



International Civil Aviation Organization  
Western and Central African Office

**Second Joint Meeting of the APIRG Performance Based Navigation  
and Global Navigation Satellite System Implementation Task Forces  
(Joint PBN & GNSS/I TFs) (Dakar, Senegal, 2 - 4 March 2010)**

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**Agenda Item 2: Review and follow-up of Recommendations, Conclusions and  
Decisions applicable to the Task Forces**

**FOLLOW UP ON RAN MEETING RECOMMENDATIONS AND  
APIRG CONCLUSIONS AND DECISIONS**

(Presented by the Secretariat)

**SUMMARY**

This paper presents the Recommendations of the Special AFI RAN Meeting, and Conclusions and Decisions formulated within the frameworks of APIRG, for review and update as necessary, including consolidation where appropriate, and the enhancement of the mechanism for follow up of actions required to implement the Recommendations, Conclusions and Decisions.

Action by the meeting is at **paragraph 3**.

**REFERENCES**

This Working Paper is related to Strategic Objectives: **A** and **D**

**1. INTRODUCTION**

1.1 The Recommendations of the Special AFI RAN Meeting, Durban, South Africa 24-29 November 2008, Conclusions and Decisions of APIRG 16 Rubavu, Rwanda, 19-23 November 2007, as well as Conclusions/Decisions of the ATS/AIS/SAR/SG/10 meeting in Dakar 12-15 May 2009, which are directly relevant to the work of the PBN and the GNSS/I Task Forces were reviewed by the First Joint Meeting of the APIRG Performance Based Navigation and Global Navigation Satellite System Implementation Task Forces held in Nairobi, 8-10 September 2009. The meeting also reviewed Conclusions/Decisions of the past meetings of the two Task Forces.

## 2. DISCUSSION

2.1 Based on the outcome of the First Joint Meeting of the APIRG Performance Based Navigation and Global Navigation Satellite System Implementation Task Forces held in Nairobi, 8-10 September 2009, the above-mentioned Recommendations, as well as Conclusions and Decisions formulated within the framework of APIRG, are presented with updates where available, in the appendixes to this work paper for consideration by the meeting:

**Appendix A** - SP AFI RAN Recommendations

**Appendix B** - APIRG/16

**Appendix C** - ATS/AIS/SAR/SG/10

**Appendix D** - GNSS/I/TF/4

**Appendix E** - First Joint PBN & GNSS/I TFs

2.2 In accordance with the ICAO Business Plan and the requirements for performance monitoring, it has become necessary for APIRG and its subsidiary bodies to develop a systematic follow up action plan in order to avoid duplication and oversight, and ensure efficiency within APIRG.

2.3 In addition to considering the action applicable to the meeting from the Recommendations, Conclusions and Decisions, the meeting may wish to review the follow up actions and target dates and status thereof, with the objective to facilitate ease of follow up, management of work and efficiency.

2.4 Also, the meeting may wish to consider the need where appropriate, to merge Conclusions or Decisions with others that are considered similar or closely related; identify those that are adequately addressed by other Conclusions, Decisions, procedures, or activities; identify those that may be included in the terms of reference and work programmes of relevant APIRG subsidiary bodies or included in the APIRG handbook to serve general purposes.

2.5 In order to reduce repeated discussions of the subjects, the meeting may wish to consider some of the Recommendations, Conclusions and Decision under the relevant agenda items.

## 3. ACTION BY THE MEETING

3.1 The meeting is invited to:

- a) note the follow-up action on the list of Conclusions and Decisions at **Appendixes A to E** to this working paper;
- b) consider the Conclusions, Decisions and follow-up action thereon during its deliberations on specific, related agenda items;
- c) update the applicable follow up action and target dates; and
- d) identify Conclusions and Decisions that may be:

- i.) merged with others or considered as adequately addressed by other Conclusions, Decisions, procedures, or activities;
- ii.) included in the terms of reference and work programmes of relevant APIRG subsidiary bodies; and
- iii.) included in the APIRG handbook;

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**FOLLOW-UP ON PBN RECOMMENDATIONS OF SP AFI RAN 2008**

Conc/Dec No. Strategic Objectives*	Title of Conclusion/ Decision	Text of Conclusion/Decision	Follow-up Action	To be initiated by	Deliverable/ Intended Outcome	Target Dates
<p><b>Recommendation 6/9:</b></p>	<p><b>Performance-based navigation (PBN) performance objectives</b></p>	<p>That APIRG adopt the Performance Objectives as contained in the performance framework forms in Appendix D to the Report on Agenda Item 6:</p> <p>a) optimization of the air traffic services (ATS) route structure in en-route airspace;</p> <p>b) optimization of the ATS route structure in terminal airspace; and</p> <p>c) implementation of vertically guided required navigation performance (RNP) approaches.</p> <p>That States develop their national action plans to meet the requirements of the regional performance framework forms, as a matter of priority to meet the PBN implementation goals established by Assembly Resolution A36-23.</p>	<ul style="list-style-type: none"> <li>➤ Implement recommendation.               <ul style="list-style-type: none"> <li>• Identify action parties and specific target dates.</li> <li>• Update PFFs.</li> <li>• Follow-up</li> <li>• Provide guidance for States.</li> </ul> </li> <li>➤ Implement the States recommendations.               <ul style="list-style-type: none"> <li>• Identify action parties and specific target dates.</li> <li>• Update PFFs.</li> <li>• Follow-up</li> </ul> </li> </ul>	<p>APIRG (PBN/TF)</p>	<p>Updated PFFs</p>	<p>PBN TF/4</p>

Conc/Dec No. Strategic Objectives*	Title of Conclusion/ Decision	Text of Conclusion/Decision	Follow-up Action	To be initiated by	Deliverable/ Intended Outcome	Target Dates
<b>Recommendation 6/10:</b>	<b>Support for establishment of an Africa ICAO flight procedure office</b>	That:  a) States and international organizations support the implementation of an AFI flight procedures office; and  b) ICAO disseminate a letter, with supporting documentation, inviting interested States and international organizations to submit proposals for establishment and hosting of the FPO.	Provide support to FPO.  State letters.	States and International Organizations.  ICAO HQ.	Invitation to establish FPO.	Based on APAC FPO experience to be reviewed by APIRG/17.
<b>Recommendation 6/13:</b>	<b>Publication of GNSS-based RNP approach procedures</b>	That:  a) States having taken part in the IATA area navigation (RNAV) global navigation satellite systems (GNSS) procedures development and implementation programme and which had not yet done so, publish GNSS-based required navigation performance (RNP) approaches, and at the same time, remove any operational restrictions that may be in place; and	- Publish GNSS-based instrument Flight Procedures (IFPs).  - Remove restrictions.	States.	GNSS-based IAPs published and operational.	APIRG/17

Conc/Dec No. Strategic Objectives*	Title of Conclusion/ Decision	Text of Conclusion/Decision	Follow-up Action	To be initiated by	Deliverable/ Intended Outcome	Target Dates
		b) States that had not taken part in the IATA RNAV GNSS procedures development and implementation programme, seek assistance from appropriate organizations with the objective of designing and implementing GNSS-based RNP approach procedures.	Implement conclusion.	States.		APIRG/17
<b>Recommendation 6/14:</b>	<b>ICAO assistance with legal and regulatory issues associated with implementation of GNSS approach procedures</b>	That ICAO provide assistance to States in overcoming legal and regulatory difficulties associated with implementation of global navigation satellite systems (GNSS) based approach procedures.	Implement Conclusion.	ICAO HQs.	Guidance material to overcome legal regulators challenged in use of GNSS.	APRIG/17

\*Note: ICAO has established the following Strategic objectives for the period 2005-2010

*A: Safety: Enhance global civil aviation safety;*

*B: Security: Enhance Global civil aviation security;*

*C: Environmental Protection: Minimize the adverse effect of global civil aviation on the environment;*

*D: Efficiency: Enhance the efficiency of aviation operation;*

*E: Continuity: Maintain the continuity of aviation operations; and*

*F: Rule of Law: Strengthen law governing international civil aviation*

## FOLLOW-UP ACTION ON PBN RELATED APIRG/16 CONCLUSIONS/DECISIONS

Conclusions/Decisions No. Strategic Objectives*	Title of conclusion/Decision	Text of Conclusion/Decision	Follow-up Action	To be initiated by	Deliverable/Intended Outcome	Target Dates
<b>DECISION 16/2:</b> A	<b>ESTABLISHMENT OF AN APIRG PERFORMANCE-BASED NAVIGATION TASK FORCE (APIRG/PBN/TF):</b>	That an APIRG PBN Task Force, with terms of reference as outlined in Appendix D to this report, be established to develop a PBN implementation plan for the AFI Region and address related regional PBN implementation issues.	Nomination of Members of the Task Force	ESAF Office	State Letter to nominate Members.	Completed.
<b>CONCLUSION 16/3:</b> A	<b>DEVELOPMENT OF STATES PBN IMPLEMENTATION PLANS:</b>	That the Regional Offices encourage States to begin development of their State PBN implementation plans in harmony with the development of the AFI Regional PBN implementation plan being coordinated by the AFI PBN Task Force for submission to APIRG.	Encourage States to develop State PBN implementation Plan 2008.	ESAF Office	State Letter.  PBN National Plans	<del>Dec-09</del> Completed  Some States yet to develop the plans
<b>CONCLUSION 16/4:</b> A	<b>DESIGNATION OF CONTACT PERSON FOR PBN IMPLEMENTATION:</b>	That, by 28 February 2008, States designate a focal contact person responsible for Performance-Based Navigation implementation and provide details of the contact person to ICAO Regional Offices for the AFI Region.	Follow-up with States for POC.	ESAF Office  WACAF Office	State Letter  State Letter	<del>Dec-09</del> Completed  Completed.

Conclusions/Decisions No. Strategic Objectives*	Title of conclusion/Decision	Text of Conclusion/Decision	Follow-up Action	To be initiated by	Deliverable/Intended Outcome	Target Dates
<b>CONCLUSION 16/21:</b>  <b>A &amp; F</b>	<b>IMPLEMENTATION OF GNSS EN-ROUTE AND NON-PRECISION APPROACH OPERATIONS:</b>	That AFI States continue their efforts to implement GNSS applications for en-route and non-precision approach operations as part of Phase 1 of AFI GNSS Strategy. In so doing, particular attention should be accorded to meeting all GNSS implementation requirements, including establishment of GNSS legislation, regulatory framework, and approval and monitoring procedures.	Notify AFI States	WACAF	State Letter	Nov. 09*
<b>CONCLUSION 16/22:</b>  <b>A &amp; E</b>	<b>RECORDING OF GNSS PARAMETERS:</b>	That AFI States that approve GNSS-based operations ensure that GNSS data relevant to those operations are recorded as recommended in ICAO Annex 10, Volume I, Chapter 2, para. 2.4.3.	Notify AFI States	WACAF	State Letter	Nov. 09*

Conclusions/Decisions No. Strategic Objectives*	Title of conclusion/Decision	Text of Conclusion/Decision	Follow-up Action	To be initiated by	Deliverable/Intended Outcome	Target Dates
		<p>Particularly, for GNSS core systems, the following monitored items should be recorded for all satellites in view:</p> <ul style="list-style-type: none"> <li>a) observed satellite carrier-to-noise density;</li> <li>b) observed satellite raw pseudo-range code and carrier phase measurements;</li> <li>c) broadcast satellite navigation messages, for all satellites in view; and</li> <li>d) relevant recording receiver status information.</li> </ul>				
<b>CONCLUSION 16/23:</b>	<b>AERONAUTICAL INFORMATION RELATED TO GNSS</b>	That when implementing GNSS-based operations, AFI States ensure that the relevant aeronautical information is provided to the users as appropriate.	Notify AFI States	WACAF	State Letter	Nov. 09*

Conclusions/Decisions No. Strategic Objectives*	Title of conclusion/Decision	Text of Conclusion/Decision	Follow-up Action	To be initiated by	Deliverable/Intended Outcome	Target Dates
<b>DECISION 16/24:</b>  <b>A &amp; F</b>	<b>AFI GNSS IMPLEMENTATION STRATEGY</b>	That the action taken by the Commission on APIRG/15, Conclusions 15/18, 15/19 and 15/20 be referred to the AFI GNSS Implementation Task Force for updating the AFI GNSS Strategy and progressing its work accordingly.	Hold AFI/GNSS/I/T F Meeting	WACAF	Organize an AFI GNSS/I/TF meeting and update AFI/GNSS Implementation Strategy	Completed.
<b>CONCLUSION 16/67:</b>  <b>A &amp; D</b>	<b>ELIMINATION OF AIR NAVIGATION DEFICIENCIES</b>	That States be reminded to adopt a step-by-step approach when implementing air navigation system elements, by giving priority to solving the deficiencies affecting all elements of the system.	Notify States	WACAF	State Letter	Nov. 09*

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*C: Environmental Protection: Minimize the adverse effect of global civil aviation on the environment;*

*D: Efficiency: Enhance the efficiency of aviation operation;*

*E: Continuity: Maintain the continuity of aviation operations; and*

*F: Rule of Law: Strengthen law governing international civil aviation*

FOLLOW-UP ACTION ON ATS/AIS/SAR/SG/10 CONCLUSIONS/DECISIONS

Conclusions/ Decisions No. Strategic Objectives*	Title of conclusion/Decision	Text of Conclusion/Decision	Follow-up Action	To be initiated by	Deliverable/ Intended Outcome	Target Dates
<b>Conclusion 10/15:</b>	<b>Members of PBN Task Force</b>	<del>That the following States and International Organizations shall nominate experts to serve as members of the PBN Task Force: Algeria, Benin, Burundi, Botswana, Cameroon, Cape Verde, Chad, Democratic Republic of Congo (DRC), Egypt, Ethiopia, Ghana, Kenya, Lesotho, Liberia, Mauritius, Nigeria, Rwanda, Senegal, Seychelles, Sierra Leone, South Africa, Sudan, Tanzania, Tunisia, Uganda, IFALPA, IFATCA, IATA, ASECNA and Roberts FIR.</del>	<del>No action in light of ATS/AIS/SAR /SG/10 Concl.10/13</del>			Superseded by Joint meeting of PBN & GNSS TF <b>Draft Decision 1/1.</b>
<b>Conclusion 10/16:</b>  <b>To be Reformulated by 2nd Joint Meeting, as below:</b>	<b>Conduct of Surveys on aircraft equipage</b>	That:  a) <del>ICAO Regional Offices conduct regular surveys on aircraft equipage within the AFI Region, as part of PBN implementation related activities; and</del>	-State letter  -Follow-up for updated data.	ROs  ROs States	States requested for data.  Significant up to-date data available.	Completed.  On-going.  <b>To be Reformulated by 2nd Joint Meeting.</b>

Conclusions/ Decisions No. Strategic Objectives*	Title of conclusion/Decision	Text of Conclusion/Decision	Follow-up Action	To be initiated by	Deliverable/ Intended Outcome	Target Dates
		b) <del>ICAO regional surveys on aircraft equipage should be carried out in close coordination with States, IATA and AFRAA.</del>	-Coordination with IATA	ICAO	Coordinated data acquisition.	On-going.
<b>Draft Conclusion 2/x</b>	<b>Aircraft PBN Equipage Surveys</b>	<p>That, in order to support the implementation of PBN in the AFI Region:</p> <p>a) ICAO ESAF and WACAF Regional Offices in coordination with IATA and AFRAA conduct regular surveys on aircraft equipage within the AFI Region.</p> <p>b) AFI States are urged to support the global and Regional efforts aimed at developing a database with accurate information on aircraft navigation capabilities</p> <p>(This Draft Conclusion supersedes ATS/AIS/SAR SG10 Conclusion 10/16 and Joint PBN</p>	<p>-Follow-up for updated data</p> <p>Implement Conclusion</p>	<p>WACAF</p> <p>ESAF</p> <p>States</p>	Updated data	Ongoing

Conclusions/ Decisions No. Strategic Objectives*	Title of conclusion/Decision	Text of Conclusion/Decision	Follow-up Action	To be initiated by	Deliverable/ Intended Outcome	Target Dates
<b>Conclusion 10/18:</b>	<b>Nomination of National PBN Program Managers (NPPMs)</b>	<p>That:</p> <p><del>States/service providers which have not done so, designate/nominate as soon as possible, but not later than 31 July 2009 a National PBN Program Manager PBN (NPPM), who will be responsible for ensuring that the proper mechanism be put in place for the effective implementation of PBN.</del></p> <p>Note: The terms of reference of PBN program managers are provided at Appendix I to this report.</p>	<p>-State letter</p> <p>-Follow-up on responses.</p>	<p>ROs</p> <p>ROs States</p>	<p>-State letter</p> <p>-NPPMs nominated.</p>	<p>Nov. 09</p> <p>On-going.</p> <p>To be Reformulated by 2nd Joint Meeting</p>
<b>Draft Conclusion 11/xx</b>	<b>Nomination of National PBN Program Managers (NPPMs)</b>	<p>That:</p> <p>States that have not already done so nominate/designate NPPMs as soon as possible and provide ICAO with contact details of the NPPMs; and</p> <p>States update the NPPMs contact information provided to ICAO whenever changes have been made.</p> <p>Note: The terms of reference of PBN program managers are</p>	<p>-State letter</p> <p>-Follow-up on responses.</p>	<p>ROs</p> <p>ROs States</p>	<p>-State letter</p> <p>-NPPMs nominated.</p>	<p>May 2010</p> <p>On-going.</p>





Conclusions/ Decisions No. Strategic Objectives*	Title of conclusion/Decision	Text of Conclusion/Decision	Follow-up Action	To be initiated by	Deliverable/ Intended Outcome	Target Dates
		<p>e) ICAO develop training modules on PBN by 31 December 2009 that may be used by States for training; and</p> <p>d) States having difficulties in implementing PBN implementation programme, may either individually or in group explore the possibility of seeking outside expertise.</p>	<p>-Training modules.</p> <p>-Implement Conclusion part (d)</p> <p>-State letter</p>	<p>ICAO</p> <p>States</p> <p>ROs</p>	<p>-Training modules.</p> <p>-Expertise sourced as necessary.</p> <p>-States awareness.</p>	<p>Dec.2010</p> <p>On-going</p> <p>Dec.2009</p>
<b>Draft Conclusion 2/xx</b>	<b>Training in support of PBN implementation</b>	<p>That, in order to support the implementation of PBN in the AFI Region:</p> <p>a) PBN Task Force identify priority training needs for implementation for PBN, involving;</p> <p>b) AFI Regional Offices organize Seminars/Workshops for training of relevant personnel directly involved in the implementation of PBN</p>	<b>Implement Conclusion</b>	<p><b>PBN TF</b></p> <p><b>ROs</b></p>	<p><b>Description of training needs</b></p> <p><b>PBN Training and seminars</b></p>	<p><b>Mar. 2010</b></p> <p><b>Ongoing</b></p>

Conclusions/ Decisions No. Strategic Objectives*	Title of conclusion/Decision	Text of Conclusion/Decision	Follow-up Action	To be initiated by	Deliverable/ Intended Outcome	Target Dates
		(This Draft Conclusion supersedes ATS/AIS/SAR SG10 Conclusion 10/20)				
<b>Conclusion 10/21:</b> To be updated & reformulated	<b>PBN Legislation</b>	<del>That the States that have not done so, include in their legislation and regulations—the provisions relating to PBN.</del>	-State letter  -Implement conclusion.	ROs  States	States urged.  PBN related legislation.	APIRG/17
<b>Draft Conclusion 2/XX:</b>	<b>PBN enabling legislation</b>	That, AFI States that have not already done so, include in their legislation and/or regulations provisions to enable the implementation of PBN.	State Letter  Implement Conclusion	ROs  States	States' awareness  PBN implementation enabling regulatory provisions	May 2010  August 2010 (APIRG 17)
<b>Conclusion 10/22:</b> Delete and include requirement in the TOR & composition of PBN TF	<b>Participation of representatives of States involved in PBN approval process</b>	That representatives of States involved in the PBN approval process of aircraft operators, be invited to attend the future meetings of the PBN Task Force.	-State letter	ROs	-States urged  -	Dec.2009

Conclusions/ Decisions No. Strategic Objectives*	Title of conclusion/Decision	Text of Conclusion/Decision	Follow-up Action	To be initiated by	Deliverable/ Intended Outcome	Target Dates
<b>Conclusion 10/23:</b>	<b>Funding of the PBN Implementation Program</b>	That regulatory bodies, operators, service providers and other stakeholders be granted budgetary allocations for acquisitions and other activities necessary for ensuring that all the requirements be met in a timely manner in order to safely implement PBN in the AFI Region.	-State letter  -Funding	ROs  -States	-States awareness.  Funding of PBN programmes.	Dec. 2009  On-going.
<b>Conclusion 10/24:</b>  <b>Superseded by Joint Meeting Draft Conc. 1/5 &amp; 1/6</b>	<b>AFI Regional PBN Implementation Plan and National PBN Plan Template</b>	That:  a) The Regional PBN Implementation Plan at Appendix J is applicable in the AFI Region.  b) States use the National PBN Plan Template at Appendix K in developing their National PBN Plans; and	<b>Implement conclusion.</b>  <b>Implement conclusion.</b>	<b>PBN TF States.</b>  <b>States.</b>	<b>National PBN Implementatio n Plans.</b>	<b>On-going</b>  <b>Dec. 09</b>

Conclusions/ Decisions No. Strategic Objectives*	Title of conclusion/Decision	Text of Conclusion/Decision	Follow-up Action	To be initiated by	Deliverable/ Intended Outcome	Target Dates
		<del>e) States complete their National PBN Plans as soon as possible, but not later than 31 December 2009.</del>	<del>Implement conclusion.</del>	<del>States.</del>	<del>National PBN Implementation Plans</del>	<del>Dec-09</del>
Conclusion 10/25:  <b>Superseded by Joint Meeting Draft Conc. 1/5</b>	<b>Amendment to the AFI CNS/ATM Plan (Doc.003)</b>	That ICAO Regional Offices carry out necessary actions in coordination with States to amend the relevant parts of the <del>AFI/CNS/ATM Plan (Doc.003)</del> to incorporate PBN issues.	Implement conclusion.	ROs	Updated Doc.003	APIRG/17
Decision 10/6:  <b>Superseded by Joint Meeting Draft Conc. 1/5 &amp; 1/6</b>	<b>Proposals of amendment to the AFI/CNS/ATM Plan (Doc.003)</b>	That the PBN Task Force develop amendment proposals to assist APIRG in the incorporation of PBN elements in the <del>AFI/CNS/ATM Plan (Doc.003).</del>	Implement conclusion.	PBN/TF	Amendment material	APIRG/17

Conclusions/ Decisions No. Strategic Objectives*	Title of conclusion/Decision	Text of Conclusion/Decision	Follow-up Action	To be initiated by	Deliverable/ Intended Outcome	Target Dates
Conclusion 10/26:  <b>Superseded by Joint Meeting Draft Conc. 1/1</b>	<b>Renaming of the APIRG PBN Task Force</b>	Taking into account the assigned objectives of both the PBN and GNSS Task Forces, the ATS/AIS/SAR proposes that APIRG endorses the merger of the two task forces into the AFI PBN/GNSS task force in order to prevent duplication of work, as per combined Terms of Reference at Appendix L.				Superseded by Joint meeting of PBN& GNSS TF <b>Draft Decision 1/1</b>
Decision 10/7:  <b>Superseded by Joint Meeting Draft Decision 1/10</b>	<b>AFI Regional PBN Performance Objectives and Action Plans</b>	That, in accordance with Special AFI RAN 08 Recommendation 6/9, the APIRG PBN Task Force finalize the development of the AFI PBN performance objectives and Action Plans based on the performance framework forms (PFFs), and report to APIRG.				Superseded by Joint meeting of PBN & GNSS TF <b>Draft Decision 1/10.</b>
Conclusion 10/27:  <b>Redundant in view of the A36-23,</b>	<b>Need for early implementation of PBN</b>	That AFI States and other stakeholders anticipate PBN implementation activities, in accordance with APIRG Conclusion 16/3 Development of States PBN	Implement conclusion.	-States  -International Organizations.  -Other	Coordinated implementation	On-going

Conclusions/ Decisions No. Strategic Objectives*	Title of conclusion/Decision	Text of Conclusion/Decision	Follow-up Action	To be initiated by	Deliverable/ Intended Outcome	Target Dates
<b>Regional PBN Plan, etc.</b>		<del>implementation Plans, using available guidance material, including the navigation specifications shown in Appendix M. In so doing, partnership with relevant Organizations should be considered as required</del>		stakeholders.		
Conclusion 10/28:  <b>Overtaken by events in view of the report of the First Joint Meeting of the PBN &amp; GNSS/I TFs.</b>	<b>Implementation of AFI Flight Procedures Office (FPO)</b>	That ICAO:  a) <del>Expedite the establishment of an AFI Flight Procedures Office; and</del>  b) <del>Expedite its work on additional guidance material on PBN in a timeframe compatible with the milestones established under Assembly Resolution A36-23, and ensure that is made available in other ICAO working languages.</del>	Ref. follow-up action on AFI SP RAN Rec.6/10.			

Conclusions/ Decisions No. Strategic Objectives*	Title of conclusion/Decision	Text of Conclusion/Decision	Follow-up Action	To be initiated by	Deliverable/ Intended Outcome	Target Dates
<b>Conclusion 10/29:</b>	<b>IATA Guidelines for Operational Approvals</b>	That IATA facilitates stakeholders' access to its Guidelines developed to assist operators in obtaining Airworthiness and Operational Approvals for PBN, for guidance and reference as required.	Implement conclusion.	IATA	Stakeholders access to PBN approved guidelines.	Dec. 09
<b>Conclusion 10/39:</b>  <b>Item (b) is not clear. The conclusion is reformulated and combined with Concl. 10/38, as below:</b>	Need for a comprehensive list of deficiencies and coordination of initiatives	That: a) <del>APIRG establish a comprehensive list of deficiencies consistent with ICAO definition; and</del> b) <del>ICAO establish mechanisms to ensure that AFI initiatives aimed at ensuring that air navigation safety and efficiency issues are</del>	Implement conclusion	APIRG	Reviewed deficiency identification and resolution follow-up system.	APIRG/17

Conclusions/ Decisions No. Strategic Objectives*	Title of conclusion/Decision	Text of Conclusion/Decision	Follow-up Action	To be initiated by	Deliverable/ Intended Outcome	Target Dates
		e) <del>properly coordinated to avoid duplication of efforts and develop effective synergy, thus enabling the timely resolution of identified deficiencies in the Region.</del>				
<b>Draft Conclusion 2/xx</b>	<b>Elimination of Air Navigation deficiencies in the ATM, AIS/MAP, and SAR fields</b>	That: a) AFI States are urged to provide ICAO Regional Offices with updated information on the implementation status of Air Navigation Plan (ANP) requirements for the updating of the AFI List of Deficiencies in the ATS, SAR and AIS/MAP fields at Appendices X1 X2 and X3				

Conclusions/ Decisions No. Strategic Objectives*	Title of conclusion/Decision	Text of Conclusion/Decision	Follow-up Action	To be initiated by	Deliverable/ Intended Outcome	Target Dates
		<p>b) APIRG Subdiary bodies and Secretariat establish a comprehensive list of air navigation deficiencies consistent with the ICAO definition of deficiency</p> <p>(This Draft Conclusion supersedes ATS/AIS/SAR SG10 Conclusions 10/38 and 10/39)</p>				

\*Note: ICAO has established the following Strategic objectives for the period 10005-10010

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*B: Security: Enhance Global civil aviation security;*

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*D: Efficiency: Enhance the efficiency of aviation operation;*

*E: Continuity: Maintain the continuity of aviation operations; and*

*F: Rule of Law: Strengthen law governing international civil aviation*

**LIST OF CONCLUSIONS/DECISIONS From GNSS Task Force/4 Meeting (8 -9 December 2008, Nairobi, Kenya)**

Conclusions/Decisions No. Strategic Objectives*	Title of conclusion/Decision	Text of Conclusion/Decision	Follow-up Action	To be initiated by	Deliverable/Intended Outcome	Target Dates
<b>Conclusion 4/2:</b>	<b>Need for ICAO assistance to States</b>	That the Regional Office carry out a survey on States' needs for assistance in implementing APIRG conclusions concerning Phase I of the AFI GNSS Strategy as defined by APIRG/15, including GNSS operational requirements (such as legislation/regulations, design and/or publication of procedures, etc.)	State Letter by January 2009	ICAO	Assistance to States.	On going
<b>Conclusion 4/3:</b>	<b>Deletion of Footnotes in ITU Radio Regulations</b>	That CAAs which have not yet done so should liaise with telecommunication regulatory authorities to delete the existing footnotes in the ITU RR.	To be addressed at Frequency meeting 1-3 Oct.  State Letter by January 2009.	ICAO States	Deletion of existing footnotes.	
<b>Conclusion 4/1:</b>	<b>Aeronautical Information on GNSS –Daily Advisory.</b>	That a) States should register at <a href="http://www.navcen.uscg.gov">:http://www.navcen.uscg.gov</a> for the daily GPS advisory. b) The need for AIS Seminar/Workshop.	GPS Advisory workshop 1-3 September 2009.  State letter by January 2009.	States ICAO	- Seminar/workshops - GPS Advisories ongoing.	Completed

Conclusions/Decisions No. Strategic Objectives*	Title of conclusion/Decision	Text of Conclusion/Decision	Follow-up Action	To be initiated by	Deliverable/Intended Outcome	Target Dates
		c) That ICAO conducts Seminar/Workshop on GPS advisory for AFI States.				
<b>Conclusion 4/4:</b>	<b>Report on AFI Test Bed</b>	That, ESA, in cooperation with ASECNA, ATNS South Africa and Kenya provide the ICAO Secretariat with a consolidated final report on AFI GNSS Test Bed, covering Zone A, Zone B and Zone C.	3 reports have been received from ESA but not technical report	ESA ASECNA ATNS Kenya ICAO		March 2009
<b>Decision 4/1:</b>	<b>ISA Cost Benefit Analysis:-</b>	That:-  a) ICAO Secretariat ensure that the input to the Cost Benefit analysis related to ISA , include Statistical data, fleet data and equipage, industry trends etc.,  b) When finalized, the ISA Cost Benefit Analysis presented to GNSS/I/ TF/4 be circulated to all AFI GNSS TASK FORCE members for comments and feed- back to the Secretariat.		To be submitted to this meeting by ESA.  ICAO	CBA Feedback.	Draft CBA reviewed by Joint meeting of PBN TF & GNSS/1 TF.

Conclusions/Decisions No. Strategic Objectives*	Title of conclusion/Decision	Text of Conclusion/Decision	Follow-up Action	To be initiated by	Deliverable/Intended Outcome	Target Dates
<b>Conclusion 4/4:</b>	<b>Navigation Specifications to be supported by AFI GNSS</b>	That the AFI GNSS operational requirements should be based on the navigation specifications provided in draft GNSS strategy, in accordance with the AFI PBN Regional Plan.	Review GNSS Strategy.	APIRG States	<ul style="list-style-type: none"> <li>- GNSS alignment with PBN Regional Plan.</li> <li>- Implementation.</li> </ul>	Oct. 2009  Ongoing
<b>Conclusion 4/5:</b>	<b>Implementation of Approach with Vertical Guidance (APV)</b>	<p>That APIRG should coordinate and specify the applicable approach with vertical guidance (APV) type (Baro-VNAV versus SBAS) in view of Assembly Resolution A36-23 to achieve implementation of approach procedures with vertical guidance (APV) (Baro-VNAV and/or augmented GNSS) 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 per cent by 2010, 70 per cent by 2014.</p> <p>Note: An APIRG decision is required no later than 2010 in order to meet the above date.</p>		APIRG	To be submitted to APIRG/17	Obsolete Ref. joint meeting of PBN & GNSS TFs Report on Agenda 8.

Conclusions/Decisions No. Strategic Objectives*	Title of conclusion/Decision	Text of Conclusion/Decision	Follow-up Action	To be initiated by	Deliverable/Intended Outcome	Target Dates
<b>Conclusion 4/6:</b>	<b>Proposed amendments to AFI GNSS Strategy</b>	That the AFI GNSS Strategy be updated as proposed in Appendix (draft AFI GNSS)to this report.	On going	APIRG	Revised GNSS Implementation strategy.	Completed in September 2009.
<b>Decision 4/2:</b>	<b>Finalization of draft amendments to AFI GNSS Strategy as part of AFI CNS/ATM Implementation Plan (Doc 003)</b>	That a joint meeting of APIRG PBN and GNSS Implementation Task Force be held in order to finalize draft amendments to AFI GNSS Strategy as part of AFI CNS/ATM Implementation Plan (Doc 003), based on the AFI Regional PBN Plan (Roadmap) and related performance objectives and action plan for en – route, terminal and approach flight phases.	On going for submission to this meeting	ICAO	Joint Meeting.	Completed.
<b>Conclusion 4/7:</b>	<b>Establishment of a combined APIRG PBN/GNSS Task Force</b>	That APIRG establish a combined PBN/GNSS Task Force to ensure consistency in the planning and implementation of AFI requirements for Performance Based Navigation concept and the Navigation element of CNS/ATM, with the Terms of reference shown in Appendix 8A to this report.	Submit proposal to APIRG/17.	Joint meeting of PBN & GNSS TFs.	PBN/GNSS/TF	APIRG/17

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\*Note: ICAO has established the following Strategic objectives for the period 10005-10010

*A: Safety: Enhance global civil aviation safety;*

*B: Security: Enhance Global civil aviation security;*

*C: Environmental Protection: Minimize the adverse effect of global civil aviation on the environment;*

*D: Efficiency: Enhance the efficiency of aviation operation;*

*E: Continuity: Maintain the continuity of aviation operations; and*

*F: Rule of Law: Strengthen law governing international civil aviation*

DRAFT FOLLOW-UP ACTION PLAN

Joint Meeting of the APIRG Performance Based Navigation and Global Navigation Satellite System Implementation Task Forces

CONCL DEC NO. --- STRATEGIC OBJECTIVE A & D	TITLE OF CONCLUSION/DECISION	TEXT OF CONCLUSION/DECISION	FOLLOW-UP ACTION	TO BE INITIATED BY	DELIVERABLE	TARGET DATE
DRAFT DECISION 1/1:  <b>Reformulated under Agenda Item 7</b>	<del>DISSOLUTION OF THE GNSS IMPLEMENTATION AND PBN TASK FORCES AND ESTABLISHMENT OF THE PBN/GNSS TASK FORCE.</del>	That the GNSS Implementation and PBN Task Forces are dissolved and the PBN/GNSS Task Force is established with the terms of reference in <b>Appendix 3A</b> to the report on agenda item 3.	Present proposal to APIRG.	ATS/AIS/SAR/SG	Establishment of PBN/GNSS TF	APIRG/17
DRAFT DECISION 1/2:  <b>Updated below in light of updates in TOR</b>	PBN ROUTE NETWORK DEVELOPMENT WORKING GROUP (PRND WG)	That, the AFI PBN Route Network Development Working Group (PRND WG) is established with the terms of reference, compositing and working arrangements as at <b>Appendix 4B</b> to the report on agenda item 4.	WG meetings.	PRND WG.	Routes development	Ongoing
DRAFT DECISION 2/X:	PBN ROUTE NETWORK DEVELOPMENT WORKING GROUP (PRND WG)	That, the AFI PBN Route Network Development Working Group (PRND WG) is established with the terms of reference, compositing and working arrangements as at <b>Appendix XX</b> to the report on agenda item 2.				

CONCL DEC No. --- STRATEGIC OBJECTIVE A & D	TITLE OF CONCLUSION/DECISION	TEXT OF CONCLUSION/DECISION	FOLLOW-UP ACTION	TO BE INITIATED BY	DELIVERABLE	TARGET DATE
		(This is Draft Decision supersedes Draft Decision 1/2 of the First Joint PBN and GNSS TFs Meeting)				
DRAFT DECISION 1/3:	REQUIREMENT FOR PBN IMPLEMENTATION SYSTEM SAFETY MONITORING AT REGIONAL LEVEL	That, APIRG assess the requirement for PBN implementation system safety monitoring at Regional level, as well as the nature of an appropriate body/entity to undertake such task, should the need be identified.  Note: The Task Force was not in a position to address the matter.	Assess monitoring need and monitoring body.	APIRG	- Identification of need for PBN implementation system monitoring. - Identification of monitoring body	APIRG/17
DRAFT CONCLUSION 1/4 :  Updated and reformulated below as Draft Concl. of Joint PBN & GNSS/I TFs/2	AIRSPACE PLANNING/EQUIPMENT SURVEY	That:  a) <del>AFI States and Air Navigation Service Providers (ANSPs) are urged to support the ICAO/IATA Global Survey on aircraft equipment aimed at developing a database with accurate information on present and future avionics capabilities of airline fleets and ensure that initiatives for air navigation system enhancements are matched with fleets capabilities and readiness.</del>	Implement Conclusion	States, ANSPs	- Surveys complete	Dec. 09

CONCL DEC NO. --- STRATEGIC OBJECTIVE A & D	TITLE OF CONCLUSION/DECISION	TEXT OF CONCLUSION/DECISION	FOLLOW-UP ACTION	TO BE INITIATED BY	DELIVERABLE	TARGET DATE
		<p>Note: To this effect, ANSPs are advised to make use of flight plan data (Field 10) on aircraft equipment</p> <p>b) <del>The survey results should be presented to the next meetings of the Task Force and APIRG.</del></p>			- Surveys updated.	Ongoing
Draft Conclusion 2/x	Aircraft PBN Equipage Surveys	<p>That, in order to support the implementation of PBN in the AFI Region:</p> <p>a) ICAO ESAF and WACAF Regional Offices in coordination with IATA and AFRAA conduct regular surveys on aircraft equipage within the AFI Region.</p> <p>b) AFI States are urged to support the global and Regional efforts aimed at developing a database with accurate information on aircraft navigation</p>				

CONCL DEC No. --- STRATEGIC OBJECTIVE A & D	TITLE OF CONCLUSION/DECISION	TEXT OF CONCLUSION/DECISION	FOLLOW-UP ACTION	TO BE INITIATED BY	DELIVERABLE	TARGET DATE
		<p>capabilities</p> <p>(This Draft Conclusion supersedes ATS/AIS/SAR SG10 Conclusion 10/16 and Joint PBN &amp; GNSS TFs Draft Concl. 1/4)</p>				
<p>DRAFT CONCLUSION 1/5 :</p> <p>Reformulated under Agenda Item 3, taking into consideration the changes in the PBN Regional Plan.</p>	<p>AFI PBN IMPLEMENTATION REGIONAL PLAN</p>	<p>That,</p> <p>a) The <del>AFI Regional PBN Implementation Plan</del> is updated as at <b>Appendix 4A</b> to the report on agenda item 4, to more accurately reflect PBN implementation goals in Assembly Resolution A36-23 and guidance in the PBN Manual (9613); and</p> <p>b) <del>the Regional PBN Implementation plan</del> be included in the AFI Doc 003.</p>	<p>Update PBN Regional Plan</p> <p>Implement conclusion.</p>	<p>ROs</p> <p>ROs</p>	<p>Updated plan.</p> <p>Updated Doc.003</p>	<p>Nov. 09</p> <p>Dec. 09</p>
<p>DRAFT CONCLUSION 1/6 :</p>	<p>PBN IMPLEMENTATION NATIONAL PLAN</p>	<p>That States:</p> <p>a) use the national PBN implementation plan template at <b>Appendix 4A</b> to the report on agenda item 5, and consider the action planning provided by the</p>	<p>Implement Conclusion.</p>	<p>States</p>	<p>National PBN Implementation plans.</p>	<p>Dec. 09</p>

CONCL DEC No. --- STRATEGIC OBJECTIVE A & D	TITLE OF CONCLUSION/DECISION	TEXT OF CONCLUSION/DECISION	FOLLOW-UP ACTION	TO BE INITIATED BY	DELIVERABLE	TARGET DATE
		<p>Joint PBN/GNSS/I Task Forces meeting to support planning;</p> <p>b) provide feedback to the ESAF and WACAF Regional Offices by 30 October regarding progress in the development of their national plans, indicating any challenges, if any, that are delaying the development of the plan, as well as measures taken or to be taken to overcome such challenges; and</p> <p>c) complete their National PBN Plans as soon as possible, but not later than 31 December 2009,</p>	State letter.	ROs		
<b>CONCLUSION 1/7:</b>	<b>PBN IMPLEMENTATION TOOLS</b>	<p>That States,</p> <p>a) are encouraged to use project management plans and implementation action plans such as provided in <b>Appendices 5</b> to the report on agenda item 5, to support PBN implementation</p>	<p>State letters/ Report.</p> <p>Implement</p>	<p>ROs</p> <p>States.</p>	<p>Awareness on planning tools.</p> <p>National plans</p>	<p>Nov. 09</p> <p>On-going.</p>

CONCL DEC No. --- STRATEGIC OBJECTIVE A & D	TITLE OF CONCLUSION/DECISION	TEXT OF CONCLUSION/DECISION	FOLLOW-UP ACTION	TO BE INITIATED BY	DELIVERABLE	TARGET DATE
		activities; and  b) carry out a gap analysis using the project plan template attached to the report, or similar approach, in order to more accurately develop their PBN implementation plans.	Conclusion.		accuracy & effectiveness.	
<b>DRAFT DECISION 1/8:</b>	<b>ESTABLISHMENT OF THE PBN IMPLEMENTATION PLANNING ADVISORY GROUP (PAG)</b>	That, the PBN implementation Planning Advisory Group (PAG) is established with the terms of reference as at <b>Appendix 5C</b> to the report on Agenda Item 5.	Judication of need for assistance.	PAG, States	Assistance to States on PBN plans.	In accordance with TOR.
<b>CONCLUSION 1/9:</b>	<b>IMPLEMENTATION OF REDUCED LATERAL EN-ROUTE SEPARATION</b>	That, recognizing that States should adequately comply with safety management provisions, the Regional Offices advise AFI States that further Regional implementation of reduced separation minima should only proceed in circumstances where implementing States can demonstrate an ability to comply with Annex 11, Chapter 2, safety management provisions for the continuous monitoring and regular assessment of the safety level achieved.	State letter  Implement Conclusion.	ROs  States	Awareness  Compliance with Annex 11.	Dec. 09  Ongoing

CONCL DEC No. --- STRATEGIC OBJECTIVE A & D	TITLE OF CONCLUSION/DECISION	TEXT OF CONCLUSION/DECISION	FOLLOW-UP ACTION	TO BE INITIATED BY	DELIVERABLE	TARGET DATE
<b>DECISION 1/10:</b>	<b>ASSIGNMENT OF TASKS</b>	<p>That, in order to facilitate PBN implementation in the AFI Region:</p> <p>a) the Joint PBN and GNSS Implementation Task Forces (proposed PBN/GNSS/I/TF) are to deliver on the tasks in <b>Appendix 6B</b> to the Report of Agenda Item 6; and</p> <p>b) the Working Groups of the Task Force are to utilize, to the extend practical, electronic means of communication and exchange of working material (documents), and use available ICAO website as necessary.</p> <p>(This Draft Decision supersedes the PBN TF/2 Decisions 2/2, 2/3, 2/4; ATS/AIS/SAR/SG/10 Decision 10/07)</p>	State letter.	ROs	In accordance with the task list.	Ongoing
<b>DRAFT CONCLUSION 1/11:</b> <b>This is redundant &amp; has the effect of watering down the RAN Rec. it seeks to implement.</b>	<b>PERFORMANCE BASED APPROACH AND MEASUREMENT</b>	<p><del>That, in accordance with Special AFI RAN (2008) Recommendation 3/3, the following PBN performance indicators are to form part of the regional performance framework forms (PFFs):</del></p> <p><del>i) Efficiency: Number of PBN</del></p>	State letter  Implement	ROs  PBN TF, States	Implementation of metrics in PFFs.	Dec. 09

CONCL DEC No. --- STRATEGIC OBJECTIVE A & D	TITLE OF CONCLUSION/DECISION	TEXT OF CONCLUSION/DECISION	FOLLOW-UP ACTION	TO BE INITIATED BY	DELIVERABLE	TARGET DATE
		<p><del>routes/Number of APV approaches to runway ends, reduction in track miles.</del></p> <p><del>ii) Environment: CO2 burn, Noise reduction.</del></p> <p><del>ii) Safety: reduction of CFIT (Ref. SP AFI RAN).</del></p>	Conclusion.			
<p>DRAFT ONCLUSION 1/12 :</p> <p><b>To be Reformulated under Agenda Item 6, taking into consideration outcome of the meeting's discussions.</b></p>	GNSS STRATEGY	<p>That,</p> <p>a) <del>the GNSS implementation strategy is aligned with the Regional PBN implementation plan to provide supplementary PBN implementation support, as at Appendix 8A to the report on agenda item 8, except for precision approach operations, which are currently not part of PBN; and</del></p> <p>b) <del>the GNSS implementation strategy be integrated into the AFI Doc 003.</del></p>	<p>Implement Conclusion.</p> <p>Updated Doc.003</p>	<p>PBN &amp; GNSS Task Forces.</p> <p>ROs.</p>	<p>Co-ordinated Implementation in accordance with ICAO provisions.</p> <p>Updated Doc.003</p>	<p>Ongoing</p> <p>APIRG/17</p>

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