INTERNATIONAL CIVIL AVIATION ORGANIZATION

THE AFI PLANNING AND IMPLEMENTATION REGIONAL GROUP (APIRG)

REPORT OF THE SECOND MEETING OF THE AIRSPACE AND AERODROME OPERATIONS SUB-GROUP

(AAO SG/2)

(Nairobi, Kenya, 21 to 25 May 2018)

The views expressed in this Report should be taken as those of the APIRG AAO Sub-Group and not of the Organization. This Report will, however, be submitted to the APCC and APIRG and any formal action taken will be published in due course as a Supplement to the Report.

Approved by the Meeting
and published by authority of the Secretary General

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PART I – HISTORY OF THE MEETING

1 PLACE AND DURATION

1.1   The Second Meeting of the APIRG Airspace and Aerodrome Operations Sub-Group (AAO SG/2) was held ICAO ESAF Regional Office in Nairobi, Kenya, from 21 to 25 May 2018.

2 OPENING

2.1   The Meeting was opened by Mr. Arthemon Ndikumana, Deputy Regional Director, Eastern and Southern African Regional Office. In his Opening remarks, Mr. Ndikumana thanked the participants as well as their Administrations for facilitating their attendance and called the meeting's attention to the current challenges being experienced by AFI States with regard to timely resolution of identified air navigation deficiencies, implementation of ICAO Standards and Recommended Practices (SARPs) at the level of service providers to support the ICAO Universal Safety Oversight Audit Programme (USOAP), Aviation System Block Upgrades, performance-based navigation (PBN) and other regional requirements.

2.2   He recalled that since its inception, the AAO Sub-Group had been focused on the establishment and operationalisation of the Project Teams in order to foster implementation of the nineteen projects adopted by APIRG, including other airspace related safety issues. However, it was recognised that so far, limited implementation progress has been realised in the two areas. Activities under the AFI Secondary Surveillance Radar Code Allocation and Assignment Review (ASCAAR) have commenced and were coordinated through a meeting convened in Nairobi, Kenya from 2 to 4 May 2018. With regard to Aerodrome Certification, some progress have been realised under an AFI Plan Aerodrome Certification Project targeting nineteen beneficiary States, although it was noted that the Project Team for the Aerodrome Certification Project under the AAO Sub-Group is yet to meet formally.

2.3   To this end, Mr. Ndikumana urged the group to increase its efforts with regard to its assigned mandate in order to achieve the expected deliverables and called on AFI States and partner organisations to be more involved and committed to realising the projects, with guidance and support from the Secretariat. He further appealed to all AFI States to provide implementation progress reports to ESAF and WACAF Regional Offices, especially in the areas of PBN and ASBU, noting that it was important to facilitate the transition to Block 1 modules as of January 2019.

2.4   Finally, Mr. Ndikumana reiterated the need for the project teams to be adequately constituted with the participation and contribution from all States and called on the group to work together as a team in the interest of the AFI Region.

3 ATTENDANCE

3.1   The meeting was attended by sixty participants from sixteen AFI States and seven regional/international organisations. The List of Participants is at the **Appendix 1A** to the Report.

4 OFFICERS AND SECRETARIAT

4.1   The meeting agreed to retain the chairmanship of Mr. Simon Zwane, Senior Manager ATM Planning Air Traffic and Navigation Services, South Africa, who was elected to chair the first AAO Sub-Group meeting in Dakar, Senegal, 29 to 31 May 2017. Mr. Seboseso Machobane, Regional Officer ATM/SAR ESAF Office was the Secretary of the meeting. He was assisted by Mr. David Labrosse, Regional Officer ATM/SAR from ESAF Office. Messrs Nika Mèhèza Manzi, Regional Officer AGA WACAF Office and Mr. Albert Taylor, Regional Officer ATM/SAR WACAF Office also supported the meeting.

5   LANGUAGES AND DOCUMENTATION

5.1   The discussions were conducted in English and French languages and the meeting's documentation was also issued in both languages, to the extent possible. Translation and simultaneous interpretation services were also provided.

6   AGENDA

6.1   The following Agenda was adopted without changes:

Strategic Objective	Agenda Item No.	Subject
A & B	1.	**Adoption of the agenda of the AAO/SG**
A, B, E	2.	**Review of the APIRG Conclusions/Decisions applicable to the AAO/SG**
A, B, E	3. 3.1 3.2	**Planning and implementation** **Airspace (safety, capacity and efficiency) Projects** **Aerodrome Operations (safety, capacity and efficiency) Projects**
A & B	4.	**Air Navigation Plan (Doc 7474)**
A, B, E	5.	**AFI Air Navigation Reporting Forms (ANRF)**
A, B, E	6.	**AFI Air Navigation Deficiencies Database**
A & B	7.	**Terms of Reference (TOR), Composition and Future Work Programme of the AAO/SG**
	8.	**Any other business (AOB)**

7   CONCLUSIONS AND DECISIONS - DEFINITION

7.1   All APIRG Sub-Groups and Task Forces record their actions in the form of *Conclusions* and *Decisions* with the following significance:

a)   Conclusions deal with the matters which, in accordance with the Group's terms of reference, merit directly the attention of States on which further action will be initiated by ICAO in accordance with established procedures; and

b)   Decisions deal with matters of concern only to the APIRG and its contributory bodies.

PART II: REPORT ON AGENDA ITEMS

AGENDA ITEM 1: ADOPTION OF THE AGENDA OF THE AAO/SG

1.1 The meeting reviewed the proposed agenda for the Second Meeting of the APIRG Airspace and Aerodrome Operations Sub-Group (AAO SG/2), copy of which had been forwarded to States and International Organizations as an attachment to the invitation State Letter. The agenda was adopted without changes as indicated in *paragraph 6* of the ***History of the Meeting***.

1.2 Cognizant of the established procedure within APIRG, the meeting proposed to retain the chairmanship of Mr. Simon Zwane, Senior Manager, ATM Planning, ATNS South Africa as Chairperson of the AAO Sub-Group, noting that Mr. Zwane had previously been elected as Chairperson of the First AAO Sub-Group meeting held in Dakar, Senegal, in May 2017.

1.3 Mr. Simon Zwane was appreciative of the confidence entrusted to him and pledged his commitment to fully discharge his responsibilities in ensuring that the proceedings of the Sub-Group are guided and managed effectively, in order to achieve the desired outcome of the meeting.

AGENDA ITEM 2: REVIEW OF THE APIRG CONCLUSIONS/DECISIONS APPLICABLE TO THE AAO/SG

2.1 The meeting reviewed the list of APIRG Conclusions and Decisions applicable to the AAO Sub-Group. A small working group (SWG) was established and tasked to follow up and update the status of implementation, including consolidation where appropriate. The SWG focused on APIRG 20 and 21 Conclusions and Decisions, noting that previous Conclusions and Decisions related to APIRG/19, APIRG/EO and APCCs had already been addressed by the AAO SG/1 meeting in 2017. The SWG also provided guidance on how to enhance the current mechanism for follow up of actions required by AFI States, in order to facilitate and expedite their implementation. In this regard, the SWG was guided by the following:

    a) review the APIRG/20 and APIRG/21 Conclusions and Decisions applicable to the AAO/SG and identify those that continue to be valid, as well as further actions required to facilitate their implementation, including those that are no longer applicable (actions completed, covered by others, overtaken by events or otherwise redundant); and

    b) make recommendations on how to enhance current mechanism, aimed at facilitating and expediting their implementation, for further review by the AAO SG/3 meeting and reporting to the APIRG/22 meeting in 2019.

2.2 The meeting appreciated the progress made by South Africa in the implementation of some APIRG related Conclusions, mainly in the nomination of expertise for the AFI Air Navigation Deficiencies Database (AANDD), nomination of experts to the APIRG Sub-Groups, the harmonized introduction of RPAS, the development and promulgation of their ATM Contingency Plan and updating of the AFI Air Navigation Report Forms.

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2.4 The status of APIRG Conclusions/Decisions and Decisions reviewed and updated by the meeting is at **Appendix 2A** to this report.

AGENDA ITEM 3: PLANNING AND IMPLEMENTATION

3.0 The meeting recalled APIRG **Conclusion 20/49**: *Projects Identification and Implementation Issues* and noted the various challenges being experienced by the AAO SG, specifically issues related to the operationalization of the new APIRG Structure, working methodology and implementation of the projects as endorsed by APIRG. The meeting also highlighted the need for enhanced flow of information from States to the two ICAO AFI Regional Offices on the status of implementation, noting that currently limited information was being received from the States. The meeting noted that the projects under the AAO Sub-Group were merely a transformation of activities from the old APIRG structure that were previously being addressed under Task Forces and Working Groups, and that no special funding are provided under the new APIRG structure to support projects implementation. The list of updated Airspace and Aerodrome Operations Projects are reflected in **Appendix 3A** and **Appendix 3B** to this report.

3.1 Airspace (safety, capacity and efficiency) Projects

3.1.1 ASCAAR Project

3.1.1.1 The meeting noted with appreciation that the AFI Secondary Surveillance Radar (SSR) Code Allocation and Assignment Review (ASCAAR) Project Team met in Nairobi, Kenya, from 2 to 4 May 2018. This was the first Project Team under the AAO Sub-Group to commence work since the new APIRG organizational structure was established.

3.1.1.2 It was recalled that the Project Team was giving effect to APIRG **Decision 19/14** '*Establishment of the AFI SSR Code Allocation and Assignment Working Group*' and **Decision 21/07** '*Update of the AFI Secondary Surveillance Radar (SSR) Code allocation Plan and Assignment Procedures*, calling on the Secretariat to prioritize the activity of the ASCAAR Project.

3.1.1.3 The meeting also recalled that the primary objective of the ASCAAR Project was to update the AFI SSR Code Allocation Plan and assignment procedures in order to make the SSR codes available to all airspaces and to improve availability and the efficient usage of the allocated codes.

3.1.1.4 In this regard, the Sub-Group noted that the ASCAAR PT reviewed and updated the AFI Code Allotment Plan and Assignment Methods (CAP), and transformed it into a more dynamic Plan that should serve the AFI Region effectively for the foreseeable future. Amongst others, the Plan has been revised to ensure adequate allocation of SSR Codes to all FIRs in the AFI Region, and the management of thereof taking into consideration developments since the last revision, including adjustments to the Air Navigation Plan areas of the ICAO AFI, EUR and MID Regions. Consideration has also been given to current and emerging trends such as the establishment of blocks of airspace within which measures to achieve harmonized, interoperable and seamless operations are being implemented.

3.1.1.5 The revised Plan features more advanced approaches on the management of SSR codes allocation and assignment, and is accordingly titled the *AFI SSR Code Management Plan (CMP).* In order to facilitate immediate requirements as well as investment developments to take optimum advantage of the CMP, its implementation is to be undertaken in stages as indicated hereunder.

3.1.1.6 The Sub-Group acknowledged that the CMP constitutes an operational component of one of the elements of the Aviation System Block Upgrades (ASBU); B0-ASUR, with initial capability for ground surveillance, and that it will have changing role as other elements of the ASBU modules and new technologies are being introduced and implemented. Accordingly, the CMP will include more active roles by APIRG and the Regional Offices to ensure effective monitoring and evolution of the Plan to address the needs of States' air navigation service providers (ANSPs), as well as developments in the implementation of ASBU.

3.1.1.7   The meeting noted that in order to optimize the availability SSR codes to all FIR, and terminal airspaces, the following features have been incorporated in CMP, its implementation and evolution:

a) Establishment of Originating Region Code Allocation Method (ORCAM) with multiple Participation Areas (PAs). Initially, the AFI Region will be divided into four (4) PAs; the number and structure of the PAs to be revised every three years, as a minimum;

b) Sharing of SSR codes where practical and necessary, particularly to alleviate the immediate needs of some States; and

c) Reduction of SSR code occupancy time under specified conditions, to increase the availability of currently allocated SSR codes.

3.1.1.8   In addition to the above, the ASCAAR Project Team developed a roadmap for a progressive implementation and evolution of the AFI CMP, and identified actions including collection of traffic information and data, as well as workshops to facilitate implementation of the Plan.

3.1.1.9   Based on the above discussions, the ASCAAR meeting formulated the following Draft Conclusions and Decision:

Draft Decision ASCAAR 2/01: Draft Revised AFI SSR Code Management Plan

That, in order to provide for increased availability of SSR codes to all AFI FIRs and terminal airspaces therein, to improve availability and efficiency usage of the allocated codes, and facilitate continuing efficiency in the use of SSR codes;

a)   The Draft AFI SSR Code Management Plan to the report is endorsed;

b)   The Draft CMP be coordinated with IIM SG/2 and further guidance, if applicable be provided to the ASCAAR Project Team to adjust the Plan accordingly; and

c)   Based on further guidance provided by the AAO and IIM Sub-Groups, the ASCAAR Project Team reviews the Draft CMP and re-submits to the AAO SG/3 meeting for onward consideration and adoption by APIRG/22.

Draft Conclusion ASCAAR 2/02:   Originating Region Code Assignment Method (ORCAM) with Multiple Participating Areas (PAs) in the AFI region

That, in order to optimize the availability of SSR codes in the AFI Region in the short to medium term (up to three years);

a)   The AFI Region adopts application of Originating Region Code Assignment Method (ORCAM) with multiple PAs;

b)   Initially, the Region adopts four Participating Areas (PAs) aligned with the current AFI areas of routing, to be implemented once endorsed by the APCC;

c)   The number and structure of the PAs be further studied and adjusted based on up to date data on traffic patterns and volumes, and submitted to APIRG/22 for adoption and implementation in 2022; and

d)   The Secretariat to ensure coordination as necessary between the ICAO AFI and adjacent Regions.

Draft Conclusion ASCAAR 2/03:   SSR Codes Sharing

That, in order to increase the availability of SSR codes in the AFI CMP, as an initial step prior to Implementation of Revised AFI Code Management Plan:

a)   **The AFI Region adopts the approach of "SSR code sharing" between FIRs that are geographically adequately disparate and/or where directional assignment of SSR codes makes "code sharing" practical;**

b)   **The "SSR code sharing" be implemented after appropriate safety assessments have been carried out by the concerned FIRs and ATS Letters of Agreement (LoAs) updated, except where a Regional or sub-regional arrangement obviates such action: and**

c)   **ICAO ESAF and WACAF Regional Offices be duly informed by the respective FIRs of the specific SSR code sharing arrangements including completion of requisite steps such as safety assessments, at least 60 days before implementation of the arrangements; and**

d)   **The above measures to be applicable from 8 November 2018.**

Draft Conclusion ASCAAR 2/04:   SSR Code Occupancy Time

That, in order to facilitate increased availability of currently allocated SSR codes pending adoption and implementation of the comprehensive revised AFI SSR Code Management Plan:

a)   **The SSR code occupancy time (protection period) is changed from three hours to a maximum of two hours;**

b)   **The code protection time below three hours to be applied within a specific FIR should be justified by need, taking into consideration such factors as flight times across the FIR or groups of FIRs as applicable, and supported by sound safety assessments in accordance with ICAO safety management provisions; and**

c)   **The Secretariat takes necessary measures to amend the SSR code allocation table in the AFI ANP Doc 7474 by 16 August 2018 for the measures to be applicable from 8 November 2018.**

Draft Conclusion ASCAAR 2/05:   Roadmap to Automation of the AFI SSR Code Management Plan

That, in order to enable harmonized progressive automation of SSR code management and the intended efficiencies in the operational use of the SSR Codes, the AFI Region adopts the planning and implementation of the CMP.

Draft Conclusion 2/06:   Collection of data on traffic volumes and patterns in the AFI Region and the interface with other ICAO Regions

That, in order to facilitate effective update and improvement of the AFI SSR Code Management Plan for application in the long term (beyond three years):

a)   The ICAO ESAF and WACAF Regional Offices, with support of the AFI Traffic Forecasting Working Group (AFI TFG), take necessary action to obtain traffic data from States and traffic forecasts, and liaise with adjacent regions with regard to traffic and operational requirements in the interface between the Regions;

b)   The traffic information referred to in (a) above be collected in the second half of 2019 in order to ensure relevance of the traffic information and data for use in reviewing the structure and number of PA; and

c)   By March 2019, the APIRG Secretariat to develop and circulate to States/ANSPs, a template to be used in the collection of traffic data in a format that will facilitate effective review of the AFI SSR CMP.

Draft Decision ASCAAR 2/07:   Workshops to Facilitate Implementation of the Revised SSR Code Management Plan

That, in order to facilitate the safe and harmonized switchover from the current Code Allocation Plan to the new SSR Code Management Plan (CMP):

a)   ICAO ESAF and WACAF Regional Offices arrange for workshops to provide knowledge and awareness on the new CMP and to facilitate coordination between ATS Units; and

b)   The Workshops be conducted by March 2019 in order to facilitate implementation preparedness and should target ATS and CNS staff with operational responsibilities.

3.1.2   Status of PBN Implementation in the AFR Region

3.1.2.1   The meeting noted that although several surveys related to PBN implementation has been conducted in the AFI Region, it has been very difficult to obtain updated and credible information from AFI States about PBN implementation in their airspaces and at international aerodromes. It was noted that in the ESAF area, sixteen States out of twenty-four, representing 67% of the States, have developed and submitted their National PBN Implementation Plan to ICAO ESAF Office.

3.1.2.2   Based on a survey carried out by the African Flight Procedure Programme (AFPP), the meeting noted that in the WACAF area, 21 States out of 24, representing 88% of States, have developed and submitted their National PBN Implementation Plan, representing 88% of the States. Congo has developed its PBN Plan but this is still pending approval. Central African Republic and Guinea Bissau have not yet developed their PBN Plans due to numerous challenges, including current unstable political environment.

3.1.2.3   The meeting noted that although most of the plans have been developed, a significant number of them are not robust enough and therefore called on States to carry out a comprehensive review and updating of their PBN Plans to include all relevant requirements. For States without PBN Plans, the

meeting identified the need for training of national experts in order to enable them develop and effectively implement their National PBN plans.

3.1.2.4   The meeting further noted that in February 2018, a survey was jointly conducted by the AFPP and ICAO Regional Offices (EUR/NAT, ESAF, MID and WACAF) but only 7 States (Cabo Verde, Cote d'Ivoire, Gambia, Kenya, Mozambique, Nigeria and Senegal) out of fifty-four States provided their feedback to the survey, which included information on the status of PBN implementation.

3.1.2.5   The meeting highlighted the need for States to review/update national PBN implementation plans to ensure that they are robust, which should include financial resources for implementation and approval by the executive or appropriate high-level authority.

3.1.2.6   ASECNA informed the meeting that is was committed to providing assistance to its member States to ensure that robust national PBN implementation plans are developed, implemented and associated infrastructure requirements are harmonized among ASECNA member States by 2019. Zambia committed to finalize its national PBN implementation plan and submit to the ICAO ESAF Regional Office by 31st June 2018.

3.1.2.7   The meeting noted IATA's efforts and support to the industry towards PBN implementation in the Region. IATA was therefore encouraged to continue its PBN implementation monitoring programme being jointly undertaken with its members and Jeppesen, and requested to provide periodic feedback to States and ICAO, in order to support the attainment of regional PBN implementation targets.

3.1.2.8   The meeting acknowledged that the PBN Airspace Concept is an essential element of PBN implementation and noted that the AFPP conducted three workshops during 2017/2018 to sensitize States and provide necessary guidance. The meeting also noted that many active AFPP member States were not paying their annual contributions of USD 10,000 on time and in some cases, States which have signed as members since 2014 have failed to make any payments to date. Based on the above discussions, the meeting formulated the following Draft Conclusion. Based on the above discussions, the meeting formulated the following Draft Conclusion:

Draft Conclusion 2/08:   Improvement and funding of States PBN Implementation Plans

That, in order to meet regional targets related to PBN implementation as endorsed by APIRG, States that have not already done so, are urged to review their PBN implementation plans to ensure that they are sufficiently robust and detailed to effectively support implementation thereof, that they are formally adopted at the appropriate level of the State/ANSP and are accordingly funded.

3.1.3   Status of implementation of the AFI Plan Projects on SAR

3.1.3.1   The meeting noted that at its sixteenth meeting held in Montreal, Canada, in November 2015, following the disappearance of Malaysia Airlines Flight 370, the AFI Plan Steering Committee had identified the need for urgent to be taken by the aviation community in order to increase the capacity of AFI States to provide effective SAR services and requested its Secretariat to develop and implement projects to assist States identify deficiencies through GAP analysis and put in place action plans to resolve the deficiencies related to the establishment of effective and operational SAR organisations.

3.1.3.2   Project Number WACAF/2016/001 was developed and funded under the AFI Plan to assist WACAF States to establish an effective and operational SAR organization. The twelve months' project, which ended in November 2017, was coordinated and implemented by the ICAO WACAF

Regional Office and a team of three SAR experts from Cameroon, Cote d'Ivoire, Kenya, Senegal, South Africa and Togo with the following outcome:

a) A SAR gap analysis was conducted (via a questionnaire and follow up calls, emails), the result of which constituted the basis for designing assistance to selected States for SAR awareness, development of SAR documentation and coordination for the signing of SAR Manuals and Agreements.

b) Generic SAR Legislation, Decrees, Manuals, Plans and Agreements were developed, submitted to high-level ministerial conference on SAR for endorsement and distributed to all States and Regional bodies for adoption and implementation.

c) Onsite SAR assistance missions were conducted to 5 States. The mission covered awareness seminars to national inter-agency SAR forum, assistance in the development of SAR documentation and assessment of required infrastructure, equipment, facilities and operating procedures.

d) Lomé Declaration on the Improvement of the Provision of Search and Rescue Services in Africa and an eight-point SAR Plan of Action were adopted by African Ministers responsible for Transport for implementation by African States.

3.1.3.3 Project Number ESAF/2016/002 was developed and funded under the AFI Plan to assist Botswana, Kenya, Madagascar, Mauritius, Mozambique, Namibia, Seychelles, Somalia, South Africa, Rwanda, Tanzania and Uganda establish an effective and operational SAR organization. The twelve months project, which ended in November 2017, was coordinated and implemented by the ICAO ESAF Regional Office and a team of three SAR experts from Kenya, South Africa and Uganda, with the following outcome:

a) Ten out of the twelve beneficiary States have developed SAR legislation, but only six have promulgated their legislation;

b) Eleven States have developed SAR regulations but only five have actually promulgated these regulations;

c) Ten States have established their RCC/JRCC/RSC and in the process of building capacity;

d) Four States have approved SAR plans, with the remaining ones under development;

e) Fifteen SAR LoAs have been signed and twenty-three new LoAs developed, awaiting coordination and signing at State level.

3.1.3.4 In order to provide appropriate assurances to its operators regarding the status of SAR organizations and services in AFI FIRs, IATA was requested to urge its member airlines to include status of SAR organization and preparedness, as part of their pre-operational assessments and technical panel/missions to States/SAR service providers. Benin made s special requested to ICAO WACAF Regional Office to facilitate the signing of its SAR agreement with Nigeria.

3.1.3.5 In view of the forgoing discussions, the Sub-Group agreed on the following Draft Conclusion:

Draft Conclusion 2/09: **Follow-up on the AFI Plan SAR Projects for ESAF and WACAF States**

That, as a matter of priority, beneficiary States of the AFI Plan SAR Projects for ESAF and WACAF States:

a) **expedite the development and operationalisation of their SAR plans, which should include State agencies that would be involved with supporting SAR operation;**

b) **Coordinate directly with the authorities responsible for SAR in adjacent States and arrange for signing of their SAR agreements as soon as practicable and inform ESAF and WACAF Regional Offices;**

c) **Use Regional Economic Communities (RECs) frameworks such as COMESA, EAC, AFCAC, IOC and SADC to pursue signing of outstanding SAR agreements where high level intervention is required;**

d) **Upon request, AFI States having adequate SAR expertise and resources to assist other States improve their SAR organisation and capabilities; and**

e) **IATA / Airlines include SAR requirements as part of their pre-operational assessment and technical panels/missions to States/ ANSPs.**

3.1.4   Delineation of the Khartoum Flight Information Region

3.1.4.1   The meeting noted efforts by ICAO in facilitating processes on the agreed decision by South Sudan and Sudan, to enable South Sudan to directly discharge its responsibilities under Article 28 to the Chicago Convention, of providing air traffic services and the associated air navigation service, in the airspace over its territory. The decision followed the independence of South Sudan on 9 July 2011 and the subsequent developments culminating the State becoming a Contracting State to the Convention on International Civil Aviation on 10 November 2011. The States agreed on the establishment of the *Taskforce on Air Navigation Services and Delineation (TANSD)* with members from the concerned States, ICAO and with the terms of reference as reflected in **Appendix 3C** to this report.

3.1.4.2   The meeting noted that the TANSD held its first meeting in Nairobi, July 2012 and that after its Fourth meeting (TANSD/4) held Cairo, Egypt in May 2017, had agreed on the delineation and proposal for amendment (PfA) of the AFI and MID ANPs, with respect to establishment a boundary within the current Khartoum FIR, to create a new FIR in the AFI ANP. In addition to the delineation, the TANSD addressed issues related to AIM, ATM, CNS, as well as SAR for the new FIR, as well as requirements for coordination between the two States.

3.1.4.3   The meeting noted that in order to facilitate resolution of CNS deficiencies affecting the southern part of Khartoum FIR, South Sudan and Sudan signed a High Level Agreement (HLA) under which, amongst others, Sudan would install and maintain communication and surveillance equipment in South Sudan, continue to provide ATS in the whole of Khartoum FIR (including the airspace over South Sudan) for three years from date of signature of the HLA, and otherwise enhance cooperate on related matters. The HLA was renewable, based on South Sudan's readiness to commence provision of ANS, after the approval of the PfA establishing the "Juba" FIR. In view of the foregoing, the Sub-Group agreed on the following Draft Conclusion:

Draft Conclusion 2/10:   **Delineation of the Khartoum Flight Information Region**

That, APIRG endorses the delineation of the Khartoum Flight Information Region (FIR) to establish a new FIR in which South Sudan will be responsible for the provision of air navigation services

3.1.5 *Restructuring of Kigali Airspace*

3.1.5.1   The meeting noted in March 2018 Rwanda communicated its intention to commence the provision of ATS in the whole of the Kigali FIR, including the upper airspace in which ATS is currently being provided Dar es Salaam. This would, inter alia, necessitate amendment of the AFI ANP to remove the FIR structural demarcation which indicates delegation of ATS provision to Dar es Salaam. In addition to the upper FIR, the Kigali TMA would be extended to the western boundary of Kigali FIR, with consequential amendment of the TMA du Lac, with the primary objective of directly discharging the State's obligations under the Convention on International Civil Aviation in particular Article 28 thereof, with regard to the provision of ATS, associated CNS and safety responsibilities.

3.1.5.2   In order to facilitate the above airspace restructuring and related operational changes, the ICAO ESAF Regional Office convened in July 2017, an ATM Coordination Meeting for Kigali FIR (ATM/CM-KFR) in Nairobi, attended by Burundi, DRC, Uganda as well as IATA, in which details of the changes were discussed and a roadmap towards implementation agreed. Among the issues discussed and noted by the ATM/CM-KFR were safety issues in the western part of the Kigali FIR as well the regulatory requirements Rwanda.

3.1.5.3   The meeting acknowledged the support provided by ICAO and the development of a Draft Proposal for Amendment of the AFI Air Navigation Plan, Doc 7474, Volume I (PfA) by the ESAF Office, which will be circulated in due course to concerned States and organisations for their comments, followed by further processing of the PfA and its submission to the President of the ICAO Council for approval consideration.

3.1.5.4   The meeting highlighted the importance of having updated ATS letters of agreement (LoAs) in place in preparation for implementing the expected changes to facilitate coordination of traffic between Kigali and its adjacent FIRs. In the same vein, taking into consideration the size of Kigali FIR which will introduce increased controller/pilot interaction once the changes are implemented, the meeting highlighted the need for effective operational procedures to be included in the ATS letters of agreement, supported by comprehensive safety assessments and mitigation measures by the States' air navigation service providers. The Sub-Group accordingly agreed on the following Draft Conclusion:

Draft Conclusion 2/11:   **Re-structuring of the Kigali Flight Information Region**

That, APIRG endorses the restructuring of the Kigali Flight Information Region (FIR) to remove the airspace structure related to delegation of air traffic services in the upper airspace.

3.1.6 *Relocation of the Mogadishu FIC from Nairobi to Mogadishu*

3.1.6.1   The meeting recognised the on-going efforts to relocate the Mogadishu Flight Information Centre (FIC), based on a transition plan approved by ICAO Technical Cooperation Bureau (TCB), in close collaboration with the Federal Government of Somalia (FGS).

3.1.6.2　　　The meeting noted that the relocation plan of the Mogadishu Flight Information Centre (FIC) from Gigiri, Nairobi to Mogadishu is being implemented in four phases as follows:

a) **Phase 1 - Site acceptance**: Site acceptance takes place in Mogadishu while the flight information service continues to be provided by the FISS in Nairobi. This will involve training a group of staff in Mogadishu by the equipment supplier to become instructors and the works station will be assessed to ensure it is fit for the purpose. This phase can commence when the equipment is installed and ready for testing.

b) **Phase 2 – Staff training**: Training of staff is undertaken to support the operation of the new FIC in Mogadishu. This will involve periods of "FIC Ghosting" and further tests of equipment e.g. for ground-ground communication and ground-air communication, lasting for three to four weeks.

c) **Phase 3 – Transfer of operations**: Flight information service is transferred from FISS Nairobi to the new FIC in Mogadishu. Shadowing will be carried out by the FISS Nairobi facility in a "Hot Standby" preparedness.

d) **Phase 4 – Consolidation**: When service provision at the Mogadishu FIC is well established and stable, the equipment of the FISS in Nairobi will become available for relocation to another contingency location, yet to be determined.

3.1.6.3　　　The meeting noted that the operation of the FIC once relocated in Mogadishu, Somalia, will commence on 15 June 2018, at 11:00 UTC, as per the NOTAM promulgated by Somalia at **Appendix 3D** to this report. It is envisaged that once the relocation is complete and the operation stable, the next step will be to introduce ADS-C CPDLC and full air traffic control service including the re-classification of the upper airspace of the Mogadishu FIR from Class G to Class A. In light of the above, the Sub-Group agreed to the formulation of the following Draft Conclusion:

Draft Conclusion 2/12:　　**Relocation of the Mogadishu FIC from Nairobi to Mogadishu, ATS Organisational Changes and Airspace Operational Improvements**

That, as part of measures to enhance safety with regard to the organizational and operational changes in Mogadishu FIR;

a) **Somalia is urged to ensure that necessary safety assessments are carried out and applicable mitigations applied, in accordance with the provisions of Annex 11, Annex 19 and PANS-ATM Doc 4444, before the implementation of any operational changes, including the implementation of air traffic control service and ADS-C/CPDLC;**

b) **In order to minimize the risk of safety degradation during the ADS-C/CPDLC trials, the trials be preceded by implementation of air traffic control service;**

c) **ICAO is requested to continue providing guidance and assistance to Somalia and the FISS, as necessary;**

d) **Somalia/FISS should continue to inform airspace users of the transition and availability of associated services in a timely manner; and**

e) **Airspace users are requested to report incidents to the State, IATA and ICAO for necessary follow-up action, including mitigation.**

3.1.7   *IATA Mobile Communication Survey Report*

3.1.7.1   The meeting noted the report on the last Aeronautical Mobile Communication Survey for the AFI Region, conducted by the International Air Transport Association (IATA), from 8th to 22nd February 2017, aimed at determining the real VHF coverage and the quality of HF and CPDLC/SATCOM service provisions to users, identifying deficiencies in order to provide the necessary support to improve the aeronautical mobile communication and the protection of the aviation frequency spectrum and the quality and timely provisions of ground-to ground services, in particular AIDC.

3.1.7.2   The meeting recognized the participation of the following airlines, notably Air France British Airways, Delta Air Lines, Emirates Airlines, Etihad Airways, KLM Royal Dutch Airlines, Lufthansa, and Qatar Airways, which provided data representing 2055 VHF/HF and 1225 CPDLC reports on 40 ATS units, including 25 FIRs, covering most of the AFI Region.

3.1.7.3   The meeting identified the need for additional action to be taken by AFI ANSPs that show continuous deficiencies in mobile communication service provision and formulated the following Draft Conclusion:

> **Draft Conclusion 2/13:**   **Efforts to Address Mobile Communication Deficiencies**
>
> **That, in order to address persisting mobile communication deficiencies related to VHF, HF and CPDLC, AFI ANSPs that continue to have deficiencies in mobile communication service provision establish Service Level Agreements (SLAs) with users and collaborate to identify measures to address such deficiencies.**

3.1.8   *Performance-Based Communication and Surveillance (PBCS) Monitoring*

3.1.8.1   The meeting discussed developments in the implementation of Performance Based Communication and Surveillance (PBCS), noting other discussions within the framework of APIRG which date back to APIRG/17 in 2010. In this context, it was recalled that APIRG/20, 30 November – 2 December 2015 had agreed on Conclusion 20/09: *Implementation of ICAO PBCS Manual (DOC 9869) and GOLD Manual (DOC 10037)* and Conclusion 20/24: *Establishment of a Project Team for the implementation of a data link central monitoring and reporting agency (DL/CMRA)*. Furthermore, the APIRG/21 Meeting, held from 9 to 11 October 2017 had adopted Conclusion 21/09: *PBCS Planning, Implementation and monitoring*.

3.1.8.2   The Sub-Group noted that during the Tenth Meeting of the AFI Tactical Action Group (TAG/10) in March 2018, latest information on the PBCS implementation was shared. This includes developments in the second half of 2017 to early 2018, in which conclusions had been arrived that, for operational safety, effectiveness and cost management, regional PBCS monitoring could best be undertaken by institutions performing RVSM Regional monitoring. The rationale includes recognition that PBCS monitoring, whose focus is aircraft separation related horizontal monitoring, is closely interrelated to vertical separation, which is the historical subject of RMAs. In practical ATM terms, vertical and horizontal separations are strategically (airspace design and operational planning) and tactically (air traffic control decisions) inextricable safety functions.

3.1.8.3   In this regards, Regional air navigation implementation bodies including PIRGs had taken or were in the process of formalizing the assignment to RVSM Regional Monitoring Agencies (RMAs), the functions and responsibilities of PBCS monitoring (JASMA, MAAR, NAARMO, NAT CMA, and PARMO have completed update of their ToRs). The expanded functions and responsibilities of RMAs relating to PBCS monitoring include the following:

a) RCP and RSP monitoring (APIRG/17 acknowledged RCP as a safety net; AFI ANS Targets also refer);

b) Registration and coordination of approvals (similar to RVSM) as well as interactive support to States, including support related to aircraft that fly where separation based on PBCS has been implemented;

c) Facilitate the interregional sharing of information on PBCS approvals, as well as follow up on approval incidents involving AFI aircraft flying in other Regions;

d) Support the implementation of new horizontal separation minima at FIR and regional levels, as well interregional coordination of new horizontal separation minima; and

e) Support the AFI Region in establishing harmonized PBN related separation minima with adjacent Regions.

3.1.8.4   The meeting noted that the PBCS implementation date in the North Atlantic Ocean and parts of APAC Region was 29 March 2018, following applicability of Amendment 7 to PANS-ATM Doc 4444 in November 2017 (see figure 1 below. In this case, AFI airlines flying in these airspaces were already affected. It is notable that while AFI airspaces had not yet implemented separation minima dependant on PBCS monitoring, approvals registering, monitoring and coordination across regions similar to that of RVSM RMAs, became due in March 2018 for AFI aircraft flying where PBCS monitoring has been implemented, thereby signifying the need for the AFI Region to establish mechanisms, including PBCS monitoring at State and regional levels, as well as capability for PBCS approvals for States whose aircraft would fly in PBCS areas.
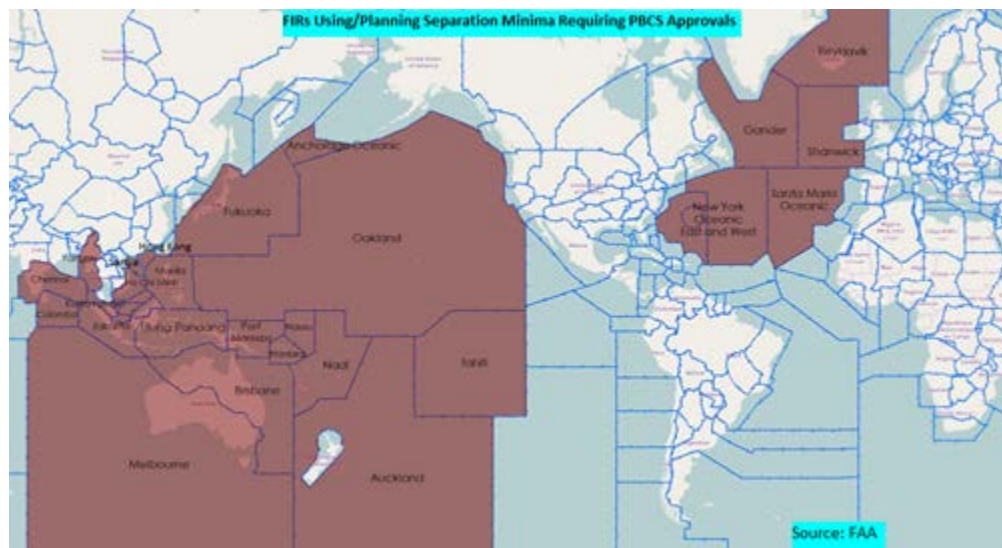
Secretariat notes:

Note 1 - The following text is an extract of State Letter AN 13/2.1-16/54 dated 23 June 2016 on the Subject: Approval of Amendment 7 to the PANS-ATM (IMPACT ASSSEMENT):

Amendment concerning performance-based longitudinal and lateral separation minima and ADS-C CDP:

2.1 Safety impact: Positive — This new separation minima increases flexibility in air traffic management and is contingent on required

communication performance (RCP) and required surveillance performance (RSP) which increases robustness and safety of data link operations.

2.2 Financial impact: Negligible — The financial impact is considered negligible for both State and industry if effective processes and procedures, necessary ground system automation and monitoring programmes are already in place. However, should those not be in place and the ANSPs wish to implement the procedure(s), associated implementation costs will only be incurred when the air traffic demand requires reduction in separation minima. This will provide for increased access to optimal flight levels, resulting in increased efficiency and fuel savings.

Amendment concerning DLIC, CPDLC, ADS-C, PBCS and SATVOICE

2.13 Safety impact: Positive — Clarification on terms and existing provisions regarding data link (DLIC, CPDLC and ADS-C) brought by this amendment will have a positive safety impact in particular for operations in oceanic and remote areas. The amendment regarding PBCS will also have a positive safety impact since ANSPs will be able to identify eligible aircraft to which reduced separation minima can be safely applied based on communication and surveillance capabilities filed in the flight plan. No safety impact is expected for the SATVOICE amendment.

2.14 Financial impact: Negligible to significant — No significant financial impact is expected for States but the financial impact for industry will vary, from nominal to significant, depending on the level of data link and PBCS implementation. Concerning the SATVOICE amendment, no significant financial impact is expected.

Note 2

2.15 One of the responsibilities and standardized practices listed in the PBCS Manual is that "ANSPs should consider combining the PBCS monitoring programmes with other monitoring programmes, particularly those established on the basis of a bilateral, multilateral or regional air navigation agreement, such as for monitoring RVSM, performance-based horizontal separation minima, and safety of ATM operations." (ICAO Doc 9869, edition 2, June 2017 (4.5.1.3)).

2.16 Proposals are being processed within the frameworks of the Communications - Operational Data Link Specific Working Group (CP-OPDLWG), to amend the RVSM Manual (Doc 9937) to include the PBCS monitoring tasks.

Note 3

ICAO guidance in the Manual on Monitoring the Application of Performance-based Horizontal Separation Minima (Doc 10063 First Ed, 2017) states that

"2.1.6 Within a region, these functions could be combined with the functions of the Regional Monitoring Agency (RMA), established to provide airspace safety assessment and monitoring services to support the continued safe use of the reduced vertical separation minimum (RVSM), and supported by other

monitoring programmes, such as the performance-based communication and surveillance (PBCS) monitoring programme established by air navigation service providers detailed in Doc 9869."

Note 4

At its Seventeenth Meeting in Burkina Faso, August 2010, the APIRG adopted Conclusion 17/25: Implementation of CPDLC, calling on States to implement CPDLC procedures for en-route operations in their oceanic and remote continental airspace. The APIRG/17 meeting also acknowledged that Required Communication Performance (RCP) being a performance specification serves as one possible safety net in airspace planning. It was agreed that the AFI Region should adopt RCP guidelines for planning towards the safe reduction in separation standards based on RNAV10 (RNP10) and RNP4 PBN navigation specifications.

3.1.8.5   At its Twenty-first meeting in October 2017, APIRG adopted Air Navigation Safety Indicators and Targets including an aspirational target of zero AIRPROXs by 2020, to be form part of the Abuja Safety Targets. Horizontal monitoring is one of the critical elements to support realization of the targets.

3.1.8.6   Based on the above, the meeting agreed on the need to expedite the establishment of the AFI PBCS monitoring mechanism, noting the approach adopted in other ICAO Regions to take advantage of the already existing RVSM monitoring organizations for various reasons, including operational and institutional. Accordingly the Sub-Group formulated the following Draft Conclusion:

Draft Conclusion 2/14:   Establishment of the AFI Performance-Based Communication and Surveillance (PBCS) Monitoring

That in order to implement regional PBCS monitoring for the AFI Region in support of the provisions of Annex 11 to the Chicago Convention, specifically Standards 2.8, 2.9, 3.3.5.2 and mindful of the PBCS monitoring models in other ICAO Regions:

a) **The AFI PBCS monitoring should be established as part of the AFI RMA monitoring mechanism;**

b) **ICAO to formally request South Africa, as matter of urgency, to facilitate the inclusion of PBCS monitoring in the functions and responsibilities of the AFI Regional Monitoring Agency (ARMA) and provide necessary expertise for both functional areas (RVSM and PBCS), as well associated support to States and service providers as applicable;**

c) **South Africa be mandated to formulate cost recovery mechanism in accordance with ICAO policies and in coordination with users and AFI ANSPs as necessary, and provide an update to AFI States and ANSPs through the Secretariat and the APIRG framework;**

d) **The Secretariat to provide assistance and support as necessary to facilitate early establishment of the AFI PBCS monitoring mechanism; and**

e) **The proposed terms of reference of the ARMA relating to PBCS monitoring at Appendix 3E to this report be reviewed and updated as necessary.**

(Note: This Draft Conclusion is to supersede APIRG Conclusion 20/24)

3.1.9 *Outcome of the Eleventh AFI Collision Risk Assessment*

3.1.9.1   The meeting discussed the outcome of the Eleventh AFI Collision Risk Assessment which has been largely influenced by the activities of the ATS Incident Analysis Group (AIAG) and AFI Tactical Action Group (TAG), and noted that the post-implementation collision risk assessment and subsequent report addressed two of the AFI RVSM Safety Policy objectives, namely an assessment of the technical vertical collision risk measured against a Target Level of Safety (TLS) of $2.5 \times 10\text{-}9$ fatal accidents per flight hour, and an assessment of the total vertical collision risk measured against a TLS of $5 \times 10\text{-}9$ fatal accidents per flight hour.

3.1.9.2   The meeting noted that the Technical Vertical Collision Risk was twenty percent (20%) smaller or below the technical TLS. However, the Total Vertical Collision Risk was found not to have been met. The estimate of the Total Vertical Collision Risk was calculated to be 7.3 times greater than the TLS. It was further noted that the main components affecting the Total Vertical Collision Risk was the risk due to either flight levels being crossed without an ATC clearance or flying at an incorrect flight levels, which were mainly due to coordination failures between ATC units.

3.1.9.3   It was highlighted that Non RVSM approved aircraft pose a risk to other aircraft when they operate in RVSM airspace and this matter has been debated on many occasions and will continue to be pursued by ICAO and ARMA. Cognizant of the current challenges, the meeting urged States to submit their RVSM safety data in a timely manner to ARMA to effectively support the CRA.

3.1.9.4   The meeting also recognised the safety benefits and positive impact in FIRs where SLOP has been implemented and called on remaining AFI States to expedite the implementation of SLOP, especially in remote or oceanic areas lacking effective surveillance, such as radar. The meeting further acknowledged the current efforts by the TAG and ARMA in managing the UCRs including occurrences of Non RVSM approved aircraft, as best as possible.

3.1.9.5   With regard to on-going efforts to finalize the delineation of the Khartoum FIR, the meeting identified the need for ICAO to decide whether the RVSM monitoring service for South Sudan will be provided by the AFI RMA or the MID RMA.

3.1.10 *Collaborative Decision Making involving the Aerodrome Operator and ANSPs*

3.1.10.1   The meeting recalled APIRG Conclusion 21/08 which calls for seamlessness of Air Traffic Management in Africa through the synergetic implementation of an AFI seamless sky. The meeting recognised the enhanced benefits that can be derived from the application of CDM by all stakeholders, mainly aerodrome operators, ANSPs and other airport service providers, in the implementation of seamless, harmonised and interoperable air traffic management systems and procedures.

3.1.10.2   The meeting recognised the need for the development of additional guidance material and the establishment of clear KPIs rather than more regulations in order to create uniformity, standards and an enhanced culture of collaboration, as enablers to the implementation of CDM, A-CDM and ATFM in the AFI Region.

3.1.11 *FIR and Regional Contingency Planning*

3.1.11.1   The meeting discussed the requirements for contingency arrangements by States/ANSPs, as provided for in ICAO Annex 11, Section 2.31 and Attachment C. The meeting was reminded that Contingency plans are intended to provide alternative facilities and services to those provided for in the regional air navigation plan when those facilities and services are temporarily not available.

3.1.11.2   The meeting discussed the challenges encountered by ANSPs with the development and promulgation of their ATM Contingency Plans and noted that out of the twenty-eight FIRs in the AFI Region, only six States/FIRs (Angola, Ghana, Kenya, Mauritius, South Africa and Uganda) have submitted their Contingency Plans incorporating VACP and PHE. ATM Contingency Plans have been received from other States (Eritrea, Ethiopia, Botswana, Madagascar, Mogadishu, Mozambique, Roberts, Rwanda, Seychelles and Zimbabwe) but are lacking in either information on action to be taken in the event of volcanic ash activity or public health emergency.

3.1.11.3   The meeting appreciated efforts made by the ESAF Office to conduct implementation workshops on ATM Contingency Plan for ESAF ANSPs/FIRs, as well as assistance to FIRs in the ESAF/WACAF interface, aimed at developing contingency plans for the individual FIRs as well as a Regional Contingency Plan (contingency routes) for the AFI Region. In this case, ESAF area part of the regional routes had been completed.

3.1.11.4   The meeting noted that APIRG/19 had resolved that such progress should be boosted as a matter of priority with support to FIRs in the WACAF area, to develop their Contingency Plans in order to accelerate the completion of the Regional Contingency Plan, including the effecting of the inter-FIR contingency route coordination in the WACAF area.

3.1.11.5   In recognizing the progress made and follow-up action required to complete this process, the meeting urged concerned States/ANSPs to update their ATM Contingency Plans and include where necessary, the VACP and PHE requirements and to expedite promulgation, as a matter of urgency.

3.1.12   Outcome of TAG/10 Meeting

3.1.12.1   The meeting noted that AFI TAG held its Tenth Meeting (TAG/10) in Johannesburg, South Africa on 16 March 2018, following the Fifteenth Meeting of the ATS Incident Analysis Group (AIAG/15). The TAG conducted its business under the following agenda items:

  a)   Status of UCRs and States' responses in 2017;
  b)   Progress States' Actions to reduce UCRs;
  c)   States/FIRs specific issues;
  d)   Review of the outcome of the Fourteenth Air Traffic Services (ATS) Incident
       Analysis Group (AIAG/15) meeting;
  e)   Specific Reduced Vertical Separation Minima (RVSM) issues; and
  f)   Review of the TAG terms of reference (TOR).

3.1.12.2   The Sub-Group noted that significant progress had been made in the reduction of Unsatisfactory Condition Reports (UCRs), in particular AIRPROXs since measures such as improvement of ATS route structures, ATM/CMs and updating of traffic coordination procedures were taken in 2016. Notable positive difference had also been made with the implementation of ADS-C/CPDLC in Luanda and Kano FIRs. It was also noted that new communication equipment was being installed in Mogadishu which is expected to support safety enhancement in the Mogadishu FIR.

3.1.12.3   The meeting noted with appreciation the initiative taken by Angola to hold an ATM/CM for Johannesburg, Luanda and Windhoek FIRs where a number of issues including traffic coordination procedures and AIDC were addressed. It was however, noted that there was no progress in the implementation of AIDC.

3.1.12.4   The meeting noted the following operational improvements relating to individual FIRs whose performance in reducing UCRs has been specifically facilitate and monitored by the TAG:

Kano FIR (Nigeria)
- Sectorization of Lagos ACC in progress, expected to be completed June 2018.
- 22 newly recruited controllers have completed training in Zaria, 20 more controllers in training, and another 20 to start training (May 2018).
- 14 serving controllers to undergo area/airways training (from April 2018) and another 14 to undergo radar training (from Sept. 2018)

ASECNA FIR
- Information was provided on the development for sharing of radar data between Cotonou, Lomé, Accra and Lagos under the supervision of ICAO. The issue was to be addressed through a meeting of the parties under the aegis of ICAO in Dakar.
- Measures being implemented to reduce ATC workload in Nouakchott, Ndjamena, Brazzaville and Libreville.
- Controller needs previously estimated as 1,200 has been reviewed downwards due to changes in scope.
- Information was provided of AIDC implementation developments between Brazzaville and Kinshasa.

Kinshasa FIR (DRC)
- Significant communication improvements achieved through various intervention including installation of additional VSAT stations, to a total of 18 stations.
- Work in progress to translate the State's AIP (both English and French languages).
- It has been planned to separate Kisangani from Kinshasa ACC.

Luanda FIR (Angola

- CPDLC/ADS-C implementation was completed and working well.
- 76 air traffic controllers have received English language training.
- ENANA hosted an ATM coordination meeting in Luanda for Windhoek, Johannesburg and Luanda FIRs.

3.1.12.5   On reviewing outcome of the AIAG/15 Meeting, the TAG noted the following:
- Human Factors remains the main contributing factor to incidents in the region. However, one emerging area was the lack of situational awareness mainly where newly qualified air traffic controllers are left on duty unsupported or unsupervised.
- Weather also contributed to a number of incidents. ANSPs were urged to become more vigilant.
- Mogadishu FIR is still a major safety concern, with numerous coordination and communication failures, and provision of ATC clearances in Class G airspace.
- Quality of reports and incident investigation.
- IATA survey indicates High rates of CPDLC Log-on failure.
- Low level of incident reporting, including from some major AFI airline operators.

3.1.12.6   As regards RVSM specific issues, the Sub-Group noted the following emanating from the TAG/10 meeting:
- Human Factors has taken over as the main contributing factor of Large Height Deviation (LHDs).
- Major contributing factor in coordination failures is human Factors. State Letters (SL) urging States to address the safety concerns have been circulated.
- There was a significant number of non-RVSM approved aircraft. Additional

efforts are to be taken by the ARMA and Regional Offices.

➢ Most States have implemented SLOP. However, Kenya, Namibia South Africa have indicated that they will not be implementing due to availably of effective surveillance. States are to be further engaged on micro SLOP.

➢ Flow of data from some FIRs still inconsistent.

➢ Improvement expected in CRA 11, following a significant deterioration in the past two CRAs.

3.1.12.7   Information shared on developments in the area of PBCS monitoring from other ICAO Regions indicates that the ARMA, like other RMAs, is expected to include PBCS monitoring, accordingly the Sub-Group was presented with a proposal in this respect. It was also noted that States and APIRG need to expedite preparation for implementation of PBCS OPS Approval of aircraft that will be flying through NAT, EUR/SAM corridor as well as parts of the APAC Region.

3.1.12.8   In summary, the TAG noted the following challenges which were negatively affecting airspace safety in the AFI Region:

a)   Low levels of incident report by some ANSPs and major airlines;
b)   Unavailability of funding for the ATS Competence Study Project of APIRG;
c)   ATS competency was regarded a major safety issue to be addressed by APIRG, the same was recognized by the ANC.
d)   Limited support to the TAG efforts - no missions to States in many years;
e)   Unavailability of ATM Coordination Meetings specifically to address existing and emerging safety issues; and
f)   Safety and operational issues in the Mogadishu FIR.

3.1.12.9   With regards to measures to enhance safety, the TAG made the following Recommendations:

a)   AIDC implementation between the states be expedited, inter alia, to reduce coordination failures. AAO/SG to follow-up on this matter;
b)   ICAO be requested to resume support to TAG missions to States;
c)   ICAO be requested to support ATM Coordination meetings for multiple FIRs/States & at sub-regional level;

d)   IATA Communication survey results be shared with States and be given more prominence in APIRG and its Sub-Groups;
e)   Although, significant progress has been made in Kinshasa and Luanda FIRs, the situation still requires support and engagement from ICAO. TAG and WACAF Regional Office to stay engaged with the States;

f)   ICAO, in coordination with users continue to support the transition of location and services of the Mogadishu FIC from Kenya to Somalia;

g)   ICAO be requested to fund the ATS competency study;

h)   IATA and IFALPA to address the low incident reporting with their members;

i)   IATA, in coordination with its members to identify candidate FIRs (experiencing significant comm. issues) for specific comm. surveys (in addition to the 18 month surveys), in order to facilitate appropriate interventions and support to such FIRs;

j)   Critical comm. issues be brought to attention of RASG-AFI; and

k)   AFI ATS route network to be revised to address UCR hotspots.

3.2   *Aerodrome Operations (safety, capacity and efficiency) Projects*

3.2.1   *Status of implementation of the aerodrome operations Projects*

3.2.1.1   It was recalled that the first Meeting of the APIRG Airspace and Aerodrome Operations Sub-Group (AAO SG/1), held in Dakar, Senegal, from 29 to 31 May 2017 noted that the APCC/1 (Nairobi, Kenya, 30 to 31 January 2017) had endorsed the Project Team composition, project definition and prioritization. The APCC/1 had further required that the APIRG projects be defined in more detail, rationalized and linked. As part of its outcome, the AAO SG/1 mandated the Secretariat to complete the project definition work started by the Group, including the definition and description of expertise required in the project teams and requested the outcome to be forwarded to the established Small Working Group on Project Definition, to review and accept the work done on behalf of the Sub-Group.

3.2.1.2   The meeting discussed and endorsed the work done by the Secretariat. The list of Aerodrome Operations projects identified for implementation by AFI States are presented in **Appendix 3B** to this report. However, the meeting noted with concern that Experts to participate as part of the Project Teams, are yet to be formally appointed by States. The meeting also took note of the APIRG/21 (Nairobi, Kenya, 9 - 11 October 2017) concern related to the slow progress in the implementation of the identified projects and the need to take remedial action.

3.2.1.3   The meeting noted that challenges faced by the AAO Sub-Group in project implementation are related to the formal appointment of Experts by States/Industry, low level of involvement of the States/Industry and inconsistency of the Project Teams in terms of participation in APIRG related activities. The low participation of States of the core membership to the AAO Sub-Group activities has also been discussed. Following the above discussions, the Meeting identified Experts to participate in the Project Teams, as well as project Teams Coordinators and discussed the methodology of work and timelines. Therefore, the Sub-Group formulated the following Draft Conclusion and Decision:

> **Draft Decision 2/15:   Implementation of the aerodrome operations project**
>
> **That to foster the aerodrome operations projects implementation:**
>
> a) **Experts to be members of the Project Teams have been identified as per Appendix 3F to this report;**
>
> b) **Project Teams are tasked to coordinate the development of project documents and implementation strategies in collaboration with the Secretariat before end of 2018;**
>
> c) **Project Teams should report on the progress made in the implementation of the projects to the AAO-SG; and**
>
> d) **The Secretariat to circulate a follow-up State Letter to concerned States and organizations, informing them of the nomination of the Project Teams members and reminding them to provide adequate support to the Project Teams activities.**
>
> **Draft Conclusion 2/16:   Participation of States and Organization to the AAO Sub-Group and Project Teams activities**
>
> **That, to support the implementation of projects, States, IATA, Aerodromes Operators and ACI are requested to provide more Experts by sending letters of nomination with the CV to ICAO Regional Offices. In Addition, Aerodrome Operators and ACI should participate and effectively support the AAO/SG and APIRG activities including meetings.**

3.2.2　　　　　　*Status of the implementation of the aerodromes certification Project*

3.2.2.1　　　　The Meeting recalled the rationale of the aerodrome certification project which was derived from the targets of the Ministerial Conference on Aviation Safety in Africa held in Abuja, Nigeria, from 16 to 20 July 2012, the DGAC/6 recommendations and several reports on the slow progress made so far, in the certification of aerodromes in the AFI region. In this regard and based on the objective and established criteria, sixteen priority States/airports of the AFI region were identified for assistance in the certification of one international aerodrome. Four other airports were added to the Project at the States' request (Gabon/Libreville under the ongoing SAFE Project, Nigeria/Lagos, Rwanda/Kigali and Senegal/Diass (replacing the Dakar airport)), knowing that they will support the related costs.

3.2.2.2　　　　The Meeting noted the progress made in the implementation of each phase of the Project including the resolution of deficiencies found on these airports. The status of implementation is summarized as follows:

For ESAF Region:

States	Certified	Ongoing	Comments
Angola/Luanda		X	Starting now
Botswana/Gaborone		X	Low progress
Mozambique/Maputo	X		Final Phase
Namibia/Windhoek	X		Certified before assistance was provided
Rwanda/Kigali	X		
Seychelles/Victoria			Project not started due to lack of AGA regulatory entity
Swaziland/Manzini	X		
Uganda/Entebbe		X	Certification process stopped due to amendment of Regs
Zambia/Lusaka		X	Phase three

For WACAF Region:

States		Certified	Ongoing	Comments
Burkina Faso/Ouagadougou			X	Low progress
Cameroon/Yaounde			X	Low progress
Côte d'Ivoire/Abidjan		X		
Gabon/Libreville		X		Final phase
Gambia/Banjul			X	Low progress
Mali/Bamako		X		
Niger/Niamey		X		
Nigeria	Lagos	X		
	Abuja	X		
Senegal/Diass		X		Final phase

3.2.2.3　　　　The meeting was updated on the current percentage of certified aerodromes in the AFI region which is 26,4%. This has been impacted by additional new international aerodromes published in the eANP by States. In fact, many international aerodromes published in the eANP are either not used for international operations, or compliant with SARPs. The meeting recognized the need for States to address this issue to improve the picture of the region. Finally, the list of States that have developed aerodrome certification capacities by 2018 is reflected in the table below (in green). The overall rate for the AFI

region is 41,67%:

Table: List of States with aerodrome certification capacities

WACAF (41,67%)		ESAF (41,67%)	
Benin	Ghana	Angola	Mozambique
Burkina Faso	Guinea	Botswana	Namibia
Cameroon	Guinea-Bissau	Burundi	Rwanda
Cape Verde	Liberia	Comoros	Seychelles
Central African Republic	Mali	Djibouti	Somalia
Chad	Mauritania	Eritrea	South Africa
Congo	Niger	Ethiopia	South Sudan
Cote d'Ivoire	Nigeria	Kenya	Swaziland
Democratic Republic of Congo	Sao Tome and Principe	Lesotho	Uganda
Equatorial Guinea	Senegal	Madagascar	Tanzania
Gabon	Sierra Leone	Malawi	Zambia
Gambia	Togo	Mauritius	Zimbabwe

3.2.2.4   The Meeting discussed the challenges faced in the project implementation which are related to the resolution of deficiencies found on airports, commitment of both the CAAs and the airports operators Management and the unavailability of trained technical personnel at both the CAAs and the airports Operators. Finally, it was acknowledged that there is lack of Experts for the Project Teams.

3.2.2.5   The Meeting was informed that based on the progress made in the implementation of the Project, two new States/airports, naming Benin/Cotonou and Equatorial Guinea/Malabo were added in 2018. The meeting appreciated progress made in the aerodrome certification Project, encourage States to continue its implementation and formulated the following Draft Conclusion:

> **Draft Conclusion 2/17:   Implementation of the aerodrome certification Project**
>
> **That, in order to significantly increase the number of certified aerodromes:**
> a) **States involved in the AFI Plan aerodrome certification project, with a slow progress, are urged to re-engage their CAAs and the Airports Operators in the Project by implementing their action plans, including resolution of deficiencies at airports;**
>
> b) **States that have successfully completed the certification of the main aerodrome under the Project are encouraged to continue with the certification of their remaining aerodromes;**
>
> c) **States that have not already done so, join the Aerodrome certification Project when possible; and**
>
> d) **CAAs and airport operators should recruit, train and retain adequate technical personnel.**

3.2.3   Status of the implementation of the Runway Safety programme Project

3.2.3.1   The meeting was recalled the objectives of the runway safety programme which aims to enhance runway safety, using a multidisciplinary approach, that includes at least regulators, aircraft operators, air navigation service providers, aerodrome operators and aircraft manufacturers to prevent and

mitigate the effects of runway excursions and incursions and other occurrences related to runway safety.

3.2.3.2   The meeting took note of the Project developed under the RASG AFI framework to assist States in their efforts of implementing the proposed solutions to improve runway safety, including the establishment of two Runway Safety Go-Teams coordinated by the ICAO WACAF and ESAF Regional Offices. The objective of the RS Go-Team is to assist States/airports in establishing effective local Runway Safety Teams.

3.2.3.3   Since 2014, several States made use of the Go-Teams to assist in establishing the RSTs at their aerodromes. Some States, whose aerodromes already established RSTs, requested the Go-Teams' assistance to enhance their efficiency and performance through onsite training and assistance. To date, thirty (30) aerodromes have established operational RST, out of 144 contained in the eANP. RASG AFI Go-Team continues to monitor the work of most of them through a regular report mechanism.

3.2.3.4   The meeting encouraged State to use the framework established by the RASG-AFI, to establish Runway Safety Teams at international aerodromes. In this regard, operators may request for assistance in writing through the Civil Aviation Authority to the ICAO Regional Offices. This activity is conducted on cost recovery basis, which takes into account the cost of participation of Go-Team Experts.

3.2.3.5   The meeting was provided with an update of the outcomes of the Second Global Runway Safety Symposium held in Lima, Peru, 20-22 November 2017, which recognized that the establishment of effective RST helped to significantly reduce the runway safety related risks globally since 2011, and supported the establishment of effective RSTs with Runway Safety Go-Team Missions. The Symposium came with a new Global Runway Safety Action Plan that was discussed during the Meeting. To foster the implementation of the project, the Sub-Group agreed on the following Draft Conclusion:

> **Draft Conclusion 2/18:   Establishment of effective Runway Safety Teams at aerodromes in the AFI Region**
>
> **That,**
> a) **States that have not yet done so are requested to ensure the establishment of effective Local Runway Safety Teams at their aerodromes used for international operations before end of 2020;**
>
> b) **ICAO, States, RST Partners and industry should continue to support the Runway safety programme through the implementation of the Global Runway Safety Action Plan recommendations; and**
>
> c) **ICAO AFI Regional Offices to remind States to request for the assistance of the RASG-AFI Go-Team for the establishment of effective LRST at their aerodromes.**

AGENDA ITEM 4:   AFI AIR NAVIGATION PLAN (DOC 7474)

4.1   The meeting recalled that the 12th Air Navigation Conference (AN-Conf/12) agreed to *Recommendation 6/1* regarding the alignment of regional air navigation plans (ANPs) with the fourth Edition of the Global Air Navigation Plan (GANP) (Doc 9750) and that a new set of templates for Volumes I, II and III of the Air Navigation Plan was approved by the ICAO Council. New procedures for amending the ANPs were also developed and endorsed by ICAO.

4.2   With regard to the status of implementation of the three volumes of the AFI eANP, the meeting noted that following the approval of the new Volume I of Doc 7474 by the Council on 19 August 2016, the ESAF Office had circulated a Proposal for Amendment (PfA) of Volume II to concerned States

and organizations, with comments received incorporated. The final endorsement now rests with APIRG (*approval of Volume II is by regional agreement involving the relevant PIRG*). Volume III will be be circulated to States and organisations for comments before endorsement by APIRG. Volumes II and III of the new AFI eANP are **Appendix 4A** and **Appendix 4B** to this report.

4.3   The meeting raised concern regarding the consistency of information published by States related to aerodromes in the AFI Region, and call for their diligence to ensure the alignment and accuracy of information published in the eANP, their USOAP SAAQ and AIPs.

4.4   The meeting also reviewed the Procedures for amendment of the ANP, at **Appendix 4C** to this report and highlighted the need for such procedures to be strictly followed from initiation at State level, to the processing of the PfAs by the responsible and accredited AFI Regional Offices. The meeting also noted some AFI States have communicated changes to their infrastructure and services to the two Regional Offices which are yet to be processed. In this regard, the Sub-Group formulated the following Draft Conclusions:

> **Draft Conclusion 2/19:**   **Procedures for amendment of the AFI Air Navigation Plan (Doc 7474)**

>   **That,**

>   a)   **APIRG endorses the final Draft of AFI ANP Volume II as presented in Appendix 4A to this report;**

>   b)   **AFI States provide timely inputs to Volume III of the AFI ANP as at Appendix 4B to this report, once circulated for comments;**

>   c)   **The procedure contained in Appendix 4C to this report for amendment of the AFI eANP is strictly adhered to by States upon initiation;**

>   d)   **ESAF and WACAF Regional Offices to initiate processing of such PfAs relevant to their States in a timely manner; and**

>   e)   **The ESAF and WACAF Regional Offices expedite the processing of all outstanding requests for changes to the ANP submitted by States for inclusion in Volumes I and II of the AFI eANP, as soon as practicable.**

> **Draft Conclusion 2/20: Harmonization of the information published by States related to aerodromes**

>   **That, in order to ensure consistency of information related to aerodromes used for international operations, States should harmonise information published in the AFI eANP, their USOAP SAAQ and their AIPs.**

AGENDA ITEM 5:   AFI AIR NAVIGATION REPORTING FORMS

5.1   The meeting appreciated the work done by the Secretariat in updating the AFI Air Navigation Report Forms (ANRFs). However, it was noted that, the reporting by AFI States of implementation progress called for under the APIRG Conclusion 20/05 was still limited and that the level of responses on surveys conducted by the ICAO ESAF and WACAF Regional Offices to collect information on the ASBU implementation was still very low.

5.2   The Sub-group acknowledged the introduction and planning targets of the ASBU Block 1 Modules which would take effect as of January 2019 and established a Small Working Group (SWG), to continue the review and update of the ANRFs, as a follow-up to the AAO SG/1 meeting in 2017.

AGENDA ITEM 6:   AFI AIR NAVIGATION DEFICIENCIES DATABASE

6.1   The meeting recalled that the APIRG/17 Meeting had requested the Secretariat to expedite development of a web-based AFI Air Navigation Deficiencies Data Base (AANDD), as a tool to States and organizations' contribution to the deficiency database.

6.2   The meeting further recalled that the APIRG/18 Meeting in Kampala, Uganda, 27-30 March 2012, under *Conclusion 18/62*, agreed on a list of minimum reporting areas and acknowledged the roles and contributions of States' ANSPs, users and other stakeholders in addressing the deficiencies at regional level.

6.3   The meeting noted that the AANDD had become operational and a State Letter was issued inviting States and organizations to provide focal points for interaction with the AANDD, who would be issued credentials to access the AANDD for reporting deficiencies and submitting updates on the measures taken to address the deficiencies. It was noted however, that many States had still not communicated to the Regional Offices, the requested focal points. Accordingly, States and organizations were urged to communicate their focal points to the Regional Office pursuant to the State Letter, and to use the AANDD.

6.4   With regard to the minimum reporting areas, the meeting noted that information in the area of aerodrome operations was lacking and urged the Secretariat to come up with a list of deficiencies which will be added to the database. The meeting further requested the Secretariat to ensure the availability of suitably qualified/trained ICT personnel in both Regional Offices, to support the system and users alike, in the effective use and management of the AANDD platform. The Secretariat was requested to circulate guidance for users in order to facilitate their effective use of the tool.

AGENDA ITEM 7:   TERMS OF REFERENCE (TOR), COMPOSITION AND FUTURE WORK PROGRAMME OF THE AAO SUB-GROUP

7.1   The Sub-Group reviewed its terms of reference (ToR), with the objective of identifying areas for improvement to effectively support additional activities being undertaken by the Group and for recommendation to APIRG. Following deliberations on the matter, the Group agreed that there was no justification for changes or modifications to its ToR, and accordingly endorsed the ToR as presented at **Appendix 7A** to this report.

AGENDA ITEM 8:   ANY OTHER BUSINESS (AOB)

8.1   There being no business discussed under this agenda item, Mr. Ndikumana, Deputy Regional Director, ICAO Eastern and Southern Africa Office, proceeded to officially close the meeting, whilst putting emphasis on the need to expedite implementation of priority projects under the AAO Sub-Group. In his closing remarks, he expressed his gratitude, on behalf of ICAO, to the participating States and organizations and thanked them for their continued support to ICAO initiatives and activities at regional level.