International Civil Aviation Organization

THE THIRD MEETING OF PERFORMANCE BASED NAVIGATION

IMPLEMENTATION COORDINATION GROUP (PBNICG/3)

Bangkok, Thailand, 08 – 10 March 2016

Agenda Item 4:   Reports on relevant meetings outcomes

**REVIEW OF THE TERMS OF REFERENCE OF
PBNICG AS A CONTRIBUTION TO APANPIRG REORGANIZATION**

(Presented by the Secretariat)

SUMMARY

This paper introduces the proposed updated PBNICG terms of reference as a follow-up to **Decision APANPIRG/26/66**, and considerations about PBN-related Seamless ATM items and project management principles.

1.   INTRODUCTION

1.1   Initial Terms of Reference for PBNICG were adopted through the Decision APANPIRG 25/44 – APANPIRG Performance-based Navigation Implementation Coordination Group (PBNICG) in September 2014.

APANPIRG Contributory Bodies Review Task Force

1.2   In September 2015, APANPIRG/26 reviewed the Report of the Second Meeting of the APANPIRG Contributory Bodies Structure Review Task Force (ABSRTF/2) convened from 24 to 25 June 2015 in Bangkok and recalled that APANPIRG/25 considering the need to review the APANPIRG Structure and Terms of Reference of its Sub Groups, in light of the performance based approach to air navigation planning and implementation, established the APANPIRG Contributory Bodies Structure Review Task Force under Decision 25/50. The ABSRTF/2 meeting was attended by 14 participants from 5 Member States and two Special Administrative Regions of China.

2.   DISCUSSION

2.1   APANPIRG/26 noted the following recommendations proposed by ABSRTF, of relevance to PBNICG:

- APANPIRG Sub Groups should have the ability to adopt, without further APANPIRG endorsement, any technical Conclusion or Decision (especially those concerning guidance to States in the implementation of ICAO SARPs, GANP, RANP, Seamless ATM Plan) that does not have additional economic, environmental or political effects; It is recommended that Sub Groups should be

empowered to adopt draft Conclusions/Decisions on behalf of APANPIRG, which are developed by their respective Working Groups and Task Forces;

- The respective APANPIRG Sub Group should examine and review the usefulness and continuity of the Working Groups & Task Force reporting to it and propose their new structure to APANPIRG/27 (2016) for approval;

- ABSRTF also agreed to the concept of the project management principles to promote a more project-management-driven approach to regional air navigation planning and implementation, which is guided by and aligned with regional priorities and the Global Air Navigation Plan/ASBU strategy;

- One-day informal meeting immediately after the APANPIRG meeting among the Chairs/Vice Chairs of the Sub Groups was needed to discuss their work programmes, projects and deliverables and to address inter coordination issues and sharing information in their respective areas to avoid duplication of efforts; and

- APANPIRG is invited to review the proposed new structure and consider for adoption. It is recommended that the approved new structure would become effective from 2017 meeting year (APANPIRG/28) with 2016 (APANPIRG/27) being used for transitional arrangements.

2.2 Based on past trends and the maturity level of the Sub Groups, it was decided to empower the Sub Groups, noting that the decision could be reversed in 2018 if the arrangement was found to be not functioning satisfactorily.

2.3 It was agreed to strengthen the APANPIRG Handbook with clear definitions and procedures to ensure conformity with the expectations of APANPIRG (in particular, regarding which Draft Conclusions would need to be reviewed by APANPIRG). Moreover, empowerment to Sub Groups would become effective from 2017 (2016 would be used for transitional arrangements). APANPIRG adopted the following Decision.

Decision APANPIRG/26/65 — Revised APANPIRG Structure, Terms of Reference and APANPIRG Sub Group Empowerment

That, in accordance with APANPIRG Decision 25/50, and to promote a more project-management-driven approach to regional air navigation planning and implementation which is guided by and aligned with regional priorities and the Global Air Navigation Plan/ASBU Strategy:

a) the new structure of the APANPIRG and its Sub Groups [placed at **Appendix A**] is adopted as presented in Appendix B to the Report on Agenda Item 5;

b) the revised Terms of Reference of APANPIRG Sub Groups [placed at **Appendix B**] is adopted;

c) to enhance the efficiency of APANPIRG approval process, the Sub Groups are empowered to adopt Conclusions and Decisions on technical matters (especially those concerning guidance to States in the implementation of ICAO SARPs, GANP, RANP, Seamless ATM Plan) that do not have additional

economic, environmental or political effects, which should be considered at a higher level at APANPIRG; and

d) the APANPIRG Procedural Handbook be amended in accordance with the new APANPIRG Structure, Terms of Reference, project management principles [**Appendix D**] and procedures to be followed for the processing of Sub Group - endorsed Conclusions and Decisions.

Note: (1) the new structure of APANPIRG Sub Groups, revised Terms of Reference and empowerment shall become effective from 2017 meeting year with 2016 being used for transitional arrangement; the empowerment would be subject to further review in 2018 based on the experience gained in 2017; and (2) the amendment to the APANPIRG Procedural Handbook shall be submitted to APANPIRG/27 for endorsement.

2.4 APANPIRG/26 noted that following the reorganization of APANPIRG structure and the revised Terms of Terms of the Sub Groups, it was necessary for the Sub group to review the structure of its Working Groups and Task Forces and their Terms of Reference. APANPIRG adopted the following Decision:

> **Decision APANPIRG/26/66 — Review Terms of Reference of Contributory Bodies under the APANPIRG Sub Groups**
> That, the Secretariat, in consultation with Chairs of the existing Task Forces and Working Groups under the APANPIRG Sub Groups, reviews the TOR as necessary, and submits to the respective Sub Groups and APANPIRG/27 for further review and adoption.

2.5 Consequently the draft TOR is proposed at **Attachment C**.

2.6 Regarding the project management principles, in the types of project presented at chapter 5 of Appendix D, the PBNICG works as a platform which federates a collection of national implementations, being defined by the PBN implementation plans. The focus is on an action plan and the solving of mutual issues. However the scope of work relating to the development of a consistent and aligned network or routes is already managed as a task by PBNICG.

2.7 The seamless ATM items to be monitored by PBNICG are proposed as follows:

Name	Performance-based Navigation (PBN) Approach	Performance-based Navigation (PBN) Routes	Performance-based Navigation (PBN) Airspace	Continuous Descent Operations (CDO)	Continuous Climb Operations (CCO)	Standard Instrument Departures (SID)	Standard Terminal Arrivals (STAR)	PBN Visual Departure and Arrival Procedures	ATM systems enabling optimal PBN/ATC operations
Reference	110	140	150	90	100	120		130	250
ASBU/Regional	B0-APTA	B0-FRTO	Regional	B0-CDO	B0-CCO	B0-CCO/B0-CDO		Regional	B0-APTA

2.8 They are grouped in a portfolio called "Optimal trajectories", to which the proposed updated TOR refer (see bullet 1a). As the portfolio will evolve with the future versions of the Seamless ATM plan, it is however proposed to not record explicitly the different items in the TOR.

2.9   Among those items the item 110 PBN Approach is assigned currently a priority 1 by APANPIRG. PBN Approach implementation is tracked through the regional performance dashboard and the regional picture item 110.

2.10   The status of all other items is tracked in page 7 of the regional picture (Seamless ATM items relating to Optimal trajectories). It is envisaged to make the regional picture more visual at a later stage.

2.11   An action list is already managed by PBNICG. The PBNICG may discuss if it is necessary to adopt:

- Basic Risk table for the identification and mitigation of risks inside a project (**Appendix E**)
- Project report to report to the SG(s) (**Appendix F**)

3.   ACTION REQUIRED BY THE MEETING
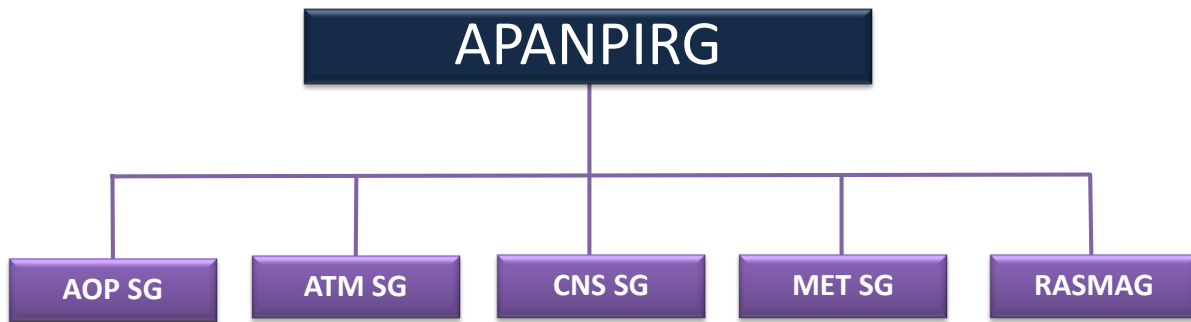
3.1   The meeting is invited to:

a) note the information contained in this paper;

b) review the draft TOR are proposed at Attachment A and adopt the following Draft Decision:

Draft Decision 3/1 - Updated Terms of Reference for PBNICG

That, as a follow-up to Decision APANPIRG/26/66 regarding the Review of Terms of Reference of Contributory Bodies under the APANPIRG Sub Groups, the updated PBNICG TOR as per Attachment A be adopted.

c) consider the cost benefit to manage a risk table; and

d) discuss any relevant matters as appropriate.

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NEW STRUCTURE OF APANPIRG

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                        │      APANPIRG        │
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   ┌──────┐   ┌────────┐     ┌────────┐     ┌────────┐    ┌──────────┐
   │AOP SG│   │ ATM SG │     │ CNS SG │     │ MET SG │    │  RASMAG  │
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- AOP SG: Aerodrome Operations and Planning Sub Group

- ATM SG: Air Traffic Management Sub Group

- CNS SG: Communications, Navigation and Surveillance Sub Group

- MET SG: Meteorology Sub Group

- RASMAG: Regional Airspace Safety Monitoring Advisory Group

APPENDIX B

**Terms of Reference for APANPIRG Communications, Navigation and Surveillance/Sub Group
(CNS/SG)**

The Objectives of the CNS/SG are to:

1) *ensure continuous and coherent development of the CNS parts of the Asia/Pacific Regional Air Navigation Plan (APAC ANP) in a manner that is harmonized with adjacent regions, consistent with ICAO SARPs, the Global Air Navigation Plan and the Global Aviation Safety Plan;*

2) *facilitate the implementation of CNS systems and services identified in the APAC ANP, Aviation System Block Upgrade (ASBU) priority modules and Asia/Pacific Seamless ATM Plan elements using the project management principles where appropriate;*

3) *review, identify and address deficiencies that impede the implementation or provision of efficient CNS services in the Asia & Pacific Regions.*

Deliverables to meet the Objectives:

1) *Progress report to be **submitted** to APANPIRG addressing the CNS SG deliverables (listed in 2 to 9 below);*

2) *CNS parts of the APAC ANP to be **reviewed** and, as necessary, amendment proposals **prepared** to update the APAC ANP to reflect changes in the operational and global requirements;*

3) *Level of implementation of CNS systems and services to be **monitored** and, as necessary, **facilitated** to support the effective implementation of ASBU priority modules and the Asia/Pacific Seamless ATM Plan elements;*

4) *Air navigation deficiencies in the field of CNS to be `**identified** (which may require any necessary systems performance monitoring to be **facilitated**) and, where necessary, appropriate corrective action **proposed** and the development and implementation of action plans by States to resolve identified deficiencies **facilitated**;*

5) *Air navigation deficiencies in the field of CNS (as listed in the APANPIRG database) to be **reviewed** and, as necessary, **updated** to reflect the current situation;*

6) *Research and development, trials and demonstrations in the field of CNS and other relevant areas to be **monitored** and, as necessary, the transfer of this information and expertise between States **facilitated**;*

7) *Specific recommendations to be **made,** and guidance materials **developed,** aimed at improving CNS services by the use of existing and/or new procedures, facilities and technologies;*

8) *Inter-regional and intra-regional co-ordination issues in the field of CNS to be **reviewed** and **identified** and, as necessary, actions **recommended** addressing those issues;*

9) *CNS environmental initiatives are consistently identified and progressed; and report outcomes from CNS environmental initiatives;*

10) *Draft Conclusions and Decisions to be **formulated** relating to matters in the field of CNS that come within the scope of the APANPIRG work plan.*

Terms of Reference (TOR)
APAC PBN Implementation Coordination Group (PBNICG)

1) Serve as the primary APAC Regional Body to support PBN implementation, harmonization and prioritization with a goal to enhance safety and efficiency of aircraft trajectories and operations. The forum also takes into account activities related to the implementation of relevant ASBU elements, with initial focus on B0-CDO, B0-FRTO, B0-CCO, and B0-APTA. The following are the main activities envisaged:

    a. Monitor PBN implementation by ~~of~~ APAC States/Administrations of PBN related Assembly Resolution and of the Seamless ATM items relating to Optimal trajectories, associated regional priorities and targets, and make recommendations as necessary in areas where ICAO and international organizations can provide assistance.

    b. Through ICAO, provide guidance to States to update their PBN implementation plans. Identify challenges within State PBN Implementation Plans and PBN implementation activities and advise States in addressing these challenges in a harmonized manner.

    c. Taking a multi-disciplinary approach, promote more efficient flight operations and trajectories and, as necessary, address related topics including Air Traffic Services (ATS) route network.

    d. Analyze and report operational benefits of PBN implementation and provide regular PBN implementation updated information to ICAO for inclusion in the air navigation reports and regional performance dashboard.

2) Identify issues/action items which are related to the regional implementation of PBN and related ASBU elements, and where appropriate, communicate with related regional groups.

3) Review regional priorities/targets and relevant regional plans as related to PBN implementation.

4) Identify, propose and facilitate where necessary, appropriate corrective action in the development and implementation of action plans by States to resolve identified deficiencies.

5) Review and update Air navigation deficiencies in the field of PBN (as listed in the APANPIRG database);

4 6) PBNICG will report to CNS/SG. CNS/SG will coordinate with ATM/SG.

Composition

The PBNICG will be composed of multi-disciplinary experts with knowledge of and/or responsibility for PBN implementation nominated by ICAO member States/Administrations in the Asia and Pacific Regions and International Organizations. The PBNICG adopts project management principles as necessary. Secretariat support for the PBNICG will be provided by the ICAO APAC RSO ~~with assistance from the~~ and/or APAC RO and ANB. Representatives of ICAO programmes such as COSCAPs and FPP will be invited to participate as applicable.
The scale of the project is regional.
The Chairperson of the PBNICG is Mr. Ian Mallett, Civil Aviation Authority of Australia.

Note: The PBNICG, while ~~undertaking~~ conducting ~~the~~ its tasks, should take into account ~~of~~ the work being undertaken by relevant ICAO Panels and other study/working groups.

Project Management Principles

1   In the context of a project management approach, projects will be identified primarily from ASBU Modules adopted by APANPIRG, agreed regional targets and objectives and existing initiatives. Any ANS operational improvement is conducted through a project[1]. The Seamless ATM implementation guidance published and maintained by the ICAO Regional Office would apply for structuring the project and providing the necessary technical guidance (standards etc). However the level of documentation required would be commensurate with the project objectives and scale (see below).

2   Where it is not the case, a project team will be nominated by States and concerned international organizations in coordination with SG. The Task Force Chair and/or the ICAO Secretariat will act as Project Managers.

3   In this regard it is proposed that the ToR of the Sub Groups should be reviewed to better support the ICAO performance framework, in particular implementation activities to align with ASBUs and regional priorities. It is also proposed to empower the Sub Groups/Task Forces to make decisions on internal matters and take corrective actions. The Sub Groups would have the ability to agree, without further APANPIRG endorsement, any Conclusion or Decision (especially those concerning guidance to States in the implementation of ICAO SARPs) that does not have significant additional economic, environmental or political effects, which should be considered at a higher level at APANPIRG.

Scale of projects

4   The scale of the project will be defined as experience shows that coordination and control activities vary accordingly:
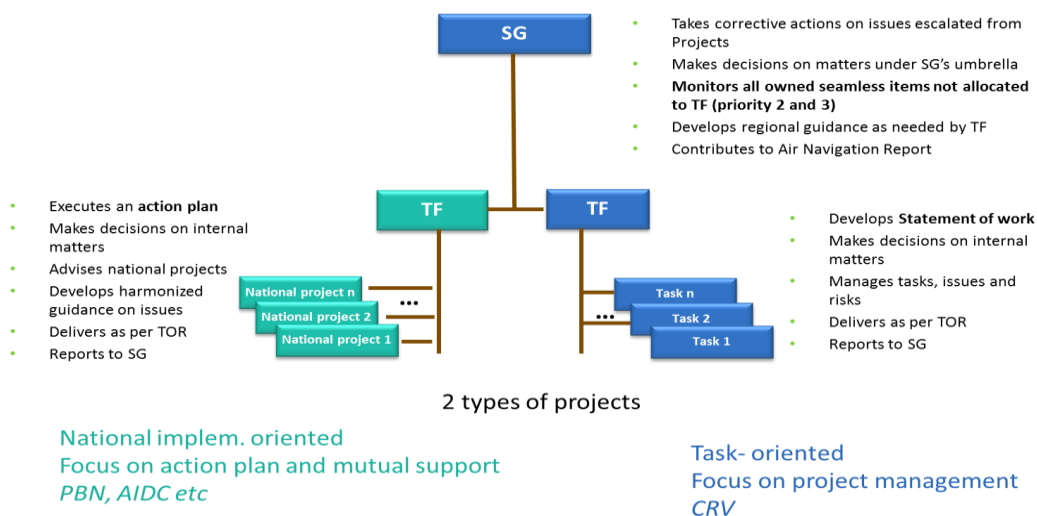- interregional (example: definition of an interregional AIDC standard)
- regional (examples: CRV, ATFM projects)
- sub-regional (example: Implementation of new PBN routes between States in a sub region)
- a collection of national projects driven by a State/Administration

Types of project

5   Depending on the objective of the project, 2 types of projects could be defined:

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[1] Project: according to ISO 10006, unique process consisting of a set of co-ordinated and controlled activities with start and finish dates, undertaken to achieve an objective conforming to specific requirements, including constraints of time, cost and resources.

SG
- Takes corrective actions on issues escalated from Projects
- Makes decisions on matters under SG's umbrella
- **Monitors all owned seamless items not allocated to TF (priority 2 and 3)**
- Develops regional guidance as needed by TF
- Contributes to Air Navigation Report

TF (left)
- Executes an **action plan**
- Makes decisions on internal matters
- Advises national projects
- Develops harmonized guidance on issues
- Delivers as per TOR
- Reports to SG

National project n
National project 2
National project 1

TF (right)
- Develops **Statement of work**
- Makes decisions on internal matters
- Manages tasks, issues and risks
- Delivers as per TOR
- Reports to SG

Task n
Task 2
Task 1

2 types of projects

National implem. oriented
Focus on action plan and mutual support
PBN, AIDC etc

Task- oriented
Focus on project management
CRV

Documents and tools

6   TORs of the Project should define timelines from start to completion. These timelines should be consistent with eANP Volume III main planning table, stating all deadlines for ASBU and regional objectives and related ANRF.

7   TORs will record also the project manager(s), the project team, the reporting lines (SG and APANPIRG) and scale (interregional, regional, sub-regional, or national) of the project.

8   Projects should be conducted using standardised and simple documents for which templates would be proposed on ICAO APAC RO website:

- Statements of work for the definition of tasks inside a project
- Action list for the allocation and follow-up of actions inside the project and outside the project (dependencies)
- Basic Risk table for the identification and mitigation of risks inside a project
- Project report (1 slide) to report to the SG(s)
- Summary of discussions of the meeting

9   At the creation of the project, the set of applicable documents would be proposed by the Project Manager according to the scale and type of project, endorsed by the SG, and recorded in the TOR.

10   The use of ICAO portal and teleconferences should be generalized to control and coordinate the activities conducted under a project.

Safety management

11   For inter-regional, regional and sub-regional projects undertaking major changes to the air navigation system in Asia Pacific Region, a safety analysis may have to be conducted[2] in the

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[2] A criterion could be that if an initial Hazard Analysis identifies hazards with severity being major or more severe (significant reduction in safety margins, a reduction in the ability of the operators to cope with adverse operating conditions as a result of an increase in workload or as a result of conditions

framework of the project. For national projects, the analysis would more probably be conducted inside the State/organizations involved. Such analyses have to comply with ICAO Doc 9859, Safety Management Manual, particularly the Safety risk probability table and the Safety risk severity table.

12   If no other process is available or preferred, the analysis could be based on:

- A Concept of Operations (CONOPS) and/or OSED identifying the new operational services/environments being envisaged;
- Operational Hazard Analysis (OHA) identifying hazards brought by the new operational services;
- Preliminary System Safety Assessment (PSSA) as per ARP 4761 identifying and mitigating the causes of hazards (people, equipment, procedures)
- System Safety Assessment (SSA) as per ARP 4761 establishing that the risk is acceptable according to ICAO Doc 9859.

Checking/Reporting

13   It is proposed that interregional, regional and sub-regional projects report to their SG through a one page slide on their progress, issues and top risks. National projects would be tracked through the seamless ATM plan on-line reporting process.

14   In order to track the progress of implementation, data collection will be done through the seamless ATM plan on-line reporting process using the metrics defined.

15   A regional picture could be developed to graphically illustrate the progress by seamless ATM plan implementation item. The project was started but is frozen. ICAO's resources would need to be mobilized to support the regional picture.

Acting/correcting

16   A SG would have an overview of all its projects: objectives, achievements, issues, top risks. It will take action on issues escalated by any project supervised or identified between projects supervised. APANPIRG would have an overview of all the projects and will take corrective actions on issues escalated from SGs or identified between SGs.

17   SGs would monitor dependencies between projects. APANPIRG would monitor dependencies between projects supervised by different SG. APANPIRG could review periodically the top 10 risks. A table of projects for the region could be maintained by APANPIRG.

Change management

18   The project management principles presented in this Attachment and considered beneficial by ABSRTF should be refined and recorded in the APANPIRG Procedural Handbook**.**

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impairing their efficiency, Serious incident, Injury to persons) then an extensive process would have to be conducted. Otherwise a lighter process would be conducted.

19   All principles would need a certain time to be properly and homogeneously applied throughout the region. Selection and briefing of project managers would be necessary. Certain principles may be regarded as guidance/good practice first and later on become recommendations.

Reference	Raised	Probability	Severity	Hazard	Impact	Mitigation	Comment
R4	*20-May-15*	*Remote*	*Severe*	*Poor quality of final offer in terms of technical/cost aspects for Sealed Tender*	*Major delay generated for final delivery of CRV implementation (1 year).*	***Prevention:*** *explain CRV expectations through RFI process - Explain evaluation criteria in Instruction To Tenderers* ***Protection:*** *advertise a new tender in case R4 occurs*	*Example*

Progress Report
for the period from ____ to _____

Project: _____

Reporting to:
☐ **AGA SG**
☐ **ATM SG**
☐ **CNS SG**
☐ **MET SG**
☐ **RASMAG**

Date of the report:

- **Overall progress in the period:**
  - Xx

- **Draft Conclusions or Decisions referred to APANPIRG through SG:**
  - Xx

- **Draft Conclusions or Decisions referred to SG(s):**
  - Xx

- **Deliverables in the period:**
  - Xx

- **Proposed revised milestone**
  - Xx

Issues and Risks

- **Issues solved in the period:**
  - Xx

- **Top 5 Open Issues with corrective actions proposed to SG:**
  - Xx

- **Top 3 risks (highest probability*severity) with mitigations:**
  - Xx