	Kayes	2	09/27	2	0	0	0	0%	0%	0%				
d.	WACAF	GAKL	Kidal	?	?	?	?	?	?	0%	0%	0%				
e.	WACAF	GAMB	Mopti-Barbe	2	05/23	2	Rwy05/23	0	0	100%	0%	0%				
f.	WACAF	GANR	Nioro	2	08/26	0	0	0	0	0%	0%	0%				
g.	WACAF	GATB	Tombouctou	2	07/25	2	0	0	0	0%	0%	0%				
18	<b>MAURITANIA</b>												20%	0%	20%	
a.	WACAF	GQPA	Atar	2	04/22	?	0	0	0	0%	0%	0%				
b.	WACAF	GQNI	Nema	?	?	?	?	?	?	0%	0%	0%				
c.	WACAF	GQPP	Nouadhibou	2	02/20	2	Rwy02/20	0	Rwy02/20	100%	0%	100%				
d.	WACAF	GQNN	Nouakchott	2	05/23	2	Rwy05/23	0	Rwy05/23	100%	0%	100%				
e.	WACAF	GQPZ	Zouerate	?	?	?	?	?	?	0%	0%	0%				

## Part D4

## STATES PBN (RNAV GNSS APCH, SIDs &amp; STARs) IMPLEMENTATION STATUS FOR TERMINAL AIRSPACE - OCTOBER 2014 (WACAF STATES)

A	B	C	D	E	F	G	I	J	K							
NO	ICAO REGION	STATE ICAO DESIGNATOR	AIRPORT NAME	No of Rwy's	RWY Orientation	No of INST RWYS	RNAV/RNP APCH	RNAV/RNP SID	RNAV/RNP STAR	% of PBN RNAV APCH	% of SID Implemented	% of STAR Implemented	Total % RNAV GNSS APCH	Total % RNAV SID	Total % RNAV STAR	
19	NIGER												66%	33%	33%	
a.	WACAF	DRZA	Agades	2	07/25	2	Rwy07/25	0	0	100%	0%	0%				
b.	WACAF	DRRN	Niamey	2	09/27	2	Rwy09/27	Rwy09/27	Rwy09/27	100%	100%	100%				
c.	WACAF	DRZR	Zinder	2	05/23	2	0	0	0	0%	0%	0%				
20	NIGERIA												35%	35%	35%	
a.	WACAF	DNAA	Abuja	2	04/22	2	Rwy04/22	Rwy04/22	Rwy04/22	100%	100%	100%				
b.	WACAF	DNCA	Calabar	2	03/21	2	0	0	0	0%	0%	0%				
c.	WACAF	DNIL	Ilorin	2	05/23	2	0	0	0	0%	0%	0%				
d.	WACAF	DNKA	Kaduna	2	05/23	2	0	0	0	0%	0%	0%				
e.	WACAF	DNKN	Kano	2	06/24	2	Rwy06/24	Rwy06/24	Rwy06/24	100%	100%	100%				
f.	WACAF	DNMM	Lagos	4	18R/36L	2	Rwy18R	Rwy18R	Rwy18R	50%	50%	50%				
g.	WACAF	DNMA	Maiduguri	2	05/23	2	0	0	0	0%	0%	0%				
h.	WACAF	DNPO	Port Harcourt	2	03/21	2	Rwy21	Rwy21	Rwy21	50%	50%	50%				
i.	WACAF	DNZO	Sokoto	2	08/26	1	0	0	0	0%	0%	0%				
21	SAO TOME & PRINCIPE												0%	0%	0%	
a.	WACAF	FPST	Sao Tome	2	11/29	1	0	0	0	0%	0%	0%				
22	SENEGAL												30%	20%	20%	
a.	WACAF	GOGS	Cap Skiring	2	15/33	1	Rwy15	0	0	50%	0%	0%				
b.	WACAF	GOOY	Dakar	2	18/36	2	Rwy18/36	Rwy18/36	Rwy18/36	100%	100%	100%				
c.	WACAF	GOSS	Saint Louis	2	18/36	2	0	0	0	0%	0%	0%				
d.	WACAF	GOTT	Tambacounda	?	?	?	?	?	?	0%	0%	0%				
e.	WACAF	GOGG	Ziguinchor	2	10/28	2	0	0	0	0%	0%	0%				
23	SIERRA LEONE												0%	0%	0%	
a.	WACAF	GFLI	Freetown	2	12/30	2	0	0	0	0%	0%	0%				
24	TOGO												50%	50%	50%	
a.	WACAF	DXXX	Lome	2	04/22	2	Rwy04/22	Rwy04/22	Rwy04/22	100%	100%	100%				
b.	WACAF	DXNG	Niamtougou	2	03/21	2	0	0	0	0%	0%	0%				

Note: The above data was derived from Table AOP 1 of the AFI Air navigation Plan (AFI ANP) and Jeppesen Airway Manuals



**Joseph K. Maina**  
Chairman AFPP Steering Committee