



International Civil Aviation Organization

**Performance Based Navigation/Global Navigation Satellite System
Task Force (PBN/GNSS TF)**

Fourth Meeting
(Cairo, Egypt, 02 - 04 October 2011)

Agenda Item 7: Future Work Programme

FUTURE WORK PROGRAMME

(Presented by the Secretariat)

SUMMARY

The aim of this paper is to review and update the task list, Terms of Reference. The paper also proposes the tentative dates, venue and Agenda for PBN/GNSS TF/5 meeting.

Action by the meeting is at paragraph 3.

REFERENCES

- MIDANPIRG/12 Meeting Report
- MIDANPIRG Procedural Handbook
- PBN GNSS TF/3 Report

1. INTRODUCTION

1.1 MIDANPIRG/12 held in Amman, Jordan 17-21 October 2010 adopted decision 12/60 listing that needs to be undertaken by the task force.

1.2 In accordance with the MIDANPIRG Procedural Handbook, the Task Force meeting is expected to decide on the dates, venue and agenda of its next meeting.

1.3 The PBN GNSS TF/3 meeting held in Cairo, Egypt, 30 November - 02 December 2010, was attended by 35 participants, which included experts from eight (8) States (Bahrain, Egypt, Iraq, Jordan, Kuwait, Qatar, Saudi Arabia and U.A.E.) and two (4) International Organizations (IATA, and IFALPA). The meeting developed 5 Conclusions and decisions.

2. DISCUSSION

2.1 The meeting may wish to recall that MIDANPIRG/12 held in Amman, Jordan 17-21 October 2010 adopted decision 12/60 *LIST OF TASKS FOR PBN/GNSS TASK FORCE* which is listing the tasks that needs to be undertaken by the Task Force. Accordingly, the PBN GNSS TF/3 meeting reviewed and updated the list of tasks as **Appendix A** to this working paper.

2.2 The PBN GNSS TF/3 meeting reviewed and updated the Terms of Reference (TOR) and Work Programme of PBN/GNSS Task Force, taking into consideration the work accomplished during this task force meeting and developments in PBN/GNSS. Accordingly, the meeting agreed the following Draft Decision:

DRAFT DECISION 3/5: TERMS OF REFERENCE OF THE PBN/GNSS TASK FORCE

*That, the Terms of Reference and Work Programme of the PBN/GNSS Task Force be updated as at **Appendix B** (to this working paper).*

2.3 The meeting may note that CNS/ATM/IC SG/6 will be held in January 2012 and MIDANPIRG/13 will be held in April 2012 consequently the meeting may wish to recognize that the dates of the next meeting could be in the first quarter of 2013. Accordingly, may wish to agree that the secretariat to coordinate with other activities of the ICAO MID Regional Office, and accordingly agree that the ICAO MID Office will do the necessary arrangements in this regard. The venue will be Cairo, unless a State is willing to host the meeting

3. ACTION BY THE MEETING

3.1 The meeting is invited to:

- a) note the information presented in this paper;
- b) update the list of task in **Appendix A**; and the TOR in **Appendix B**
- c) develop agenda for PBN/GNSS TF/5 meeting; and
- d) agree on action in para. 2.3 concerning dates and venue for PBN/GNSS TF/5 meeting.

APPENDIX A

No.	Associated GPI	Tasks PBN/GNSS/2	Objective	Deliverables	Target Date	To be delivered by	Supporting Parties	Status
1	GPI-5, GPI- 7, GPI-10, GPI-11, GPI-12, GPI-20, GPI-21	Draft Current Status & Forecast: Aircraft fleet readiness status Section of PBN Regional Plan	To facilitate update of the of the Regional Plan	Draft document	PBN/GNSS/4	IATA	States, States	Ongoing
2	GPI-5, GPI- 7, GPI-10, GPI-11, GPI-12, GPI-20, GPI-21	Draft Appendix A – Practical Example of tangible benefits Section of PBN Regional Plan	To facilitate the update of the Regional Plan	Draft document	PBN/GNSS/4	MID Office	–	Ongoing
3	GPI-5, GPI- 7, GPI-10, GPI-11, GPI-12, GPI-20, GPI-21	Study and assess the Region RNAV and RNP requirements using PBN methodology	To facilitate the update of the Regional Plan	Draft document	PBN/GNSS/4	ARN TF	–	Reassigned
4	GPI-5, GPI- 7, GPI-10, GPI-11, GPI-12, GPI-20, GPI-21	Initially focus assistance on States that may require support on development of State PBN implementation plans	To facilitate timely harmonized implementation	Draft provided	PBN/GNSS/4	PBN/GNSS Task Force GO team	States	Done during TF/2 Ongoing
5	GPI-5, GPI- 7, GPI-10, GPI-11, GPI-12, GPI-20, GPI-21	Identify priority runways for Approach Procedures with Vertical Guidance (APV) to be implemented based on the ICAO RNP APCH navigation specification (APV/Baro-VNAV)	To facilitate implementation efficiency and early operational benefits	Draft document	PBN/GNSS/4	States	IATA	Ongoing
6	GPI-5, GPI- 7, GPI-10, GPI-11, GPI-12, GPI-20, GPI-21	Develop an amendment proposal to the MID Regional Supplementary Procedures concerning the implementation of PBN in the Region	To facilitate harmonized implementation	Doc 7030 amendment proposal	Dec 2010	ARN TF and MID Regional Office	–	Ongoing
7	GPI-5, GPI- 7, GPI-10, GPI-11, GPI-12, GPI-20, GPI-21	Follow up on the developments in ICAO affecting the Global Plan and PBN in particular, in order to update the Regional plans accordingly	To facilitate planning updates and global harmonization	Information and action items for PBN/GNSS Task Force	Ongoing	MID Regional Office PBN/GNSS TF	-	Ongoing

No.	Associated GPI	Tasks PBN/GNSS/2	Objective	Deliverables	Target Date	To be delivered by	Supporting Parties	Status
8	GPI-5, GPI- 7, GPI-10, GPI-11, GPI-12, GPI-20, GPI-21	Coordinate with other ICAO Regions as necessary to address implementation interface issues	To facilitate harmonized implementation	Information and action items for PBN/ GNSS Task Force	Ongoing	MID Regional Office PBN/GNSS TF	States	Ongoing
9	GPI-5, GPI- 7, GPI-10, GPI-11, GPI-12, GPI-20, GPI-21	Undertake other functions relevant to implementation of PBN as assigned by the ATM/SAR/AIS SG , CNS/ATM/IC SG or MIDANPIRG	To facilitate implementation of PBN	As per assignments	Ongoing	PBN/ GNSS TF	-	Ongoing
10	GPI-5, GPI- 7, GPI-10, GPI-11, GPI-12, GPI-20, GPI-21	Report to the CNS/ATM/IC SG and keep ATM/SAR/AIS SG and CNS SG closely briefed	To facilitate efficiency and effectiveness	Task Force reports	Ongoing	PBN/ GNSS TF	–	Ongoing
11	GPI-5, GPI- 7, GPI-10, GPI-11, GPI-12, GPI-20, GPI-21	Identify guidance material and training needs/gap	To determine required complementary guidance material	Draft document	PBN/GNSS/4	PBN/ GNSS TF	–	Ongoing
12	GPI-5, GPI- 7, GPI-10, GPI-11, GPI-12, GPI-20, GPI-21	Review of Operational Approval Guidance from other Regions for use in the MID Region	To support States' development of harmonized approvals	Draft document	PBN/GNSS/4	IATA		ongoing
13	GPI-5, GPI- 7, GPI-10, GPI-11, GPI-12, GPI-20, GPI-21	Assess possibilities of future PBN Seminar	To assist States in their planning and implementation	Working Papers, Information Papers	On-going	PBN/GNSS TF	States IATA	On going
14	GPI-5	Keep track on the States PBN implementation status	Updated Status of implementation	Status of implementation report	On-going	CNS/ATM/IC SG	States/ IATA	On going

No.	Associated GPI	Tasks PBN/GNSS/2	Objective	Deliverables	Target Date	To be delivered by	Supporting Parties	Status
15	GPI-5	Prepare progress report on the PBN implementation plan	Updated Status of implementation	Status of implementation report	On going	PBN/GNSS TF	States /IATA	On going

APPENDIX B

PROPOSED TERMS OF REFERENCE FOR PBN/GNSS TASK FORCE

1. TERMS OF REFERENCE

- a) Carry out specific studies to support the implementation of Performance Based Navigation (PBN) in the MID, in accordance with the ICAO Strategic Objectives and Global Plan;
- b) Identify issues/actions 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 MID Region, based on the ICAO PBN Implementation goals as reflected in assembly resolution 37-11.
- d) Assist States that may require support in the implementation of PBN.
- e) Monitor the progress of studies, projects, trials and demonstrations by the MID Region States, and other ICAO Regions.
- f) Provide a forum for active exchange of information between States related to the implementation of GNSS.
- g) Identify deficiencies and constraints that would impede implementation of GNSS, and propose solutions that would facilitate the rectification of such problems.
- h) Identify and address, to the extent possible, institutional, financial and legal matters related to the GNSS implementation in the MID Region.
- i) 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 (PBN) 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 amendment proposal to the Regional Supplementary Procedures concerning the implementation of PBN in the MID Region.
- f) Identify guidance material and training needs.

- g) Follow up on the global developments in ICAO in order to update the Regional PBN plans and prepare the necessary proposal for amendment
- 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 the ATM/SAR/AIS SG or MIDANPIRG.
- j) Report to CNS/ATM/IC SG and keep ATM/SAR/AIS SG and CNS SG closely briefed.
- k) Monitor and follow-up the studies pertaining to the possible use of GNSS, and different augmentation systems in the MID Region.
- l) Monitor the progress of the NAVISAT study.
- m) 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.
- n) 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.
- o) Identify and co-ordinate GNSS implementation priorities in the MID Region.
- p) Provide assistance to MID States in planning and implementation of GNSS, including the development of GNSS procedures.
- q) Suggest ways and means for rectifying the problems as they arise related to the implementation of GNSS.
- r) Provide necessary knowledge in GNSS operational application.

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

4. COMPOSITION OF THE TASK FORCE

STATES

MID Region States

ORGANIZATIONS (AS OBSERVERS)

IATA, IFALPA, IFATCA, EUROCONTROL, ACAC and additional representative from Industry, International/Regional Organizations may be invited when required.

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