**INTERNATIONAL CIVIL AVIATION ORGANIZATION**

# RE-ORGANIZATION OF THE AFRICA-INDIAN OCEAN PLANNING AND IMPLEMENTATION REGIONAL GROUP (APIRG)

## DRAFT PROPOSALS

*(in accordance with APIRG Decision 19/48)*

**PREPARED BY THE ICAO EASTERN AND SOUTHERN REGIONAL OFFICE:**

**MARCH 2014**

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**TABLE OF CONTENTS**



DRAFT

## INTRODUCTION

### Implications for the Planning and Implementation Regional Groups (PIRGs) under the Fourth Edition of the ICAO Global Air Navigation Plan (GANP, Doc 9750)

The Twelfth Air Navigation Conference (AN-Conf/12, Montreal, 19-30 November 2012) adopted a revised Edition of the Global Air Navigation Plan (GANP, Doc 9750), which introduces the ICAO Aviation System Block Upgrades (ASBU) Methodology complemented by the Technology Roadmaps for Communications, Navigation and Surveillance (CNS), Information Management (IM) and Avionics.

The ICAO Planning and Implementation Regional Groups (PIRGs) are in the process of adopting the ASBU Modules through regional agreements. In so doing, PIRGs should ensure that all required supporting procedures, regulatory approvals and training capabilities are set in place. These supporting requirements need to be reflected in electronic regional Air Navigation Plans (eANPs) developed by the PIRGs, ensuring strategic transparency, coordinated progress and certainty of investment.

In order to support States' efforts, the development of business cases for any operational benefit will be facilitated with the detailed information available in the Global Plan's technology roadmaps and ASBU Module descriptions.

PIRGs function primarily on the basis of regular consultations with States and industry to align the specific measures and initiatives that they integrate into Regional Air Navigation Plans.

PIRGs are additionally responsible under the performance framework work Programme for coordinating the reporting from States and industry that feeds into later analysis activities, the annual Air Navigation Capacity and Efficiency Report, and any required tactical work Programme revisions.

Performance reviews are to be conducted via annual reports that will be developed by each ICAO Regional Office/PIRG in collaboration with local industry

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stakeholders. These are to be supported by data submission by States with respect to Block Upgrade Modules' metrics.

As a result, PIRG schedules need to be revised in order to be effectively synchronized with the annual reporting schedule. Similarly, as the standardization effort is completed at the global level, PIRGs which have not yet transitioned need to rationalize their Sub-Groups away from technologies and toward operational performance.

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## 1. BACKGROUND

### *Council Decision*

1.1 In its Report (**C-WP/13135**) in March 2008, the Air Navigation Commission noted that while implementation is the responsibility of States, PIRGs could play a significant role in supporting the implementation of SARPs. The 183rd Session of the Council agreed (**C-DEC 183/9**) to retain for the time being the terms of reference of the PIRGs, except that the TOR of APIRG and GREPECAS were to be amended to exclude security matters. In addition, membership of the PIRGs was expanded to include all Contracting States who are service providers in an air navigation region.

### *Special AFI RAN Meeting*

1.2 Taking into account the Council action on the Commission's report, the Special AFI RAN Meeting (Durban, South Africa, 24-29 November 2008),recognized the need to have a clearly defined strategy to implement ATM systems as well as the need to align work programmes of the States, Regions and ICAO Headquarters. The SP AFI RAN 2008 agreed that APIRG should review its structure to determine if changes would be beneficial in light of the performance-based approach to air navigation planning being proposed. It also felt that the structure and organization of regional air navigation plans (ANPs) should be reviewed on a global basis with a view to aligning the regional ANPs with the Global Air Navigation Plan and the performance-based approach to planning. It therefore, adopted the following Recommendations:

***Recommendation 6/4 – Re-organization of APIRG***

> *That APIRG review its working methods and organization and consider making adjustments to better support the ICAO performance framework in its planning and implementation activities.*

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***Recommendation 6/24 – Revised membership of the Africa-Indian Ocean Regional Planning and Implementation group (APIRG)***

*That the terms of reference of the Africa-Indian Ocean Regional Planning and Implementation Group (APIRG) be amended as follows:*

*1. Membership*

*All ICAO Contracting States, who are service providers in an air navigation region and part of that region's ANP, should be included in the membership of that region's PIRG. Furthermore, user States are entitled to participate in any other PIRG meetings as a non-member. International organizations recognized by the Council may be invited as necessary to attend PIRG meetings as observers.*

***APIRG Decision***

1.3 At its Nineteenth meeting which was held in Dakar, Senegal from 28 to 31 October 2013, APIRG recalled that the ICAO Special Regional Air Navigation Meeting (SP AFI RAN 2008) adopted a performance-based approach to regional and national air navigation planning in the AFI Region, aligned with the Global Air Navigation Plan (Doc 9750, GANP). The Group agreed that the performance - based approach adopted by the ICAO SP AFI RAN 2008 applies to the AFI Regional Air Navigation System Implementation Plan aligned with the ASBU Methodology, as adopted by APIRG/19 Meeting under its Conclusion 19/06. It Also agreed that within the ASBU framework, due consideration should be given to planning, implementation, monitoring and reporting aspects, and that a Project based approach for ASBUs should be applied to APIRG Subgroups/Task Forces as necessary. Accordingly, APIRG agreed on the following Decision:

***DECISION 19/48: RE-ORGANIZATION OF APIRG***

*That:*

*a) The APIRG review its working methods and organization using project management principles and other methodologies as and when necessary, and consider making adjustments to better support the ICAO performance*

*framework in its planning and implementation activities aligned with the Aviation System Block Upgrades (ASBUs); and*

*b) The Secretariat:*

*i) develop a revised structure of the APIRG taking due account of best practices/benchmarking, established regional targets and priorities, and the need for synergies between similar or complementary activities; and*

*ii) Accordingly call for an APIRG extraordinary meeting on this issue in 2014.*

***Current organizational structure of APIRG***

1.4 The organizational structure of APIRG with changes endorsed by the Nineteenth meeting of the Group structure comprises 23 contributory bodies. These include four Sub-Groups based on main air navigation technical areas, 19 task forces and working groups reporting to the Sub-Groups and/or APIRG, and the Traffic Forecasting Group which is currently coordinated from the Air Transport Bureau at ICAO Headquarters. The current APIRG meeting cycle is 18 months as per the Group's Procedural Handbook. The current structural organization of APIRG is reflected below.

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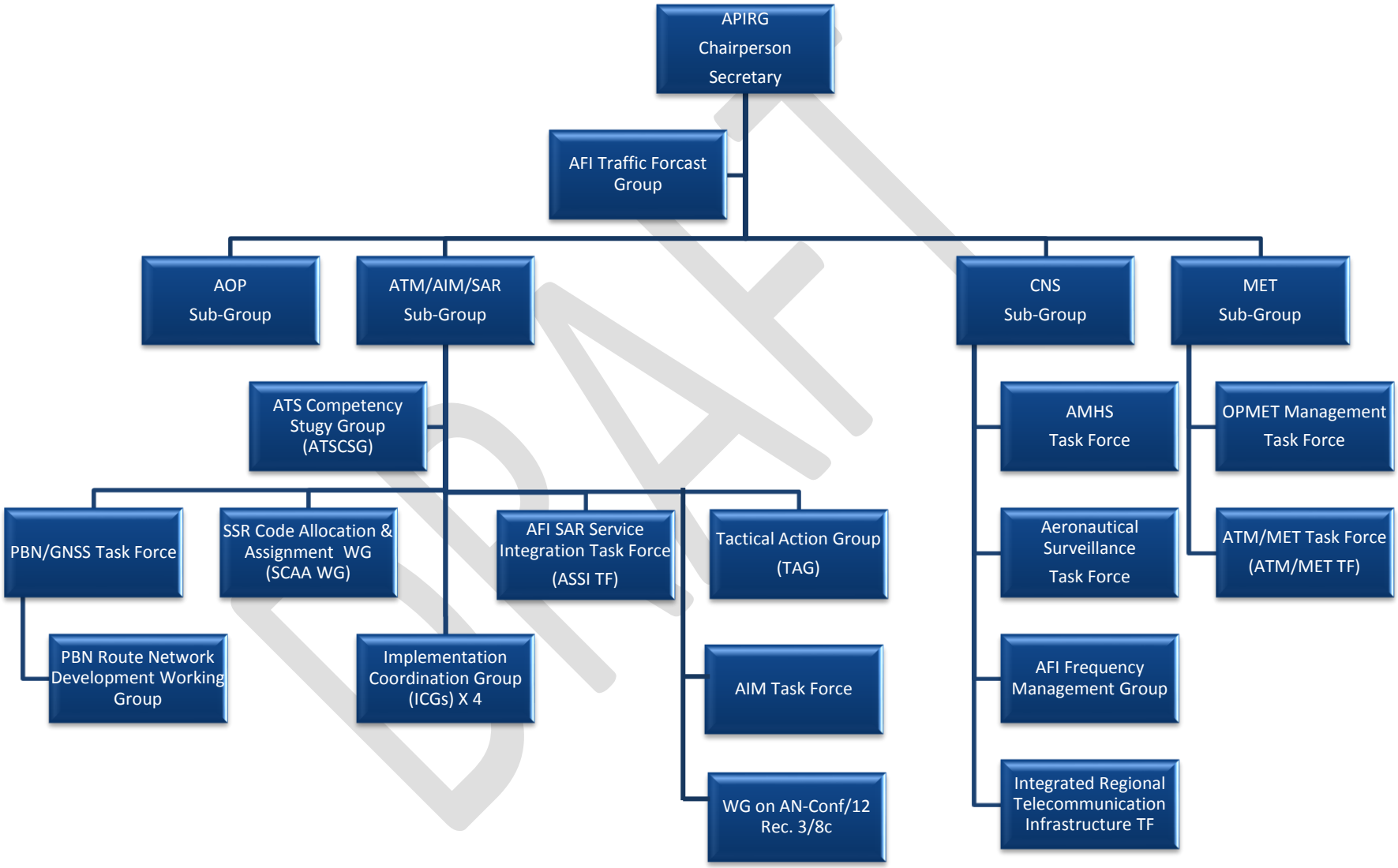
APIRG
Chairperson
Secretary
AFI Traffic Forcast Group
AOP
Sub-Group
ATM/AIM/SAR
Sub-Group
CNS
Sub-Group
MET
Sub-Group
ATS Competency Stugy Group (ATSCSG)
PBN/GNSS Task Force
SSR Code Allocation & Assignment WG (SCAA WG)
AFI SAR Service Integration Task Force (ASSI TF)
Tactical Action Group (TAG)
PBN Route Network Development Working Group
Implementation Coordination Group (ICGs) X 4
AIM Task Force
WG on AN-Conf/12 Rec. 3/8c
AMHS
Task Force
Aeronautical Surveillance
Task Force
AFI Frequency Management Group
Integrated Regional Telecommunication Infrastructure TF
OPMET Management
Task Force
ATM/MET Task Force (ATM/MET TF)

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## 2. IMPLEMENTATION OF THE RECOMMENDATIONS

2.1 As part of managing resources associated with activities of the subsidiary bodies of APIRG, the Group has been mindful to avoid the proliferation of such bodies, in favour of consolidation. The efficiencies sought from functions of APIRG require further consideration of the consolidation as well as a shift from outcome oriented meetings to action oriented projects.

2.2 The objective of the structural proposals hereunder is to address the issues of resources associated with activities within the framework of APIRG, while aiming to significantly increase rates of implementation and the resolution of deficiencies and other challenges.

2.3 Pursuant to the Recommendation 6/4 of SP AFI/08 RAN and taking into consideration Recommendation 6/24 which was endorsed by APIRG under Conclusion 17/105, as well as other ICAO guidance on the concept of performance based approach to implementation, the proposed re-organization and working methods of APIRG entail features hereunder.

### 2.4 CONTRIBUTORY BODIES

**Rationale for re-grouping of contributory bodies**

2.5 The basis for the approach in the proposed re-organization within APIRG is the Fourth Edition of the Global Air Navigation Plan (GANP (Doc 9750)) which seeks to enable the ICAO ATM system envisioned in the Global ATM Operational Concept (GATMOC (Doc 9854). While building on its previous editions, the Fourth Edition of Doc 9750, which was endorsed by the Twelfth Air Navigation Conference (AN Conf/12) in November 2012, introduces the Aviation System Block Upgrades (ASBUs) methodology which is depicted in **Appendix A** to this document. Doc 9750 4th Ed. also introduces Technology Roadmaps which complement the ASBU modules by providing timelines for the technology that will support the Communications, Navigation and Surveillance (CNS), Information Management (IM) and avionics requirements of the global Air Navigation system.

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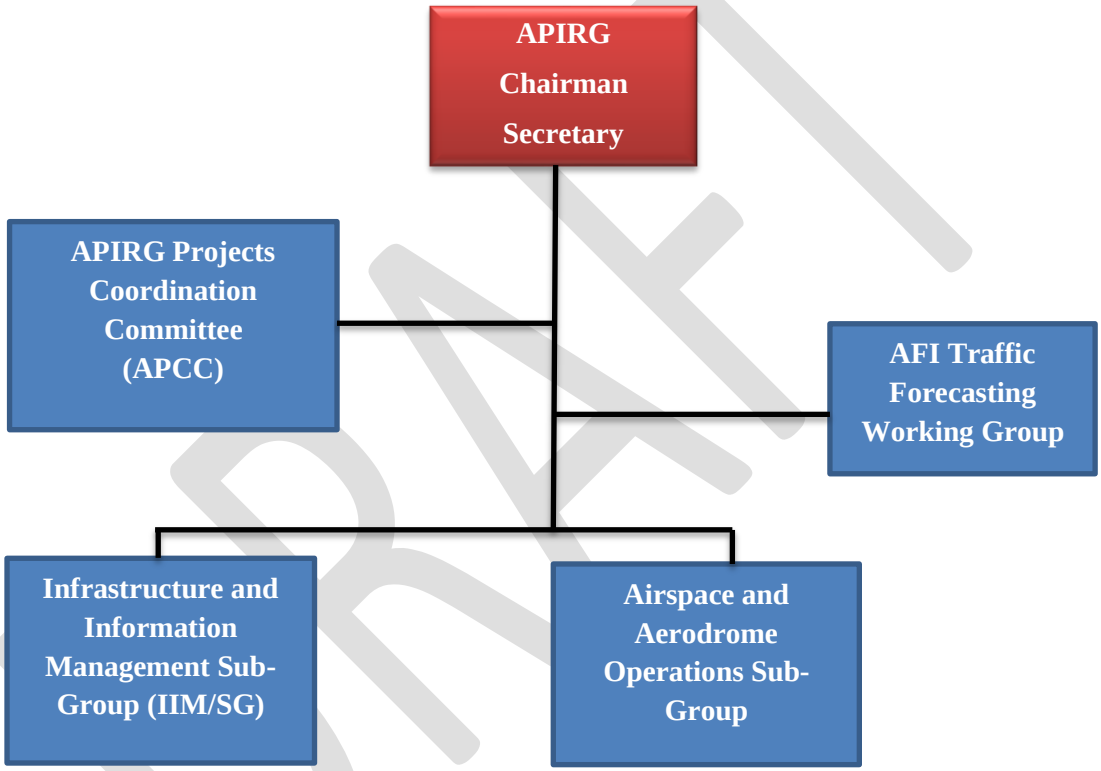
2.6 In view of the above and taking into consideration the imperative to reduce the number of subsidiary bodies, and consequently the associated resource requirements, the proposed grouping of technical areas per Sub-Group seeks not only to achieve the synergies required in implementing the ASBUs, but to harmonize the work volumes between the groups.

**OPTION 1**




### 2.6.1 Option 1 Pros & Cons

**Introduction of the APCC**

***Pros***

- ✓ High volumes of material from subsidiary bodies is processed and made manageable for APIRG sessions
- ✓ APIRG can focus on high level/mature material and effectively address its business in a few days

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- ✓ More effective coordination within the APIRG framework
- ✓ More effective coordination with other Regional bodies, other Regions and industry groups
- ✓ Reduction of subsidiary bodies

***Cons***

- ✓ Additional process layer, between the SGs and APIRG

**Grouping of Technical areas**

***Pros***

- ✓ Puts focus on the whole of PIA 2 Modules
- ✓ Provides close CNS coordination to B0-DATM and B0-AMET
- ✓ AOP placed for required coordination and CDM within PIA 1 and PIA 4 Modules
- ✓ Balanced weight of modules (number of potential projects) between the SGs

***Cons***

- ✓ Coordination of CNS/ATM issues would be a challenge. This however, may be addressed through close coordination among the project teams.

**Coordination Committee**

2.6.2 The APIRG Projects Coordination Committee (**APCC**) composed of the Chairperson and Vice-Chairpersons of APIRG, the Secretary of APIRG, elected Officials of the Sub-Groups and Secretaries of Sub-Groups is proposed to undertake a task that has hitherto been a challenge. In this regard it will be noted since APIRG was established, its membership has increased over time from 14 in the 1980s to 32 in 2005, and inclusive of all AFI provider States after 2008. Over the same period, the time available for the APIRG plenary meetings has reduced from more than seven working days to about three working days. It is evidently no longer practical for APIRG plenary meetings to cover as much detail in its agenda as it could on its inception, and with the same effectiveness. The introduction of performance based approach to planning and implementation entails precision which requires further attention to detail, hence the proposed body.

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2.6.3 Nominally, the Secretariat has been and will continue to be responsible for facilitating coordination between the various structural components and activities of APIRG as well as between activities within the framework of APIRG, the Regional Offices, various organs of ICAO, and the industry. Notwithstanding, it has become increasingly important for the coordination process within APIRG to be enhanced and for States to have a more active role in it.

2.6.4 In view of the above, the objective of the APCC is to adjudicate the work of the SGs, monitor progression (life) of projects, develop road maps and implementation strategies, coordinate implementation across the SGs, and facilitate coordination (*through its secretary*) with the RASG, other Regional bodies and industry bodies. Detailed review of planning and implementation activities is carried out at this level. The Committee shall facilitate prioritization including determination of material that has matured sufficiently for consideration and adoption of conclusions and decisions by APIRG.

2.6.5 Detailed terms of reference of the APCC are at **Appendix B.**

**Sub-Groups**

2.6.6 The Sub-Groups have been reduced from four to two. It is notable that while the approach of having a Sub-Group for every technical area of air navigation is effective in supporting focus, it has a 'silo' effect which does not support coordination. The proposed reduced number of Sub-Groups has to the extent practical taken into consideration implementation of the Global Air Navigation Plan (Doc 9750 Ed. 4) under the ASBUs methodology.

***Project Teams***

2.6.6.1 In order to carry out the work of the Sub-Groups, '**projects**' will be identified to be executed by '**teams**' of experts and champions reporting to the Sub-Groups. There are no standing bodies established below the Sub-Groups.

2.6.6.2 The projects will be derived from the ASBU Modules and the agreed regional performance objectives. A Project Team may carry out one or more projects.

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2.6.6.2.1 Terms of Reference of the Project Teams

2.6.6.2.2 The TOR of the Project Teams will be detailed as part of the project definition.

2.6.6.2.3 It is important to note that many Projects may not necessitate physical meetings, but may carry out their tasks through electronic correspondence and such other media as teleconferences. Similarly, even in those Projects where physical meeting will be necessary, as much work should be carried out through electronic media, in order to reduce the costs (This aspect is to be highlighted in the APIRG Handbook).

2.6.6.2.4 Project Teams shall elect from among them, Project Team Coordinators (PTCs) who shall facilitate and coordinate the proceedings of the Project Team and report to the Sub-Groups.

***Airspace and Aerodrome Operations Sub-Group (AAO/SG)***

2.6.6.3 Historically, the Aerodrome Operations Planning (AOP) Sub-Group has functioned singly, without formal coordination arrangements with other Sub-Groups. However, the effective implementation of ASBUs Modules requires close coordination between various areas of ANS and AGA. This is particularly highlighted under the ASBUs Performance Improvement Area (PIA) 1 (Airport Operations) Modules and three Modules from PIA 4 (Efficient Flight Paths).

2.6.6.3.1 The terms of reference of the **AAO/SG** are at **Appendix C.**

***Infrastructure and Information Management Sub-Group (IIM/SG)***

2.6.6.4 The concept of providing digital information to automated ATM and airborne systems was identified many years ago, and so is the requirement for quality assurance without which the information conveyed by AIM and the MET products and services would have unacceptable levels of safety risks.

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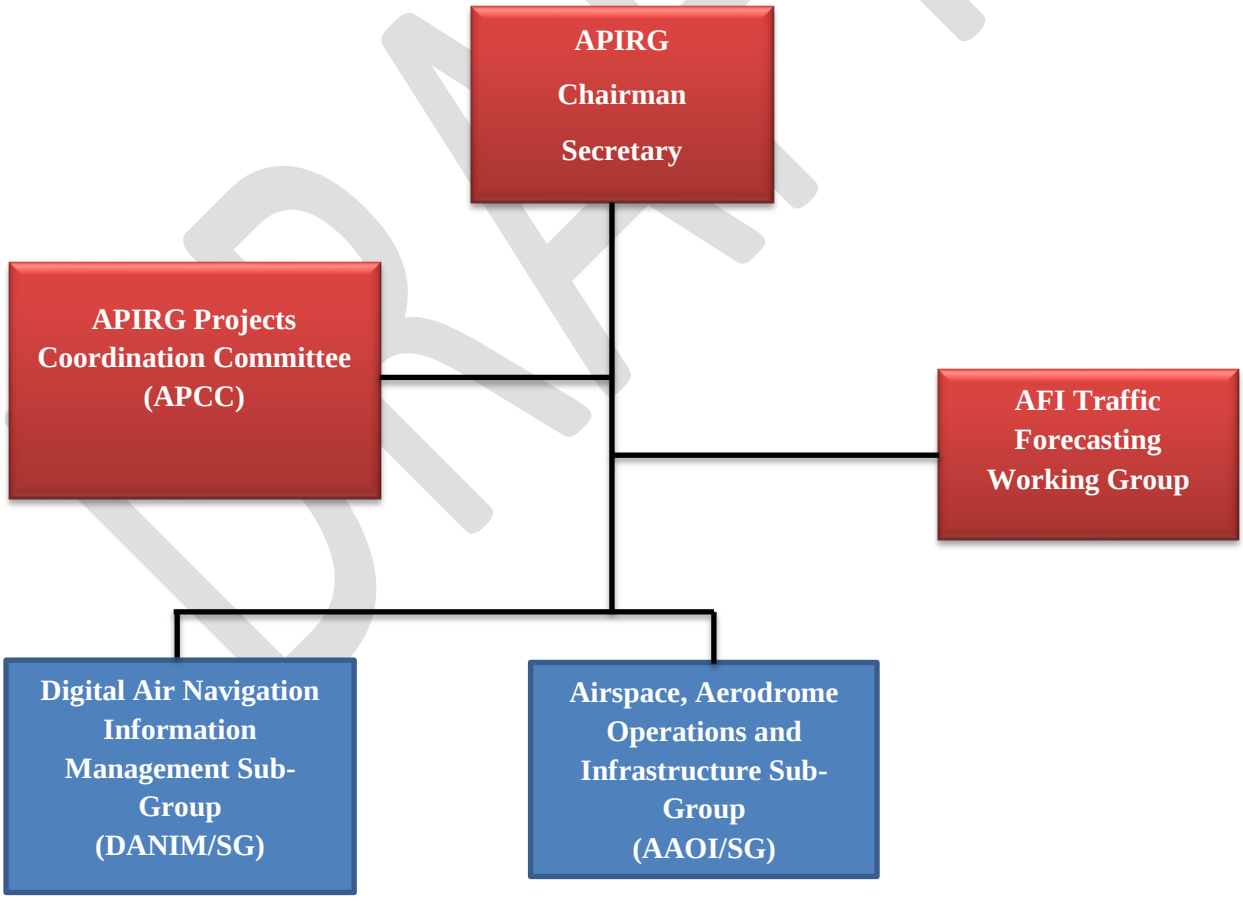
2.6.6.5 PIA 2 (Globally Interoperable Systems and Data) focuses on the role of Digital processing and management of aeronautical information, meteorological information and the data link support of communication between air traffic services units (ATSUs). In addition, this grouping is in alignment with the Technology Roadmap in the GANP (Doc 9750). It will be noted that CNS related ASBU modules are also in other PIAs. However, that does not necessarily support the splitting of the CNS field over the several Sub-Groups, nor does it necessarily support the establishment of a CNS Sub-Group, as other technical areas are also involved in the Modules affecting CNS. Accordingly, taking into consideration other aspects in grouping, the CNS discipline is proposed to be grouped with AIM and MET.

2.6.6.5.1 The terms of reference of the **IIM/SG** are at **Appendix D.**

**OPTION 2**

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### 2.6.7 Option 2 Pros & Cons

**Introduction of the APCC**

***Pros***

- ✓ High volumes of material from subsidiary bodies is processed and made manageable for APIRG sessions
- ✓ APIRG can focus on high level/mature material and effectively address its business in a few days
- ✓ More effective coordination within the APIRG framework
- ✓ More effective coordination with other Regional bodies, other Regions and industry groups
- ✓ Reduction of subsidiary bodies

***Cons***

- ✓ Additional process layer, between the SGs and APIRG

**Grouping of Technical Areas**

***Pros***

- ✓ Provides for closer CNS coordination with ATM related modules
- ✓ AOP placed for required coordination and CDM within PIA 1 and PIA 4 Modules

***Cons***

- ✓ Unbalanced weight of modules (number of potential projects) between the SGs
- ✓ Coordination of AIM/MET issues with CNS related modules would be a challenge. This however, may be addressed through close coordination among the project teams

**Coordination Committee**

2.6.8 Same as in Paragraphs 2.6.2 to 2.6.5 above.

**Sub-Groups**

2.6.9 Same as in Paragraph 2.6.6 above.

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***Project Teams***

2.6.9.1 In order to carry out the work of the Sub-Groups, '**projects**' will be identified to be executed by '**teams**' of experts and champions reporting to the Sub-Groups. There are no standing bodies established below the Sub-Groups.

***Airspace, Aerodrome Operations and Infrastructure Sub-Group (AAOI/SG)***

2.6.9.2 Historically, the AOP (AGA) Sub-Group has functioned singly, without formal coordination arrangements with other Sub-Groups. However, the effective implementation of ASBUs Modules requires close coordination between various areas of ANS and AGA. This is particularly highlighted under the ASBUs Performance Improvement Area (PIA) 1 (Airport Operations) Modules and three Modules from PIA 4 (Efficient Flight Paths). The infrastructure related modules are included in this grouping for closer coordination of CNS/ATM issues.

2.6.9.2.1 The terms of reference of the **AAOI/SG** are at **Appendix E**

***Digital Air Navigation Information Management Sub-Group (DANIM/SG)***

2.6.9.3 The concept of providing digital information to automated ATM and airborne systems was identified many years ago, and so is the requirement for quality assurance without which the information conveyed by AIM and the MET products and services would have unacceptable levels of safety risks.

2.6.9.4 Focus is placed on the role of Digital processing and management of both aeronautical and meteorological information as part of PIA 2 (Globally Interoperable Systems and Data).

2.6.9.4.1 The terms of reference of the **DANIM/SG** are at **Appendix F.**

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## 3. MEMBERSHIP OF APIRG

3.1 In accordance with Council Decision (**C-DEC 183/9**) of 2008, all ICAO Contracting States**,** who are service providers in the AFI air navigation region and part of the AFI ANP, are included in the membership of APIRG. Furthermore, AFI Region user States are entitled to participate in APIRG meetings as non-members. International organizations recognized by the Council are invited as necessary to attend APIRG meetings as observers.

3.2 It is important that officials and representatives of States and international organizations in APIRG, are familiar with the mandate, functions and responsibilities of APIRG, and are able to provide strategic direction to the Group. It is equally important that the officials are empowered to participate effectively in decision making processes, appreciating fully the impact thereof in national process, including the commitment that will be expected from States. In this respect, State officials designated to represent the member States of APIRG should, ideally be at the level of officials responsible for Air Navigation or higher.

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## 4. COMPOSITION OF THE CONTRIBUTORY BODIES

### APIRG Projects Coordination Committee (APCC)

4.1 The APCC membership shall comprise the following:

- Chairman of APIRG
- First and Second Vice Chairman of APIRG
- Secretary of APIRG
- Elected officials of the Sub-Groups
- Secretaries of Sub-Groups; Facilitators as necessary

### Sub-Groups

4.2 The LIM AFI (COM/MET/RAC) RAN meeting in 1988 agreed that the participants in APIRG contributory bodies were to be specialists in the subjects concerned and familiar with the areas under consideration. While every State that is likely to make a valid contribution shall be given an opportunity to participate. The SG shall be kept as small as possible, to facilitate efficiency on aspects such as consideration of business, cost, logistics and the application of non-formal working methods. Each SG shall be composed of a limited number of people who are specialists in at least one of the aviation disciplines in the Sub-Group to be provided by States, whether Members or not of the APIRG, international organizations and/or bodies and organizations having experience in the relevant field. The number of officials nominated into a Sub-Group will depend on the fields of expertise in the Sub-Group. International organizations with observer status in APIRG will be expected to nominate appropriately qualified representatives to participate in the Sub-Groups.

4.3 In order to facilitate focus, continuity and appropriate expertise, Membership into the Sub-Groups will be by specifically named officials. States and organizations identified by APIRG will nominate specific officials, providing information on nominee's qualifications and experience (CV), in order to enable the Sub-Group to optimally take advantage of the expertise available. To facilitate continuity and the benefits thereof in the activities of specific bodies, States should minimize changes of the nominated experts,

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particularly those participating in the project teams, and instead allow the nominated experts to serve for a sufficiently lengthy period of time.

**Project Teams**

4.4 Project Teams shall comprise officials designated by States and international organizations with observer status in APIRG. Such officials shall possess the qualifications and experience required in Projects to which they are nominated and be familiar with the areas under consideration. The number of experts in a project team will be dictated by the requirements of the project.

4.5 International organizations identified as observers in APIRG will be expected to nominate appropriately qualified representatives to contribute to the work of the Project Teams. In addition, industry organizations not being APIRG observer members may, with the concurrence of the Chairman and Secretary of APIRG, be invited to contribute to the work of a specific Project of APIRG, with expertise and/or specialized tools.

**Advisors to designated members**

4.6 Members of a Sub-Group or a project team may be assisted, when required, by advisors provided by the State or organization as the case may be. However, for logistical purposes States and organizations wishing to send advisors to an event shall inform the Secretariat well in advance.

4.7 Draft Terms of Reference of APIRG are in **Appendix G.**

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## 5. OFFICIATING

5.1 States participating in the various APIRG contributory bodies should expect that their nominated officials to the APRCG, a Sub-Group or project team may be elected to officiate in the group or team in the capacity of **chairperson, team leader or champion**. Officiating members will be required to discharge various duties and functions during the course of meetings and events as well in the period between meetings. In this regard, States should ensure that officials elected in such capacities are adequately supported to participate and officiate in their elected capacities.

5.2 In order to facilitate geographical distribution of participation, elected officials shall be from various sub regions of the AFI Region, such that a chairperson and vice chairperson may not be from the same sub-region. A similar distribution will apply in electing members to officiate in the Project Teams.

5.3 The elected officiating members in the APRCG and Sub-Groups of APIRG will be supported in their responsibilities, by Secretaries nominated by the Secretary of APIRG from among members of the ICAO Secretariat. Elected officials of Project Teams will be supported by facilitators designated by the Secretary of APIRG.

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## Performance Improvement Area 1:
### Airport Operations

| Block 0 | Block 1 | Block 2 | Block 3 |
|---|---|---|---|
| B0-APTA<br>Optimization of Approach Procedures including vertical guidance<br>This is the first step toward universal implementation of GNSS-based approaches. | B1-APTA<br>Optimised Airport Accessibility<br>This is the next step in the universal implementation of GNSS-based approaches. | | |
| B0-WAKE<br>Increased Runway Throughput through Optimized Wake Turbulence Separation<br>Improved throughput on departure and arrival runways through the revision of current ICAO wake vortex separation minima and procedures. | B1-WAKE<br>Increased Runway Throughput through Dynamic Wake Turbulence Separation<br>Improved throughput on departure and arrival runways through the dynamic management of wake vortex separation minima based on the real-time identification of wake vortex hazards. | B2-WAKE (*)<br>Advanced Wake Turbulence Separation (Time-based)<br>The application of time-based aircraft-to-aircraft wake separation minima and changes to the procedures the ANSP uses to apply the wake separation minima. | |
| B0-RSEQ<br>Improved Traffic Flow through Sequencing (AMAN/DMAN)<br>Time-based metering to sequence departing and arriving flights. | B1-RSEQ<br>Improved Airport operations through Departure, Surface and Arrival Management<br>Extended arrival metering, Integration of surface management with departure sequencing bring robustness to runways management and increase airport performances and flight efficiency. | B2-RSEQ<br>Linked AMAN/DMAN<br>Synchronised AMAN/DMAN will promote more agile and efficient en-route and terminal operations. | B3-RSEQ<br>Integrated AMAN/DMAN/SMAN<br>Fully synchronized network management between departure airport and arrival airports for all aircraft in the air traffic system at any given point in time. |
| B0-SURF<br>Safety and Efficiency of Surface Operations (A-SMGCS Level 1-2)<br>Airport surface surveillance for ANSP. | B1-SURF<br>Enhanced Safety and Efficiency of Surface Operations- SURF, SURF IA and Enhanced Vision Systems (EVS)<br>Airport surface surveillance for ANSP and flight crews with safety logic, cockpit moving map displays and visual systems for taxi operations. | B2-SURF<br>Optimized Surface Routing and Safety Benefits (A-SMGCS Level 3-4 and SVS)<br>Taxi routing and guidance evolving to trajectory based with ground / cockpit monitoring and data link delivery of clearances and information.<br>Cockpit synthetic visualisation systems. | |
| B0-ACDM<br>Improved Airport Operations through Airport-CDM<br>Airport operational improvements through the way operational partners at airports work together. | B1-ACDM<br>Optimized Airport Operations through Airport-CDM<br>Airport operational improvements through the way operational partners at airports work together. | | |
| | B1-RATS<br>Remotely Operated Aerodrome Control<br>Remotely operated Aerodrome Control Tower contingency and remote provision of ATS to aerodromes through visualisation systems and tools. | | |

## Performance Improvement Area 2:
## Globally Interoperable Systems and Data – Through Globally Interoperable System Wide Information Management

| Block 0 | Block 1 | Block 2 | Block 3 |
|---|---|---|---|
| B0-FICE<br>Increased Interoperability, Efficiency and Capacity through Ground-Ground Integration<br>Supports the coordination of ground-ground data communication between ATSU based on ATS Inter-facility Data Communication (AIDC) defined by ICAO Document 9694. | B1-FICE<br>Increased Interoperability, Efficiency and Capacity though FF-ICE, Step 1 application before Departure<br>Introduction of FF-ICE step 1, to implement ground-ground exchanges using common flight information reference model, FIXM, XML and the flight object used before departure. | B2-FICE<br>Improved Coordination through multi-centre Ground-Ground Integration: (FF-ICE/1 and Flight Object, SWIM)<br>FF-ICE supporting trajectory-based operations through exchange and distribution of information for multicentre operations using flight object implementation and IOP standards. | B3-FICE<br>Improved Operational Performance through the introduction of Full FF-ICE<br>All data for all relevant flights systematically shared between air and ground systems using SWIM in support of collaborative ATM and trajectory-based operations. |
| B0-DATM<br>Service Improvement through Digital Aeronautical Information Management<br>Initial introduction of digital processing and management of information, by the implementation of AIS/AIM making use of AIXM, moving to electronic AIP and better quality and availability of data. | B1-DATM<br>Service Improvement through Integration of all Digital ATM Information<br>Implementation of the ATM information reference model integrating all ATM information using UML and enabling XML data representations and data exchange based on internet protocols with WXXM for meteorological information. | | |
| | B1-SWIM<br>Performance Improvement through the application of System-Wide Information Management (SWIM)<br>Implementation of SWIM services (applications and infrastructure) creating the aviation intranet based on standard data models, and internet-based protocols to maximise interoperability. | B2-SWIM<br>Enabling Airborne Participation in collaborative ATM through SWIM<br>Connection of the aircraft an information node in SWIM enabling participation in collaborative ATM processes with access to rich voluminous dynamic data including meteorology. | |
| B0-AMET<br>Meteorological information supporting enhanced operational efficiency and safety<br>Global, regional and local meteorological information:<br>• Aerodrome warnings to give concise information of meteorological conditions that could adversely affect all aircraft at an aerodrome including windshear.<br>• Forecasts provided by world area forecast centres (WAFC), volcanic ash advisory centres (VAAC) and tropical cyclone advisory centres (TCAC)<br>This information will support flexible airspace management, improved situational awareness and collaborative decision making and | B1-AMET<br>Enhanced Operational Decisions through Integrated Meteorological Information (Planning and Near-term Service)<br>Weather information supporting automated decision process or aids involving: weather information, weather translation, ATM impact conversion and ATM decision support. | | B3-AMET<br>Enhanced Operational Decisions through Integrated Meteorological Information (Near-term and Immediate Service)<br>Weather information supporting both air and ground automated decision support aids for implementing weather mitigation strategies. |

## Performance Improvement Area 3:
## Optimum Capacity and Flexible Flights – Through Global Collaborative ATM

| Block 0 | Block 1 | Block 2 | Block 3 |
|---|---|---|---|
| B0-FRTO<br>Improved Operations through Enhanced En-Route Trajectories<br>To allow the use of airspace which would otherwise be segregated (i.e. military airspace) along with flexible routing adjusted for specific traffic patterns. This will allow greater routing possibilities, reducing potential congestion on trunk routes and busy crossing points, resulting in reduced flight length and fuel burn. | B1-FRTO<br>Improved Operations through Optimized ATS Routing<br>Introduction of free routing in defined airspace, where the flight plan is not defined as segments of a published route network or track system to facilitate adherence to the user-preferred profile. | | |
| B0-NOPS<br>Improved Flow Performance through Planning based on a Network-Wide view<br>Collaborative ATFM measure to regulate peak flows involving departure slots, managed rate of entry into a given piece of airspace for traffic along a certain axis, requested time at a way-point or an FIR/sector boundary along the use of miles-in-trail to smooth flows along a certain traffic axis and re-routing of traffic to avoid saturated areas. | B1-NOPS<br>Enhanced Flow Performance through Network Operational Planning<br>ATFM techniques that integrate the management of airspace, traffic flows including initial user driven prioritisation processes for collaboratively defining ATFM solutions based on commercial/ operational priorities. | B2-NOPS<br>Increased user involvement in the dynamic utilization of the network<br>Introduction of CDM applications supported by SWIM that permit airspace users manage competition and prioritisation of complex ATFM solutions when the network or its nodes (airports, sector) no longer provide capacity commensurate with user demands. | B3-NOPS<br>Traffic Complexity Management<br>Introduction of complexity management to address events and phenomena that affect traffic flows due to physical limitations, economic reasons or particular events and conditions by exploiting the more accurate and rich information environment of a flight, SWIM-based ATM. |
| B0-ASUR<br>Initial Capability for Ground Surveillance Ground surveillance supported by ADS-B OUT and/or wide area multilateration systems will improve safety, especially search and rescue and capacity through separation reductions. This capability will be expressed in various ATM services, e.g. traffic information, search and rescue and separation provision. | | | |

## Performance Improvement Area 3:
## Optimum Capacity and Flexible Flights – Through Global Collaborative ATM

| Block 0 | Block 1 | Block 2 | Block 3 |
|---|---|---|---|
| B0-ASEP<br>Air Traffic Situational Awareness (ATSA)<br>Two ATSA (Air Traffic Situational Awareness) will enhance safety and providing pilots with the means quicker visual acquisition of targets:<br>• AIRB (Enhanced Traffic Situational Awareness during Flight Operations).<br>• VSA (Enhanced Visual Separation Approach). | B1-ASEP<br>Increased Capacity and Efficiency through Interval Management<br>Interval Management (IM) improves the management of traffic flows and aircraft spacing. Precise management of intervals between aircraft with common or merging trajectories maximises airspace throughput while reducing ATC workload along with more efficient aircraft fuel burn. | B2-ASEP<br>Airborne Separation (ASEP)<br>Creation of operational benefits through applications which temporary delegation of responsibility to the efficiency by flight deck for separation provision with suitably to achieve equipped designated aircraft, thus reducing the need for conflict resolution clearances while reducing ATC workload and enabling more efficient flight profiles. on | |
| B0-OPFL<br>Improved access to Optimum Flight Levels through Climb/Descent Procedures using ADS-B This prevents an aircraft being trapped at an unsatisfactory altitude and thus incurring non-optimal fuel burn for prolonged periods. The main benefit of ITP is significant fuel savings and the uplift of greater payloads. | | | |
| B0-ACAS<br>ACAS Improvements<br>To provide short term improvements to existing collision avoidance systems (ACAS) to reduce nuisance alerts while maintaining of safety. This will reduce perturbation and increase safety in cases where there is a breakdown of separation. | | B2-ACAS<br>New Collision Avoidance System<br>Implementation of Airborne Collision Avoidance airborne System (ACAS) adapted to trajectory-based operations with improved surveillance function existing levels supported by ADS-B aimed at reducing nuisance trajectory alerts and deviations. The new system will enable more efficient operations and procedures while complying with safety regulations. | |
| B0-SNET<br>Increased Effectiveness of Safety Nets<br>provides improvements to the effectiveness of the ground-based safety assisting the Air Traffic Controller and in a timely manner, alerts of an increased risk to flight safety (such as short terms conflict alert, area proximity warning and minimum safe altitude warning). | B1-SNET<br>Ground-based Safety Nets on Approach Ground-based This module enhances the safety provide This module by the previous module by reducing the risk of controlled flight into terrain accidents on nets final approach through the use of Approach generating, Path Monitor (APM). | | |

## Performance Improvement Area 4:
## Efficient Flight Path – Through Trajectory-based Operations

| Block 0 | Block 1 | Block 2 | Block 3 |
|---|---|---|---|
| B0-CDO<br>Improved Flexibility and Efficiency in Descent Profiles (CDO)<br>Deployment of performance-based airspace and arrival procedures that allow the aircraft to fly their optimum aircraft profile taking account of airspace and traffic complexity with continuous descent operations (CDOs). | B1-CDO<br>Improved Flexibility and Efficiency in Descent Profiles (CDOs) using VNAV<br>Deployment of performance-based airspace and arrival procedures that allow the aircraft to fly their optimum aircraft profile taking account of airspace and traffic complexity with Optimised Profile Descents (OPDs). | B2-CDO<br>Improved Flexibility and Efficiency in Descent Profiles (CDOs) using VNAV, required speed and time at arrival<br>Deployment of performance based airspace and arrival procedures that optimise the aircraft profile taking account of airspace and traffic complexity including Optimised Profile Descents (OPDs), supported by Trajectory-Based Operations and self-separation. | |
| B0-TBO<br>Improved Safety and Efficiency through the initial application of Data Link En-Route<br>Implementation of an initial set of data link applications for surveillance and communications in ATC. | B1-TBO<br>Improved Traffic Synchronization and Initial Trajectory-Based Operation<br>Improve the synchronisation of traffic flows at en-route merging points and to optimize the approach sequence through the use of 4DTRAD capability and airport applications, e.g.; D-TAXI, via the air ground exchange of aircraft derived data related to a single controlled time of arrival (CTA). | | B3-TBO<br>Full 4D Trajectory-based Operations<br>Trajectory-based operations deploys an accurate four-dimensional trajectory that is shared among all of the aviation system users at the cores of the system. This provides consistent and up-to-date information system-wide which is integrated into decision support tools facilitating global ATM decision-making. |
| B0-CCO<br>Improved Flexibility and Efficiency in Departure Profiles - Continuous Climb Operations (CCO)<br>Deployment of departure procedures that allow the aircraft to fly their optimum aircraft profile taking account of airspace and traffic complexity with continuous climb operations (CCOs). | | | |
| | B1-RPAS<br>Initial Integration of Remotely Piloted Aircraft (RPA) Systems into non-segregated airspace<br>Implementation of basic procedures for operating RPA in non-segregated airspace including detect and avoid. | B2-RPAS<br>RPA Integration in Traffic<br>Implements refined operational procedures that cover lost link (including a unique squawk code for lost link) as well as enhanced detect and avoid technology. | B3-RPAS<br>RPA Transparent Management<br>RPA operate on the aerodrome surface and in non-segregated airspace just like any other aircraft. |

## APIRG PROJECTS COORDINATION COMMITTEE (APCC)

### Terms of Reference

### Mandate

The APCC is mandated by APIRG to carry out specific functions in order to coordinate and guide planning and implementation activities within the framework of APIRG, to facilitate the activities of APIRG in its sessions, and to facilitate coordination between PIRGs, other Regional Groups and international organizations identified by APIRG. The APCC shall specifically ensure continuity between the APIRG meetings and take necessary action to avoid implementation delays in between meetings of APIRG.

### Key functions

1. Direct the work programmes and tasks of the contributory bodies of APIRG, in order to ensure that:
   a) contributory bodies have clearly defined tasks and deliverables;
   b) projects are clearly defined and monitoring information made available (*include dashboard issues when ready*).

2. Review reports of the contributory bodies of APIRG in order to:
   a) provide guidance to the contributory bodies, including strategies and roadmaps on achieving the objectives of APIRG;
   b) determine materials that have matured sufficiently for consideration and adoption of conclusions and decisions by APIRG;

3. Monitor progress including the life of Projects carried within the framework of APIRG.

4. Facilitate coordination between APIRG and the AFI-RASG, other Regional bodies and international organisations identified by APIRG

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**Tasks**

a) to prepare the agenda for APIRG meetings in consultation with the Secretary of APIRG

b) to prepare the list of working documents (WPs, IPs, etc.) on materials considered mature for consideration by APIRG;

c) review reports of the APIRG Sub-Groups including draft Conclusions and Decisions, information from other Regional Groups and international organizations and identify prioritised materials for consideration by APIRG

d) review trends on implementation shortcomings and deficiencies in accordance with the Council approved Uniform Methodology, and make recommendations for APIRG Conclusion and Decisions

e) provide guidance for the APIRG contributory bodies including implementation strategies and roadmaps on achieving the objectives of APIRG

f) carry out other tasks as assigned by APIRG

**Working methods**

APCC shall convene at least once a year which shall include a preparatory session for an APIRG meeting. As the Committee also prepares for APIRG meetings, one of its sessions shall take place approximately six weeks prior to an APIRG meeting. The Committee shall in between meetings make use of available electronic communication means including teleconferencing to progress its work and keep its members up to date on issues of concern, as well as to discuss specific issues.

**Composition**

See the Composition of Contributory Bodies above

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## AIRSPACE AND AERODROME OPERATIONS SUB-GROUP (AAO/SG) (OPTION 1)

### Terms of Reference

### Mandate

The AAO/SG is established and mandated by APIRG to support the implementation of ICAO Standards and Recommended Practices (SARPs) and carry out specific activities aimed to enable APIRG to discharge its functions and responsibilities in the areas of AOP and ATM.

### Key functions

To carry out his functions, the Sub-Group shall, as guided by APIRG:

a) Foster the implementation of specific Modules of the ICAO Aviation Systems Block Upgrades (ASBUs) assigned by APIRG.

b) Carry out implementation projects in support of States, related to the areas of AOP and ATM/SAR in accordance with the ASBUs methodology and as guided by the Regional performance objectives, to support States in the implementation of SARPs and regional requirements

c) Take necessary action to enable coherent planning and implementation of AOP and ATM/SAR systems in the AFI Region, to facilitate the objective of achieving seamlessness in the air navigation system, interoperability and harmonization within the Region and with other Regions.

d) Keep under review the adequacy of requirements in the areas AOP and ATM/SAR taking into account changes in user requirements, the evolution in operational requirements and technological developments in accordance with the ASBUs methodology.

e) Ensure AOP environmental initiatives are consistently identified and progressed, and report outcomes from AOP environmental initiatives

f) Identify and collect, State by State, information on deficiencies in the areas of AOP and ATM/SAR in accordance with the Uniform Methodology approved by Council and the APIRG guidance; analyse and propose solution; report on

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progress and obstacles beyond the capacity of the sub-group.

**Tasks (**TBD)

**Working methods**

The Sub-Group shall convene at least once a year taking into consideration the schedule of other APIRG activities. It shall make use of available electronic communication means including teleconferencing to prepare and progress its work in between meetings and keep its members up to date on issues of concern, as well as to discuss specific issues.

Taking into consideration that the SG will be representing the interests of the Region, and that not all APIRG member States will necessarily be represented in an SG, the participating State officials shall be expected to work more as experts in their respective fields, as opposed to delegates attending only to the interests of their States. The SG shall work with minimum of formality.

**Composition**

See the Composition of Contributory Bodies above.

**WORK PROGRAMME**

| No. | Task Description | Priority | Target Date |
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**Priority:**

A. High priority tasks, on which work should be speeded up;
B. Medium priority tasks, on which work should be undertaken as soon as possible, but without detriment to priority A tasks;
C. Lesser priority tasks, on which work should be undertaken as time and resources permit, but without detriment to priority A and B tasks.

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## INFRASTRUCTURE AND INFORMATION MANAGEMENT SUB-GROUP (IIM/SG) (OPTION 1)

### Terms of Reference

### Mandate

The IIM/SG SG is established and mandated by APIRG to support the implementation of ICAO Standards and Recommended Practices (SARPs) and carry out specific activities aimed to enable APIRG to discharge its functions and responsibilities in the areas of CNS, AIM and MET.

### Key Functions

To carry out these functions, the Sub-Group shall, as guided by APIRG:

a) Foster the implementation of specific Modules of the ICAO Aviation Systems Block Upgrades (ASBUs) assigned by APIRG.

b) Carry out implementation projects in support of States, related to the areas of MET, AIM and CNS in accordance with the ASBUs methodology and as guided by the Regional performance objectives, to support States in the implementation of SARPs and regional requirements

c) Take necessary action to enable coherent planning and implementation of MET, AIM and CNS programmes in the AFI Region, to facilitate the objective of achieving seamlessness in the air navigation system, interoperability and harmonization within the Region and with other Regions.

d) Keep under review the adequacy of requirements in the areas of MET, AIM and CNS taking into account changes in user requirements, the evolution in operational requirements and technological developments in accordance with the ASBUs methodology.

e) Identify and collect, State by State, information on deficiencies in the areas of MET, AIM and CNS in accordance with the Uniform Methodology approved Council and the APIRG guidance; analyse and propose solution; report on progress and obstacles beyond the capacity of the sub-group.

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**Tasks**

a) Conduct workshop on the implementation of IAVW programme

b) Conduct meeting of AFI ATM/MET project team.

c) Coordinate annual exercises on volcanic ash

d) Review and update the list of deficiencies with regard to issuance of aerodrome warnings.

e) Sensitize States on the importance of issuance of aerodrome warnings

f) Review and update the list of deficiencies with regard to issuance of wind shear warnings and alerts.

g) Sensitize States on the importance of issuance of wind shear warnings

h) Conduct annual SIGMET Tests.

i) Prepare a consolidated report of the SIGMET Tests including recommendations for improvement.

j) Post report on SIGMET Tests on the Web and send report to all States in AFI region.

k) Report outcome of SIGMET tests to APIRG

l) Sensitize States on the importance of SIGMETs

m) Organize and conduct workshop on encoding and exchange of OPMET data in digital format.

n) Encourage States to exchange data in digital format through bilateral arrangements

**Working methods**

The Sub-Group shall convene at least once every APIRG cycle of meetings taking into consideration the schedule of other APIRG activities. It shall make use of available electronic communication means including teleconferencing to prepare and progress its work in between meetings and keep its members up to date on issues of concern, as well as to discuss specific issues.

Taking into consideration that the SG will be representing the interests of the Region, and that not all APIRG member States will necessarily be represented in an SG, the participating State officials shall be expected to work more as experts in their respective fields, as opposed

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to delegates attending only to the interests of their States. The SG shall work with minimum of formality.

**Composition**

The LIM AFI (COM/MET/RAC) RAN meeting in 1988 agreed that the participants in APIRG contributory bodies were to be specialists in the subjects concerned and familiar with the areas under consideration. While every State that is likely to make a valid contribution shall be given an opportunity to participate, the group shall be kept as small as possible, to facilitate efficiency on aspects such as consideration of business, cost, logistics and the application of non-formal working methods.

**WORK PROGRAMME**

| No. | Task Description | Priority | Target Date |
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**Priority:**

A. High priority tasks, on which work should be speeded up;
B. Medium priority tasks, on which work should be undertaken as soon as possible, but without detriment to priority A tasks;
C. Lesser priority tasks, on which work should be undertaken as time and resources permit, but without detriment to priority A and B tasks.

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## AIRSPACE, AERODROME OPERATIONS AND INFRASTRUCTURE SUB-GROUP (AAOI/SG) (OPTION 2)

### Terms of Reference

### Mandate

The AAOI/SG is established and mandated by APIRG to support the implementation of ICAO Standards and Recommended Practices (SARPs) and carry out specific activities aimed to enable APIRG to discharge its functions and responsibilities in the areas of relating to the areas of AOP, ATM and CNS.

### Key Functions

To carry out these functions, the Sub-Group shall, as guided by APIRG:

a) Foster the implementation of specific Modules of the ICAO Aviation Systems Block Upgrades (ASBUs) assigned by APIRG.

b) Carry out implementation projects in support of States, related to the areas of AOP, ATM/SAR and CNS in accordance with the ASBUs methodology and as guided by the Regional performance objectives, to support States in the implementation of SARPs and regional requirements

c) Take necessary action to enable coherent planning and implementation of AOP, TM/SAR and CNS systems in the AFI Region, to facilitate the objective of achieving seamlessness in the air navigation system, interoperability and harmonization within the Region and with other Regions.

d) Keep under review the adequacy of requirements in the areas AOP, ATM/SAR and CNS taking into account changes in user requirements, the evolution in operational requirements and technological developments in accordance with the ASBUs methodology.

e) Ensure AOP environmental initiatives are consistently identified and progressed, and report outcomes from AOP environmental initiatives

f) Identify and collect, State by State, information on deficiencies in the areas of

AOP and ATM/SAR in accordance with the Uniform Methodology approved Council and the APIRG guidance; analyse and propose solution; report on progress and obstacles beyond the capacity of the sub-group.

**Tasks (**TBD)

**Working methods**

The Sub-Group shall convene at least once a year taking into consideration the schedule of other APIRG activities. It shall make use of available electronic communication means including teleconferencing to prepare and progress its work in between meetings and keep its members up to date on issues of concern, as well as to discuss specific issues.

Taking into consideration that the SG will be representing the interests of the Region, and that not all APIRG member States will necessarily be represented in an SG, the participating State officials shall be expected to work more as experts in their respective fields, as opposed to delegates attending only to the interests of their States. The SG shall work with minimum of formality.

**Composition**

The LIM AFI (COM/MET/RAC) RAN meeting in 1988 agreed that the participants in APIRG contributory bodies were to be specialists in the subjects concerned and familiar with the areas under consideration. While every State that is likely to make a valid contribution shall be given an opportunity to participate, the group shall be kept as small as possible, to facilitate efficiency on aspects such as consideration of business, cost, logistics and the application of non-formal working methods.

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**WORK PROGRAMME**

| No. | Task Description | Priority | Target Date |
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**Priority:**

A. High priority tasks, on which work should be speeded up;

B. Medium priority tasks, on which work should be undertaken as soon as possible, but without detriment to priority A tasks;

C. Lesser priority tasks, on which work should be undertaken as time and resources permit, but without detriment to priority A and B tasks.

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## DIGITAL AIR NAVIGATION INFORMATION MANAGEMENT SUB-GROUP (DANIM/SG) (OPTION 2)

### Terms of Reference

### Mandate

The DANIM/SG is established and mandated by APIRG to support the implementation of ICAO Standards and Recommended Practices (SARPs) and carry out specific activities aimed to enable APIRG to discharge its functions and responsibilities in the areas of MET and AIM.

### Key Functions

To carry out these functions, the Sub-Group shall, as guided by APIRG:

a) Foster the implementation of specific Modules of the ICAO Aviation Systems Block Upgrades (ASBUs) assigned by APIRG.

b) Carry out implementation projects in support of States, related to the areas of MET and AIM in accordance with the ASBUs methodology and as guided by the Regional performance objectives, to support States in the implementation of SARPs and regional requirements

c) Take necessary action to enable coherent planning and implementation of MET and AIM programmes in the AFI Region, to facilitate the objective of achieving seamlessness in the air navigation system, interoperability and harmonization within the Region and with other Regions.

d) Keep under review the adequacy of requirements in the areas of MET and AIM taking into account changes in user requirements, the evolution in operational requirements and technological developments in accordance with the ASBUs methodology.

e) Identify and collect, State by State, information on deficiencies in the areas of MET and AIM in accordance with the Uniform Methodology approved

Council and the APIRG guidance; analyse and propose solution; report on progress and obstacles beyond the capacity of the sub-group.

**Tasks**

a) Conduct workshop on the implementation of IAVW programme
b) Conduct meeting of AFI ATM/MET project team.
c) Coordinate annual exercises on volcanic ash
d) Review and update the list of deficiencies with regard to issuance of aerodrome warnings.
e) Sensitize States on the importance of issuance of aerodrome warnings
f) Review and update the list of deficiencies with regard to issuance of wind shear warnings and alerts.
g) Sensitize States on the importance of issuance of wind shear warnings
h) Conduct annual SIGMET Tests.
i) Prepare a consolidated report of the SIGMET Tests including recommendations for improvement.
j) Post report on SIGMET Tests on the Web and send report to all States in AFI region.
k) Report outcome of SIGMET tests to APIRG
l) Sensitize States on the importance of SIGMETs
m) Organize and conduct workshop on encoding and exchange of OPMET data in digital format.
n) Encourage States to exchange data in digital format through bilateral arrangements

**Working methods**

The Sub-Group shall convene at least once every APIRG cycle of meetings taking into consideration the schedule of other APIRG activities. It shall make use of available electronic communication means including teleconferencing to prepare and progress its work in between meetings and keep its members up to date on issues of concern, as well as to discuss specific issues.

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Taking into consideration that the SG will be representing the interests of the Region, and that not all APIRG member States will necessarily be represented in an SG, the participating State officials shall be expected to work more as experts in their respective fields, as opposed to delegates attending only to the interests of their States. The SG shall work with minimum of formality.

**Composition**

The LIM AFI (COM/MET/RAC) RAN meeting in 1988 agreed that the participants in APIRG contributory bodies were to be specialists in the subjects concerned and familiar with the areas under consideration. While every State that is likely to make a valid contribution shall be given an opportunity to participate, the group shall be kept as small as possible, to facilitate efficiency on aspects such as consideration of business, cost, logistics and the application of non-formal working methods.

**WORK PROGRAMME**

| No. | Task Description | Priority | Target Date |
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**Priority:**

A. High priority tasks, on which work should be speeded up;
B. Medium priority tasks, on which work should be undertaken as soon as possible, but without detriment to priority A tasks;
C. Lesser priority tasks, on which work should be undertaken as time and resources permit, but without detriment to priority A and B tasks.

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## DRAFT TERMS OF REFERENCE AND COMPOSITION OF THE AFI PLANNING AND IMPLEMENTATION REGIONAL GROUP (APIRG)

### 1. Terms of Reference

1.1 The APIRG is primarily responsible for the development and maintenance of the AFI Air Navigation Plan (ANP, ICAO Doc 7474), as well as the identification and resolution of air navigation deficiencies. It is a planning and coordination mechanism and, while implementation is the responsibility of States, APIRG can play a significant role in supporting the implementation of Standards and Recommended Practices (SARPs).

1.2 The terms of reference of the Group are particularly to:

| Strategic Objective(s) | The terms of reference of the Group are to: |
|---|---|
| A, B and E | a) ensure continuous and coherent development of the AFI Air Navigation Plan and other relevant regional documentation in a manner that is harmonized with adjacent regions, consistent with ICAO SARPs and reflecting the ICAO Global Air Navigation Plan requirements; |
| A, B and E | b) facilitate the implementation of air navigation systems and services as identified in the AFI Air Navigation Plan with due observance to the primacy of air safety and the environment; and |
| A, B and E | c) identification and addressing of specific deficiencies in the air navigation field. |

***Strategic Objectives of ICAO for 2014-2016***

- **Strategic Objective A**: Safety: Enhance global civil aviation safety. This Strategic Objective is focused primarily on the State's regulatory oversight capabilities. The Global Aviation Safety Plan (GASP) outlines the key activities for the triennium.
- **Strategic Objective B**: Air Navigation Capacity and Efficiency: Increase the capacity and improve the efficiency of the global civil aviation system. Although functionally and organizationally interdependent with Safety, this Strategic Objective is focused primarily on upgrading the air navigation and aerodrome infrastructure and developing new procedures to optimize aviation

system performance. The Global Air Navigation Capacity and Efficiency Plan (Global Plan) outlines the key activities for the triennium.

- **Strategic Objective C**: Security & Facilitation: Enhance global civil aviation security and facilitation. This Strategic Objective reflects the need for ICAO's leadership in aviation security, facilitation and related border security matters.
- **Strategic Objective D**: Economic Development of Air Transport: Foster the development of a sound and economically-viable civil aviation system. This Strategic Objective reflects the need for ICAO's leadership in harmonizing the air transport framework focused on economic policies and supporting activities.
- **Strategic Objective E**: Environmental Protection: Minimize the adverse environmental effects of civil aviation activities. This Strategic Objective fosters ICAO's leadership in all aviation-related environmental activities and is consistent with the ICAO and UN system environmental protection policies and practices.

## 2 Composition

2.1 The APIRG membership includes all ICAO Contracting States, who are service providers in the AFI Region and part of AFI Air Navigation Plan (ANP).

2.2 User States are entitled to participate in any other APIRG meeting as a non-member.

2.3 International Organizations recognized by the Council may be invited as necessary to attend as observer s to the PIRG meetings.

## 3 Work programme

3.1 In order to meet the terms of reference, the Group shall perform the following tasks:

a) review, and propose when necessary, the target dates for implementation of facilities, services and procedures to ensure the coordinated development of the Air Navigation System in the AFI Region;

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b) assist the ICAO Regional Offices providing services in the AFI Region in their task of fostering implementation of the AFI Regional Air Navigation Plan;

c) in line with the Global Aviation Safety Plan (GASP) and the Global Air Navigation Plan (GANP), ensure the conduct of any necessary systems performance monitoring, identify specific deficiencies in the air navigation field, especially in the context of access and equity, capacity, efficiency, environment and safety, and propose corrective action;

d) facilitate ensure the development and implementation of an action plan by States to resolve identified deficiencies, where necessary;

e) develop amendment proposals to update of the AFI Regional Air Navigation Plan necessary to satisfy any changes in the requirements, thus removing the need for regular regional air navigation meetings;

f) monitor implementation of air navigation facilities and services and where necessary, ensure interregional harmonization, taking due account organization, aspects, economic issues (including financial aspects) of cost/benefit analyses, business case~~,~~ studies and environmental matters.

g) examine human resource planning and training issues and propose where necessary human resource development capabilities in the region are compatible with the AFI Regional Air Navigation Plan;

h) invite financial institutions, as required, on a consultative basis as appropriate to provide advice in the planning process ;

i) maintain close cooperation with relevant organizations and State grouping to optimize the use of available expertise and resources;

j) conduct the above activities in the most efficient manner possible with a minimum of formality and documentation and call meetings of the APIRG when deemed appropriate; and

k) coordinate with other established regional mechanisms such as the Regional Aviation Safety Group (RASG AFI), the DGCA Conference, etc.

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