International Civil Aviation Organization
Eastern and Southern African Office

Joint Meeting of the APIRG Performance Based Navigation and Global Navigation Satellite System Implementation Task Forces (Joint PBN & GNSS/I TFs)

First Meeting
(Nairobi, 8 - 10 September 2009)

Agenda Item 2: **Terms of Reference of the proposed PBN/GNSS Task Force**

TERMS OF REFERENCE OF THE PROPOSED PBN/GNSS TASK FORCE

(Presented by the Secretariat)

SUMMARY
This paper proposes modified Terms of Reference of the PBN/GNSS/I/TF, which take into consideration latest PBN implementation developments.
Action by the meeting is at paragraph 3.
REFERENCES
This Working Paper is related to Strategic Objectives: **D**

1.   **INTRODUCTION**

1.1   At its tenth meeting in Dakar 12-15 May 2009 The ATS/AIS/SAR Sub-Group formulated Conclusion 10/26: *Renaming of the APIRG PBN Task Force*, proposing the merger of the PBN Task Force and the GNSS Implementation Task Force to establish the PBN/GNSS/I/TF with TOR as reflected in **Appendix A** to this working paper.

2.   **DISCUSSION**

2.1   This meeting provides the first opportunity for the experts concerned with the PBN and GNSS implementation to discuss and the terms of reference of the proposed PBN/GNSS/I/TF.

2.2   **Appendix B** to this working paper provides the modified draft TOR for the proposed PBN/GNSS/I/TF, which have been developed as improvement to TOR proposed by the ATS/AIS/SAR/SG/10 and enhance to better reflect expected output of the Task Force, based on the status of implementation of PBN in the AFI Region, as well as latest global developments in PBN implementation.

2.3   In view of the above, the meeting may wish to formulate the following Draft Decision:

Draft Decision 1/XX: Dissolution of the GNSS Implementation and PBN Task Forces and establishment of the PBN/GNSS Task Force.

That the GNSS Implementation and PBN Task Forces are dissolved and the PBN/GNSS Task Force is established with the terms of reference in Appendix X to this to the report on agenda item 3 (Appendix A to this working paper)

(This Draft Decision is to supersede ATS/AIS/SAR/SG/10 Conclusions 10/15 and 10/26)

3.   ACTION BY THE MEETING

3.1   The meeting is invited to:

   a)   note the information in this working paper;

   b)   review, adapt as necessary and approve the proposed terms if reference in Appendix B to this working paper, for presentation to APIRG/17; and

   c)   agree on Draft Decision under paragraph 2.3 of this working paper.

Appendix L (ATS/AIS/SAR/SG/10 Report)

**PROPOSED TERMS OF REFERENCE FOR COMBINED APIRG
PBN/GNSS TASK FORCE**

1. Terms of Reference

a)   Carry out specific studies in support of the implementation of
Performance Based Navigation (PBN) in the AFI Region,
according to the ICAO Strategic Objectives and Global Plan Initiative
(GPI) 5 and related GPIs (GPIs 7, 10, 11, 12, 20, 21).

b)   Identify other issues/action items arising from the work of
ICAO or for consideration by ICAO in order to facilitate regional and
global harmonization of existing applications as well as future
implementation of Performance Based Navigation operations.

c)   Determine and recommend, on the basis of the study, the PBN
strategy and Implementation Plan for the AFI Region, based
on the ICAO PBN Implementation goals as reflected in assembly
resolution 36-23.

d)   Assist States that may require support in the implementation of PBN.

2. Work Programme

a)   Study and assess the Regional RNAV and RNP requirements.

b)   Initially focus assistance to States that may require support on development of
the State PBN implementation plans.

c)   Identify priority routes and terminal areas where RNAV and RNP should be
implemented.

d)   Identify priority runways for Approach Procedures with Vertical Guidance
(APV) to be implemented based on the ICAO RNP APCH navigation
specification (APV/Baro-VNAV).

e)   Develop an amendment proposal to the AFI Regional Supplementary
Procedures concerning the implementation of PBN in the Region.

f)   Identify guidance material and training needs.

g)   Follow up on the developments in ICAO affecting the Global Plan and PBN in
particular, in order to update the Regional plans accordingly.

h)   Coordinate with other ICAO Regions as necessary to address implementation
interface issues.

i)   Undertake other functions relevant to implementation of PBN as assigned by APIRG.

j)   Develop and update (as necessary) the Regional PBN Implementation Strategy and Plan.

k)   Develop the PBN performance objectives and related action plans for en-route, terminal and approach phases of flight; and;

l)   Report to APIRG through its ATM and CNS Sub-groups.

3. The Task Force shall in its work be guided by the following principles:

a)   Implementation of PBN shall follow the ICAO PBN goals and milestones.

b)   Avoid undue equipage of multiple on board equipment and/or ground-based systems.

c)   Avoid the need for multiple airworthiness and operational approvals for intra- and interregional operations.

d)   Continue application of conventional air navigation procedures during the transition period, to guarantee the operations by users that are not RNAV- and/or RNP-equipped

e)   The first regional PBN Implementation Strategy and Plan should address the short term (2008-2012), medium term (2013-2016) and take into account long term global planning issues.

f)   Cognizance that the primary objective of ICAO is that of ensuring the safe and efficient performance of the global Air Navigation System, ensure that pre- and post-implementation safety assessments will be conducted to ensure the application and maintenance of the established target levels of safety g) Take into account the introduction of new technologies, encourage implementation and development in GNSS.

h)   Coordinated implementation with other relevant Regional Plans.

i)   Apply ICAO guidance material and information as may be applicable to the Region to facilitate the implementation of PBN.

PROPOSED **TERMS OF REFERENCE FOR**
APIRG PBN/GNSS IMPLEMENTATION TASK FORCE
(PBN/GNSS TF)

1. **TERMS OF REFERENCE**

   a) Carry out specific studies in support of the implementation of Performance Based Navigation (PBN) in the AFI Region, according to the ICAO Strategic Objectives, and pertinent Global Plan Initiatives (GPIs 5, 7, 10, 11, 12, 20, 21).

   b) Identify other issues/action items arising from the work of ICAO, or for consideration by relevant ICAO bodies, in order to facilitate regional and global harmonization of existing applications as well as future implementation of Performance Based Navigation operations.

   c) Determine and recommend, on the basis of studies, surveys or analysis, or outcome of ICAO bodies such as the RNPSORSG, necessary adjustments to the AFI PBN Implementation Plan.

   d) Identify deficiencies and constraints that would impede implementation of PBN and propose solutions that would facilitate the rectification of such problems.

   e) Support States that may require support in the implementation of PBN.

   f) Provide a forum for active exchange of information between States related to the implementation of GNSS.

   g) Develop a system of post-implementation reviews to ensure the effective and safe introduction of PBN and non-PBN GNSS operation.

2. **WORK PROGRAMME**

   a) Study and assess the Regional RNAV and RNP requirements.

   b) Initially focus assistance to States that may require support on development of the State PBN implementation plans.

   c) Identify priority routes and terminal areas where RNAV and RNP should be implemented.

   d) Identify priority runways for Approach Procedures with Vertical Guidance (APV) to be implemented based on the ICAO RNP APCH navigation specification (APV/Baro-VNAV).

   e) Develop an amendment proposal to the AFI Regional Supplementary Procedures concerning the implementation of PBN in the Region.

   f) Identify guidance material and training requirements to support implementation.

   g) Within the competence of the Task Force, develop Regional guidance material for States

   h) Follow up on the developments in ICAO affecting the Global Plan and PBN in particular, in order to update the Regional plans accordingly.

i)   Coordinate with other ICAO Regions as necessary to address implementation harmonization and interface issues.

j)   Undertake other functions relevant to implementation of PBN as assigned within the framework of APIRG.

k)   Review and identify intra and inter regional co-ordination issues related to the implementation of GNSS and where appropriate recommend actions to address those issues.

l)   Examine to what extent the GNSS system accessible in the Region can meet the navigational requirements of ATM service providers and aircraft operators in the Region.

m) Identify and co-ordinate GNSS implementation priorities in the AFI Region.

n)   Provide guidance to States in planning and implementation of GNSS including the development of GNSS procedures.

o)   Suggest ways and means for rectifying the problems as they arise related to the implementation of GNSS.

3.   REPORTING

The Task Force shall report to the ATS/AIS/SAR/SG and keep the CNS/SG closely briefed.

4.   THE TASK FORCE SHALL IN ITS WORK BE GUIDED BY THE FOLLOWING PRINCIPLES:

a)   Implementation of PBN shall follow the ICAO PBN goals and milestones.

b)   Avoid undue equipage of multiple on board equipment and/or ground-based systems.

c)   Avoid the need for multiple airworthiness and operational approvals for intra- and inter-regional operations.

d)   Continue application of conventional air navigation procedures during the transition period, to guarantee the operations by users that are not RNAV- and/or RNP-equipped.

e)   Cognizance that the primary objective of ICAO is that of ensuring the safe and efficient performance of the global Air Navigation System, ensure that pre- and post-implementation safety assessments will be conducted to ensure the application and maintenance of the established target levels of safety.

f)   Take into account the introduction of new technologies, encourage implementation and development in GNSS.

g)   Coordinated implementation with other Regional Plans.

h)   Apply ICAO guidance material and information as may be applicable to the Region to facilitate the implementation of PBN.

5. COMPOSITION OF THE TASK FORCE

STATES

ATM/PBN and GNSS Implementation experts from the following States:

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,

ORGANIZATIONS *(AS OBSERVERS)*

ASECNA, IATA, IFALPA, IFATCA, and Roberts FIR

Representatives from other International/Regional Organizations may be invited as necessary.