REPORT OF THE TWENTY-SECOND MEETING OF THE AFI PLANNING AND IMPLEMENTATION REGIONAL GROUP (APIRG/22)

&

THE FIFTH MEETING OF THE REGIONAL AVIATION SAFETY GROUP FOR AFI REGION (RASG-AFI/5)

(Accra, Ghana, 29 July – 2 August 2019)

PREPARED BY THE SECRETARIAT

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DEFINITIONS

RASG-AFI and APIRG record their actions in the form of Conclusions and Decisions as follows:

a) Conclusions deal with matters which, in accordance with the Groups' terms of reference, merit directly the attention of States, or on which further action is required to be initiated by the Secretary in accordance with established procedures.

b) Decisions relate to the internal working arrangements of the Groups and their subsidiary bodies.

APIRG22 & RASG-AFI5

APIRG/22 & RASG-AFI/5 Decision 1/01:	***Transition to an integrated approach to PIRGs and RASGs***
APIRG22 & RASG-AFI5 Conclusion 1/01:	***Follow up on AN-Conf/13 recommendations addressed to States***
APIRG/22 & RASG-AFI/5 Decision 1/02:	***Follow up on AN-Conf/13 recommendations by APIRG and RASG-AFI***
APIRG/22 & RASG-AFI/5 Decision 1/03:	***Council's review of the terms of reference of the PIRGs and RASGs***
APIRG/22 & RASG-AFI/5 Conclusion 1/02:	***Council's review of the terms of reference of the PIRGs and RASGs***
APIRG/22 & RASG-AFI/5 Decision 1/04:	***Annual reporting to the ANC and Council***
APIRG/22 & RASG-AFI/5 Decision 1/05:	***Membership of the ARC-TF***
APIRG/22 & RASG-AFI/5 Decision 1/06:	***Allocation of tasks and coordination between APIRG and RASG-AFI***
APIRG/22 & RASG-AFI/5 Conclusion 1/03:	***Implementation of AIAG recommendations by States***
APIRG/22 & RASG-AFI/5 Conclusion 1/04:	***RVSM Airspace Monitoring***
APIRG/22 & RASG-AFI/5 Conclusion 1/05:	***Implementation of AFI Plan AIM Project***
APIRG/22 & RASG-AFI/5 Conclusion 1/06:	***Implementation of the Decisions and Recommendations of the AFI Plan 22nd Steering Committee meeting (AFI Plan SC/22)***

RASG-AFI/5

RASG-AFI/5 Decision 5/01:	***Election of the RASG-AFI Bureau (Chairperson and Vice-Chairpersons)***
RASG-AFI/5 Decision 5/02:	***Status of implementation of RASG-AFI/4 Conclusions and Decisions (excluding common areas with APIRG)***
RASG-AFI/5 Decision 5/03:	***Safety Support Team – Significant Safety Concerns (SST- SSC)***
RASG-AFI/5 Decision 5/04:	***Safety Support Team - Fundamentals of Safety Oversight (SST-FSO)***

RASG-AFI/5 Decision 5/05:	***Safety Support Team – Aircraft Accident and Incident Investigation (SST-AIG)***
RASG-AFI/5 Conclusion 5/01:	***Safety Support Team - Emerging Safety Issues (SST-ESI, Loss of Control In-flight (LOC-I)***
RASG-AFI/5 Conclusion 5/02:	***Activities and Recommendations of the RASG-AFI Annual Safety Report Team (ASRT)***
RASG-AFI/5 Decision 5/06:	***Composition of the APIRG/RASG-AFI Coordination Task Force (ARC-TF)***
RASG-AFI/5 Conclusion 5/03:	***State Safety Programme (SSP) and Safety Management System (SMS) Implementation***
RASG-AFI/5 Conclusion 5/04:	***Implementation of the Aerodrome Certification Project***
RASG-AFI/5 Conclusion 5/05:	***Fundamentals of Safety Oversight (FSO) Project***
RASG-AFI/5 Conclusion 5/06:	***Regional Office Safety Teams (ROST) Assistance Missions, Coordination, Effectiveness and Impact***
RASG-AFI/5 Conclusion 5/07:	***Aviation Safety Oversight Tools and their relevance in the Implementation of Regional Safety Programmes***
RASG-AFI/5 Conclusion 5/08:	***Status and Progress on the Implementation of Common PEL System***
RASG-AFI/5 Conclusion 5/09:	***Status and Progress on the Implementation of Common PEL System***
RASG-AFI/5 Conclusion 5/10:	***Harmonization of Training in Africa: The Aviation Training Roadmap***
RASG-AFI/5 Decision 5/07:	***Review and endorsement of the RASG-AFI Work Programme for 2020***
RASG-AFI/5 Conclusion 5/11:	***Operations into destinations where ADS-B is mandatory***

APIRG/22

APIRG/22 Conclusion 22/01:	***Effective implementation of AFI Regional ANS projects***
APIRG/22 Conclusion 22/02:	***Regular and timely reporting on the status of implementation of APIRG Conclusions and Decisions***
APIRG/22 Decision 22/03:	***Revised AFI SSR Code Management Plan (CMP)***
APIRG/22 Conclusion 22/04:	***SSR Code Occupancy Time***
APIRG/22 Conclusion 22/05:	***Collection of data on traffic volumes and patterns in the AFI Region and the interface with other ICAO Regions***
APIRG/22 Decision 22/06:	***Workshops to Facilitate Implementation of the Revised SSR Code Management Plan***
APIRG/22 Conclusion 22/07:	***Improvement and funding of States PBN Implementation Plans***
APIRG/22 Conclusion 22/08:	***Implementation of PBN with CCO and CDO***
APIRG/22 Conclusion 22/09:	***Follow-up on the AFI Plan SAR Projects for AFI States***
APIRG/22 Conclusion 22/10:	***Relocation of the Mogadishu FIC from Nairobi to Mogadishu, ATS Organizational Changes and Airspace Operational Improvements***
APIRG/22 Conclusion 22/11:	***Efforts to Address Aeronautical Mobile Service Deficiencies***

APIRG/22 Conclusion 22/12:	***Establishment of the AFI Performance-Based Communication and Surveillance (PBCS) Monitoring***
APIRG/22 Decision 22/13:	***Adoption of RCP 240 and RSP 180 for PBCS operations in AFI Region***
APIRG/22 Conclusion 22/14:	***Adoption of the AFI ATM Contingency Plan***
APIRG/22 Conclusion 22/15:	***Implementation of eleventh TAG meeting report***
APIRG/22 Conclusion 22/16:	***Implementation of the aerodrome operations project***
APIRG/22 Conclusion 22/17:	***Participation of States and Organizations to the AAO sub-group and Project Teams activities***
APIRG/22 Conclusion 22/18:	***Certification of international aerodromes***
APIRG/22 Conclusion 22/19:	***Establishment of effective Runway Safety Teams at aerodromes in the AFI Region***
APIRG/22 Conclusion 22/20:	***Amendment to the AFI Air Navigation Plan (eANP, Doc 7474)***
APIRG/22 Conclusion 22/21:	***Harmonization of the information published by States related to aerodromes***
APIRG/22 Conclusion 22/22:	***Effective and efficient participation of Administrations in the IIM Projects activities***
APIRG/22 Conclusion 22/23:	***Effective coordination of IIM COM Project 2, AIM Project 3, Spectrum Project and MET Project 2***
APIRG/22 Conclusion 22/24:	***Report on APIRG outcome and Update of the deficiencies in the areas of AIM, CNS and MET***
APIRG/22 Conclusion 22/25:	***ICAO support to IIM activities***
APIRG/22 Conclusion 22/26:	***Amendments to the AFI Aeronautical Surveillance implementation strategy***
APIRG/22 Conclusion 22/27:	***Implementation of AMHS in the AFI Region***
APIRG/22 Conclusion 22/28:	***Seamless Aeronautical Surveillance Service***
APIRG/22 Conclusion 22/29:	***Support to ICAO Position for ITU WRC-19***
APIRG/22 Conclusion 22/30:	***Harmonization of the implementation of ASBU elements in the AFI Region***
APIRG/22 Conclusion 22/31:	***Efforts to Address Aeronautical Mobile Service Deficiencies***
APIRG/22 Conclusion 22/32:	***Operationalisation of the AFI Air Navigation Deficiency Database***
APIRG/22 Conclusion 22/33:	***Implementation of AFI Plan 2019 Aviation Infrastructure for Africa Gap Analysis Recommendations***
APIRG/22 Conclusion 22/34:	***Organization of a Round Table for APIRG Projects Funding***
APIRG/22 Conclusion 22/35:	***Seamless Air Traffic Management***
APIRG/22 Conclusion 22/36:	***Free Routing Airspace***
APIRG/22 Conclusion 22/37:	***Operations of Unmanned Aircraft Systems (UAS)***
APIRG/22 Conclusion 22/38:	***ANSP Peer review mechanism***
APIRG/22 Conclusion 22/39:	***SBAS for Africa - Indian Ocean Initiative***
APIRG/22 Conclusion 22/40:	***Mandate for ADS-B Transponder Extended Squitter 1090 equipage in the AFI Region***
APIRG/22 Conclusion22/41:	***Implementation of the Runway surface conditions Global Reporting Format (GRF)***
APIRG/22 Conclusion 22/42:	***APIRG/22 Conclusion 22/42: SAT Procedural Ha book***

APIRG/22 Conclusion 22/43:	***Participation in the 2nd Atlantic Coordination Meeting (ACM/2) and NAT SOG/21 Meeting***
APIRG Decision 22/44:	***Focal points for coordination between SAT and NAT***
APIRG Conclusion 22/45:	***PBCS Monitoring by RMAs***
APIRG/22 Conclusion 22/46:	***Formalization of the SAT Group***
APIRG/22 Decision 22/47:	***Formalization of the SAT Group***

PART I:

INTRODUCTION

Place and duration

1.1 The Fifth Meeting of the AFI Regional Aviation Safety Group (RASG - AFI/5) was held in conjunction with the Twenty-second Meeting of the AFI Planning and Implementation Group (APIRG/22) at the Movenpick Ambassador Hotel in Accra, Ghana, from 29 July to 2 August 2019.

Attendance

1.2 The meetings were attended by 217 participants from AFI States, Regional / International Organizations and Industry. The list of participants is provided in **Appendix 1A** to this report.

Officers and Secretariat

1.3 The Joint session of the AIRG22/RASG-AFI5 meetings was co-chaired by Mr. Magueye Marame Ndao, Chairperson of the APIRG and Mr. Levers Mabaso, Chairperson of the RASG-AFI.

1.4 Mr. Mam Sait Jallow, Regional Director, ICAO Western and Central African Regional Office (Dakar) served as Secretary to the meeting. He was assisted by Mr. Barry Kashambo, Regional Director, ICAO Eastern and Southern African Regional Office (Nairobi) and with the participation of Mr. Herman Pretorius from Air Navigation Bureau, ICAO Headquarters. They were assisted by the following Officers from ICAO ESAF and WACAF Regional Offices:

Mr. Prosper Zo'o Minto'o	DRD, WACAF Office, Dakar
Mr. Arthemon Ndikumana	DRD, ESAF Office, Nairobi
Mr. Ousman Kemo Manjang	RO/AIR, WACAF Office, Dakar
Mr. François-Xavier Salambanga	RO/CNS, WACAF Office, Dakar
Mr. Milton Tumusiime	RO/FS, ESAF Office, Nairobi
Mr. Nika Meheza Manzi	RO/AGA, WACAF Office, Dakar
Mr. Kebba Lamin Jammeh	RO/FS, WACAF Office, Dakar
Mr. Albert Aidoo Taylor	RO/ATM, WACAF Office, Dakar
Ms. Keziah Ogutu	RO/ATM, ESAF Office, Nairobi
Mr. Harvey Lekamisy	RO/CNS, ESAF Office, Nairobi
Mr. Estifanos Eyob	RO/AFI PLAN, ESAF Office, Nairobi

Working Languages

1.5 The meetings' discussions were conducted in English and French and documentation was made available in both languages with simultaneous interpretation services.

Opening of the meeting

1.6 The opening of the combined session of the APIRG/22 and RASG-AFI/5 took place on Monday, 29 July 2019. In his remarks, Mr. Simon Allotey, Director-General, Ghana Civil Aviation Authority (GCAA) welcomed the participants to the occasion on behalf, of the Board, Management and staff of the Ghana Civil Aviation Authority. He highlighted that this parallel PIRG/RASG meeting format affirms the growing appreciation of the critical link between air navigation services provision and safety oversight and regulation. He stated that this evolution

will undoubtedly enhance aviation safety performance through collaboration and integration in the much-related activities of the PIRG and RASG.

1.7 He highlighted that beside political, sovereignty and cultural considerations, Africa must create the needed synergies to ensure capacity and infrastructure optimization, efficiency, and enhanced operational safety in our air transport services delivery.

1.8 Mr. Allotey noted that Ghana's relatively high Effective Implementation (EI) score of 89.89% attained at the recent ICVM, conducted by ICAO inn April 2019, was not achieved solely through Ghana's efforts but was through effective collaboration and support from ICAO Regional Office/WACAF, BAGASOO, neighbouring States, the US FAA and other partners. He underscored the effective internal collaboration between the GCAA, the Airports Company, The Ministry of Aviation, Parliament of Ghana, the Airlines and other local industry partners. He reiterated his optimistic that the two meetings will provide recommendations for greater integration of the APIRG and RASG-AFI with the view of enhancing safety and efficiency in their service delivery.

1.9 In his remarks, Mr. Mam Sait Jallow, Regional Director, Western and Central African Office welcomed participants on behalf of the President of the ICAO Council, Dr. Olumuyiwa Benard Aliu, the Secretary General of ICAO, Dr. Fang Liu, the Regional Director for Eastern and Southern Africa, Mr. Barry Kashambo and the entire ICAO fraternity. He thanked the Government of Ghana for accepting to host these important regional meetings and according warm reception and hospitality to all delegates in the beautiful city of Accra.

1.10 The Regional Director recalled the objectives of establishment of the PIRGs and RASGs to, amongst other things, identify priorities, targets and indicators related to air navigation and aviation safety for the regional implementation of the Global Air Navigation Plan (GANP) and the Global Aviation Safety Plan (GASP), and provide actionable recommendations to the Council. He highlighted this particular meeting will usher in a new format of joint sessions, rather than back-to-back meetings.

1.11 Mr. Mam Sait Jallow informed the meeting that in view of the impending completion of his second and final term as ICAO Regional Director in September 2019, he wished to place on record his deep appreciation of the invaluable collaboration and cooperation he has had during his tenure, not only as Regional Director, but also as Secretary of the RASG-AFI and the AFI Plan Steering Committee, from States and partner organizations. He stated that it had been a very delightful and enriching experience to serve ICAO and the AFI Region for the past 12 years.

1.12 Additional remarks were also provided by the Chairperson of APIRG and Director General of Senegal Civil Aviation Authority (ANACIM), Mr. Magueye Marame Ndao, the Chairperson of RASG-AFI and Representative of South Africa on the Council of ICAO, Mr. Levers Mabaso, Member of the Air Navigation Commission of ICAO, Ms. Isabell Monnier, and Representative of the Secretary General of the African Civil Aviation Commission (AFCAC), Mr. Papa Atoumane Fall.

1.13 The keynote address and opening remarks of APIRG/22 and RASG-AFI-5 were delivered by the Minister for Aviation, Republic of Ghana, Honorable Joseph Kofi Adda, who extended fraternal greetings from His Excellency Nana Addo Dankwa Akufo-Addo, President of the Republic and the people of Ghana.

1.14 The Hon. Minister stated the importance of the meeting and the fact that it is being held at a time when the global aviation environment is driven by innovation and competitiveness. With this development, African countries are required to enhance their efforts to remain relevant and take advantage of the growth potential in the sector. He alluded to the fact that Ghana is aware of this potential and the Government is providing the required policy direction and infrastructure to promote and expand the frontiers of the aviation industry, he stated.

1.15 With regards to aviation growth in Africa, the Hon. Minister stated that to fully realize this growth potential, member States should be committed to develop safe, secure, efficient and sustainable aviation systems, fully compliant with ICAO's Standard and Recommended Practices. The Hon. Minister referred to Ghana's EI score of 89.89%, the highest on the continent, and noted that this historic performance was certainly realized out of Government's commitment and support to the sector, and most importantly, the hard work and professionalism continuously exhibited by the management and staff of the aviation sector in Ghana. He took the opportunity to salute all stakeholders who contributed to achieving this feat. He stated that Ghana's vision towards becoming an aviation hub in the Sub-Region is well on course.

1.16 To Minister informed the meeting that to realize and sustain this achievement, a number of infrastructure developments were being rolled out in the last couple of years including terminal buildings, new Air Navigation Services (ANS) structure, extension of airside and landside infrastructure as well as installation of modern air navigation equipment and capacity building for relevant aviation professionals. The Minister acknowledged that most aviation infrastructure in Ghana is being modernized and these are intended to improve safety and security of passengers and aircraft in the Accra Flight Information Region (FIR).

1.17 In closing and duly opening the meeting, the Hon. Minister recalled that as part of measures to continuously improve aviation safety and security in Ghana, Government is committed to collaborate with various stakeholders in the aviation industry with resources and policy direction to achieve Ghana's vision of aviation hub in the Sub-Region. He expressed his confidence that this meeting would serve as a platform for rallying all stakeholders and delegates to come out with strategies to improve safety and security of our airspace for sustainability of air transport and growth of the aviation industry.

PART II:

APIRG/22 AND RASG-AFI/5 FIRST JOINT SESSION

Review and adoption of the Agenda and Meeting Work Programme

The meeting adopted its agenda and work programme as provided at **Appendix 2A** to this report.

Meeting Bureau

The meeting was co-chaired by Mr. Magueye Marame Ndao, Chairperson of APIRG, and Mr. Levers Mabaso, Chairperson of RASG-AFI. They were assisted by Mr. Tobias Gunzel, First Vice- Chairperson of APIRG and Colonel Latta Gnama Dokissime, First Vice-Chairperson of RASG-AFI. The Regional Directors of Eastern and Southern Africa and western and Central Africa served as secretaries respectively.

Discussions on Agenda Items

AGENDA ITEM 1: GLOBAL DEVELOPMENTS

Presentation on PIRGs/RASGs Enhancement Strategy

1.1. The Secretariat provided a presentation on the PIRGs/RASGs enhancement strategy based on Council Decision 210/4, and the outcome of the Global PIRG/RASG Coordination Forum held in Montreal, Canada in 2017. The presentation included the proposed evolution and timelines towards an integrated approach addressing organizational challenges, infrastructure, operational risks and performance measurement. In this regard, the format of APIRG/22 and RASG-AFI/5 meetings including joint sessions marked a transition from the back-to-back approach applied by the AFI Region since 2012 (combined with a DGCA meeting in 2013) to the proposed integrated approach.

1.2. The meeting, therefore, requested the APIRG/RASG-AFI Task Force (ARC-TF) to conduct an in-depth analysis and develop proposals for the structural changes and timelines for the implementation of the integrated approach in the AFI Region, together with the consequential amendments to the Procedural Handbooks. The following decision was formulated:

APIRG/22 & RASG-AFI/5 Decision 1/01: Transition to an integrated approach to PIRGs and RASGs

That the APIRG / RASG-AFI Task Force (ARC-TF):

a) conduct an analysis of the PIRGs/RASGs enhancement strategy addressing organizational challenges, infrastructure, operational risks and performance measurement, and propose the structural changes required for its implementation in the AFI Region; and

b) present the results to an Extraordinary Meeting of APIRG and RASG-AFI to be convened during the first quarter of 2020.

Evolution of the ICAO Global Plans (GASP, GANP)

1.3. The ICAO Secretariat presented the evolution of the ICAO Global Plans and the amendment proposals thereto to be considered by the 40th Session of the Assembly. With respect to the GASP, the meeting noted that it presents the strategy which supports the prioritization and continuous improvement of aviation safety. It contains a vision, which states the intent behind

this plan. It also includes a mission statement, reflecting what ICAO seeks to achieve through the GASP. A set of values are presented in the plan, which aim to guide safety enhancement initiatives and enable the GASP to meet its purpose. It was highlighted that a series of goals support the aspirational safety goal of zero fatalities. The 2020-2022 edition of the GASP contains six goals addressing organizational challenges (ORG) and operational safety risks (OPS), which will supersede the objectives presented in the 2017-2019 edition of the GASP, once endorsed by the Assembly.

1.4. With respect to the GANP, the meeting observed that the 2019 edition of the GANP, contains a multilayer structure articulated through a global managerial level, a global technical level, a regional level and a national level, to better communicate with technical and high-level managers, and ensure alignment between global, regional and national planning, which ultimately leaves no State or stakeholder behind.

1.5. The highest level, the global managerial level provides strategic directions by laying down a vision and the global aspirational performance ambitions which provide a high-level strategy and policy orientations to promote the need for action and gain political will. These performance ambitions are supported by the conceptual roadmap, which acts as the driver for the evolution of the global air navigation system.

Outcome of the 13th Air Navigation Conference/40th Session of ICAO General Assembly

1.6. The meeting recalled that the Thirteenth Air Navigation Conference (AN-Conf/13) held in Montréal from 9 to 19 October 2018. The meeting noted that the Conference adopted fifty-two Recommendations, which are contained in the Report of the AN-Conf/13 (Doc 10115). It was further noted that the Council approved all AN-Conf/13 Recommendations on 27 February 2019 (Supplement No. 12 to the ANConf/13 Report, detailing suggested follow-up actions on each of the recommendations).

1.7. The meeting acknowledged that following the review by the ICAO Council of the AN-Conf/13 recommendations, States are now urged to appropriately address the subject recommendations directed to them. The following conclusion and decision were formulated:

APIRG22 & RASG-AFI5 Conclusion 1/01: Follow up on AN-Conf/13 recommendations addressed to States

That; AFI States are urged to action the relevant AN-Conf/13 recommendations addressed to member States.

1.8. The meeting also agreed that the different APIRG and RASG-AFI subsidiary bodies should identify the AN-Conf/13 Recommendations related to their terms of reference and agree on the necessary follow-up actions. The meeting formulated the following decision:

APIRG/22 & RASG-AFI/5 Decision 1/02: Follow up on AN-Conf/13 recommendations by APIRG and RASG-AFI

That:

APIRG and RASG-AFI subsidiary bodies identify the AN-Conf/13 Recommendations related to their terms of reference and agree on the necessary follow-up actions.

Presentation by the Air Navigation Commission on the expectations of APIRG and RASG-AFI

1.9. The Representative of the Air Navigation Commission (ANC) made a presentation on the composition and working structure of the ANC including the Planning Team and Standing Working Groups. The presentation highlighted the role of the Strategic Review and Planning (SRP) related to the review of reports of expert and regional groups, recommendation of action thereon by the ANC as appropriate, and development for ANC approval of an annual consolidated report to the Council on the activities of the regional groups such as PIRGs and RASGs. The meeting expressed its appreciation of the initiative taken by the ANC Representative to attend APIRG/22 and RASG-AFI/5 events.

Review of the action taken by the ANC and the Council on the reports of APIRG/21 and RASG-AFI/4 Meetings

1.10. The meeting noted with appreciation the detailed review and actions taken by the ANC and the Council related to the report of APIRG/21 and RASG-AFI/4 meetings.

APIRG/21

1.11. It was reported that the Council noted some of the key issues in the region in particular, the consistent increase of traffic in States with low to medium safety oversight capability, insufficient coordination among States/air navigation service providers (ANSPs), lack of effective regional integration and insufficient political commitment and technical/financial resources.

1.12. The Council also noted the improved participation and coordination achieved as a result of the back to back APIRG/RASG AFI meetings in the AFI Region.

1.13. The Council further noted the Commission's concerns on the high rate of missing operational messages (flight plans, OPMETs, NOTAMs) in some States and requested for specific actions to resolve the issue. It concurred with the ANC that reduced vertical separation minima (RVSM) monitoring should be of common concern between APIRG and RASG AFI.

RASG-AFI/4

1.14. The Commission noted that the accident rate for the AFI Region was higher than the global rate in 2008-2015 period but lower in 2016, and that focus continued on runway safety, LOC-I and controlled flight into terrain (CFIT) issues.

1.15. The commission mentioned the need for certification of more aerodromes was identified as an ongoing challenge, as was the need to address outstanding SSCs in two States and continue the implementation of regional safety targets.

1.16. In relation to the GASP, it was noted that guidance on the objectives and content of national aviation safety plans will be included in the next edition of the GASP. Additionally, a model plan is expected to be developed to provide States a template for reference.

AGENDA ITEM 2: COORDINATION BETWEEN PIRGS AND RASGS

Terms of Reference of APIRG and RASG-AFI

2.1 The meeting noted with interest the outcome of the Council's review of the terms of reference of the PIRGs and RASGs and welcomed the structure provided by the approved generic ToR sought by the Council to improve the performance and expected results. The main aspects of the generic ToR are to clarify the roles of stakeholders and promote partnership among them, harmonize the methods of work, promote partnership and improve regional reporting through more frequent meetings. It was agreed that the option to further expand the generic terms of reference to suit the regions needs will ensure flexibility of the work.

2.2 The meeting highlighted the need to make consequential changes related to the revised terms of reference to the APIRG and RASG-AFI meeting procedures as contained in the handbooks. It was agreed that this action will lay the foundation for a more efficient meeting model and reporting. The ICAO Secretariat was tasked to update the PIRG and RASG handbooks as a matter of priority and circulate them to the participants by the end of September 2019.

2.3 With regards to the identification of any additional terms of reference of APIRG and RASG-AFI to be approved by the President of the Council, it was considered that at this time, the generic terms of reference adequately cover the work programme of APIRG and RASG-AFI. The meeting adopted the following decision:

APIRG/22 & RASG-AFI/5 Decision 1/03: Council's review of the terms of reference of the PIRGs and RASGs

That:

The Secretariat take the necessary steps to update the handbooks and related meeting procedures of APIRG and RASG-AFI based on the Council approved terms of reference, and circulate them to participants by 30 September 2019.

2.4 Concerning the need for States to ensure the provision of sufficient and effective level of support, technical expertise and participation to their respective PIRGs and RASGs and contributory bodies, the meeting agreed on the following conclusion:

APIRG/22 & RASG-AFI/5 Conclusion 1/02: Council's review of the terms of reference of the PIRGs and RASGs

That:

AFI Member States are encouraged to provide the necessary level of support, technical expertise and participation to APIRG and RASG-AFI and their contributory bodies.

2.5 The meeting noted that in accordance with the revised terms of reference, when a PIRG or RASG does not meet during the annual reporting cycle of the consolidated report on PIRGs and RASGs to the Council, the Secretary of the regional group must nevertheless report implementation progress, as well as difficulties experienced, for inclusion in the report. It was also underscored that the Air Navigation Commission considered that some PIRGs and RASGs would benefit from meeting more frequently, which would have a positive impact on implementation and regional coordination. This would also lead to more frequent regional reporting,

related to the identification and rectification of challenges, to the ANC and Council in a timely manner.

APIRG/22 & RASG-AFI/5 Decision 1/04: Annual reporting to the ANC and Council

That:

In order to facilitate the timely reporting to the ANC and Council related to the identification and rectification of challenges, and improve the impact on implementation and regional coordination, the Secretariat consider the option of convening APIRG and RASG AFI meetings on a regular basis.

APIRG/RASG-AFI Joint Coordination Task Force

2.6 The meeting recalled that in 2012 when the RASG-AFI was established, APIRG and RASG-AFI recognized the need to establish an effective mechanism for the two groups to share and agree on real or potential overlapping issues and responsibilities in a timely manner; and accordingly recommended that the two groups communicate information on the outcomes of their meetings and activities in order to facilitate coordination between the two Groups and among their subsidiary bodies.

2.7 To this effect, a Joint APIRG-RASG/AFI Coordination Task Force (ARC-TF) to be responsible for coordinating the activities of APIRG and RASG-AFI was established in 2013 by the RASG-AFI/3 meeting, with assigned terms of reference. However, in endorsing the terms of reference of the ARC-TF, the APIRG/14 meeting (2017) requested the Secretariat to re-examine and reconcile the needs of all stakeholders regarding representation in and composition of the ARC-TF.

2.8 The meeting endorsed a proposal prepared by the Secretariat regarding the membership of the ARC-TF which includes representatives from APIRG, RASG-AFI, AFCAC and Industry. The following decision was formulated:

APIRG/22 & RASG-AFI/5 Decision 1/05: Membership of the ARC-TF

That the membership of the ARC-TF should include representatives from the following stakeholders:

- *APIRG;*
- *RASG-AFI[1];*
- *AFCAC; and*
- *Industry, represented by AIRBUS*

Note: Other representatives from the industry may elect to attend on their own capacities.

2.9 The meeting also reviewed the allocation of tasks and the areas of common interest between APIRG and RASG-AFI as presented by the Secretariat, and agreed to the following decision:

[1] The RASG-AFI will be represented by the States championing the Safety Support Teams lead by the First Vice-Chairperson of the Group.

APIRG/22 & RASG-AFI/5 Decision 1/06: Allocation of tasks and coordination between APIRG and RASG-AFI

That, the APIRG/RASG-AFI Coordination Task Force (ARC-TF) be requested to:

a) Review and assess the allocations of activities between APIRG and RASG-AFI;
b) Formulate recommendations as necessary in order to ensure harmonization and avoid duplication of efforts, in accordance with the terms of reference of the two regional groups; and
c) Determine the specific aspects of the identified common activities to be coordinated between the two groups, and make proposals as necessary.

AGENDA ITEM 3: REGIONAL ACTIVITIES RELATED TO APIRG, RASG-AFI AND AFI PLAN

Implementation of Regional Safety and Air Navigation Targets as well as the Single African Air Transport Market (SAATM), Prioritized Action Plan.

3.1 AFCAC made a presentation on the status of implementation of the Abuja safety targets as revised, and the Prioritized Action Plan for Implementation of the Single African Air Transport Market (SAATM).

Implementation of Abuja Safety Targets and Air Navigation Targets (ASTs)

3.2 The meeting noted that the 2018 ASTs status of implementation report was compiled by AFCAC using information provided by 20 States through a questionnaire and supplementary data from ICAO iSTARS. The average level of compliance for the 20 respondent States was 46.5% implementation of ASTs, which is well below the 2018 target of 60%. The status of attainment of the safety and air navigation targets for which information was available is provided in **Appendix 2B** to this report.

3.3 Following discussions, the meeting recognized the need for a mechanism to address identified significant information gaps to accurately report on the status of implementation. The monitoring mechanism promotes the concept of automation of CAA Safety Oversight Systems, safety data sharing and it calls for AFCAC to seek cooperation from ICAO to establish other viable methods for effective data collection, analysis and sharing among all key stakeholders. Based on safety intelligence generated from automated systems, ICAO, RSOOs, AFCAC and other key stakeholders can identify implementation gaps and will be able to recommend technical assistance programs to States in need. For year 2018, identified challenges are mostly in the implementation of ANS related targets due to lack of both financial and human resources.

Prioritized Action Plan for Implementation of SAATM

3.4 The meeting was informed that, in order to ensure a coordinated approach to implementation of SAATM, AFCAC adopted the Prioritized Action Plan consisting of six (6) pillars, and noted the activities being undertaken by AFCAC under the pillars, particularly relevant to the work of APIRG and RASG-AFI. The meeting was informed that the African Development Bank (AfDB) has made a provision to undertake the Continental Infrastructure Master Plan for SAATM in coordination with stakeholders and partners.

3.5 Although a number of supporting activities have been conducted so far, there is still a lot more to be done to ensure that remaining States sign the Solemn Commitment and Memorandum of Intent (MoI) and the highest possible level of effective implementation of safety and security systems is achieved in the AFI Region.

Unsatisfactory Condition Reports (UCRs)

3.6 The meeting was presented with a high level feedback on the outcomes of the Sixteenth Africa-Indian Ocean (AFI) Air Traffic Service (ATS) Incident Analysis Group (AIAG16) Meeting, which analyzed the reported AIRPROX and related Air Safety Reports for the period 01 January to 31 December 2018. The 16th AIAG meeting took place in Johannesburg on the 6th and 7th of March 2019. The full AIAG16 Report can be downloaded from the ICAO website.

3.7 The AIAG16 meeting analyzed a total of 60 UCRs which occurred during the period 01 January to 31 December 2018 as received from 18 States in the AFI Region.

3.8 The analysis observed that 50 of the 60 reported AIRPROX events were confirmed to be in the category of AIRPROX / ACAS/TCAS alerts / loss of separation / near mid-air collisions (MAC events) or that of occurrences at an aerodrome involving the incorrect presence of an aircraft, vehicle, or person on the protected area of a surface designated for the landing and take-off of aircraft, where such presence leads to the potential collision with an aircraft either on ground or in the air (approach / take off) (RI-VAP events). The majority of the MAC / RI-VAP events were classified high risk, whilst 14% were medium risk. The risk classification for the remaining 16% of MAC/RI-VAP events could not be determined.

3.9 The meeting noted that the analysis indicated that in the 50 MAC / RI-VAP events analyzed, the separation minima was compromised, but timeously restored by means of one, or a combination of, the following:

a) ATS frequency monitoring by the pilot,
b) TCAS TA / visual,
c) ATC intervention,
d) IFBP, and
e) Undetermined.

3.10 The AIAG results and trends for the past 10 years show a general improvement in the number of MAC / RI-VAP events for the region. The trend however is not steep enough to achieve the regional target of zero AIRPROX by 2020.

3.11 The AIAG16 report is accessible on the ICAO website. The following conclusion was formulated:

APIRG22 & RASG-AFI5 Conclusion 1/03: Implementation of AIAG recommendations by States

That AFI States :

a) Implement the State specific and general recommendations of the AIAG16,
b) Commit to:
i) Further develop the safety culture (including just culture) in the region through the effective implementation of SSP and SMS;

ii) Ensure that the investigation of events drill down deep into all causal factors, finding not only the "what" happened, but more importantly, the "why" it happened;

iii) Submit comprehensive investigation report, including all causal factors (the "what" and the "why"), corrective and preventative action to the AIAG Secretariat; and

iv) Make concerted efforts to implement more effective civil / military co-ordination and cooperation in the pursuit of improving both safety and efficiency in the region.

Safety and Efficiency of Operations in AFI Airspace - AFI Regional Monitoring Agency Report on RVSM Airspace Safety (ARMA)

3.12 The AFI RVSM Monitoring Agency presented 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 × 10-9 fatal accidents per flight hour, and an assessment of the total vertical collision risk measured against a TLS of 5 × 10-9 fatal accidents per flight hour. The technical and total vertical collision risk assessments are based on the data and information available from AFI RVSM operations during the calendar year 2017 as collected and collated by ARMA.

3.13 The meeting noted that the CRA 12 2017 estimate of the technical vertical collision risk was 1.2 x 10-10 fatal accidents per flight hour, i.e. approximately a factor of 20 smaller than the technical vertical TLS. This estimate was smaller than its CRA 11 2016 counterpart. The decrease was essentially attributable to a decrease in the estimate of the probability of vertical overlap parameter, of the technical vertical collision risk model. The decrease in the estimate of the probability of vertical overlap is believed to fall within the variation in the height monitoring data used to estimate this probability.

3.14 The meeting also noted that the CRA 12 2017 estimate of the total vertical collision risk was 58.6 x 10-9 fatal accidents per flight hour. It was approximately 1.6 times larger than its CRA 11 2016 counterpart. The increase in the CRA 12 2017 estimate of the total vertical collision risk represented the combined effect of increases in the probabilities of vertical overlap due to improper flight level crossings and flying at wrong flight levels.

3.15 The meeting recognized that there remain several factors that require the estimate of the total vertical collision risk to be treated with caution. As such, the estimate is most likely affected by under-reporting of vertical events involving large height deviations. Continued efforts to bring the total vertical risk further down to below the total vertical TLS and to improve the event reporting in AFI must be sustained. RVSM system safety must be promoted at every available opportunity so as to reach all RVSM system role-players. i.e. aircraft operators, maintenance organizations, CAAs, and ANSPs.

3.16 The meeting therefore considered ways to reduce the target level of safety in the AFI Region including but not limited to the implementation and use of the ICAO Strategic Lateral Offset Procedures (SLOPs), limitation of clearances to operate in RVSM airspace to approved aircraft only, regular and timely submission of RVSM data and approvals to ARMA, height monitoring of approved aircraft and reporting of large height deviations. **Appendix 2C** to this report provides the evolution of the overall collision risk assessment in the AFI Region from CRA/01 2006 through CRA/12 2017. The following conclusion was formulated:

APIRG/22 & RASG-AFI/5 Conclusion 1/04: RVSM Airspace Monitoring

That AFI States:

a) Submit RVSM Data to ARMA Office on a monthly basis;
b) Encourage Airlines and Operators to periodically height monitor their RVSM approved aircraft; and
c) Implement Strategic Lateral Offset Procedures and other recommended measures aimed to reduce AFI target level of safety (TLS).

Implementation of Aviation System Block Upgrades (ASBUs)

3.17 The meeting agreed to refer the discussions on ASBUs to the APIRG/22 meeting.

Aeronautical Information Management (AIM)

3.18 The meeting was informed that the 22nd meeting of the AFI Plan Steering Committee (Kampala, Uganda, 15 May 2019) approved an AIM Project to support States in the implementation of quality management system (QMS) in a digital/electronic AIM environment through the establishment of an ''AIM Go-Team for the AFI Region''. The project was developed based on an analysis of selected USOAP Protocol Questions (PQs) for the African Region showing that the effective implementation of properly organized QMS as applied to AIS processes is only 33%. An important pre-requisite for States to effectively transition from AIS to AIM is to ensure that quality measures are in place.

3.19 The primary objective of the AIM Go-Team Concept is to bring States to a good implementation stage through a standard process which includes:

a) engagement with the AFI States receiving assistance;
b) in-depth analysis of their bottlenecks with implementation;
c) provision of tailored guidance to address those challenges;
d) identification of follow-up actions; and
e) monitoring the execution of those follow-up actions through specific Key Performance Indicators (KPIs).

3.20 The Go-team will be composed of ICAO Headquarters Technical Officers and relevant Regional Officers, recipient States Focal Points; and Partner organizations/States. The following conclusion was formulated:

APIRG/22 & RASG-AFI/5 Conclusion 1/05: Implementation of AFI Plan AIM Project

That AFI States/ANSPs should:

a) Take advantage and/or support the AFI Plan project on the establishment of an AIM Go-Team in order to ensure effective implementation of properly organized quality management systems (QMS) in the AFI Region; and
b) Develop detailed and time-bound AIM Implementation Action Plans, based on the AIM Go-Team recommendations, and facilitate the follow-up activities to be conducted by the Go-Team.

Unmanned Aircraft Systems (UAS)

3.21 The meeting did not hold discussions on UAS.

Outcomes of the 22nd Meeting of the AFI Pan Steering Committee

3.22 The meeting was presented with the outcome of the 22nd meeting of the AFI Plan Steering Committee (Kampala, Uganda, 15 May 2019). The Steering Committee particularly focused on the following:

a) Attainment of 60 % EI by AFI States;
b) Resolution of SSCs;
c) Evaluation of the progress in the implementation of the AFI Plan Projects;
d) Aviation Infrastructure for Africa Gap Analysis; and
e) Implementation of the 2018 Work Programme and training activities.

3.23 The presentation showed the progress made in the improvement of effective implementation of the critical elements of a safety oversight system, the resolution of significant safety concerns and the gradual reduction of the number of accidents in the AFI Region, as part of the Abuja safety targets (2012).

3.24 The meeting noted that the Aviation Infrastructure for Africa Gap Analysis was conducted in response to ICAO Council Decision, C-DEC 24/7, on the implementation of the Declaration and Framework for a Plan of Action for Development of Aviation Infrastructure in Africa, and at the request of the AFI Plan Steering Committee. The Gap Analysis exercise which covered Airports, Air Navigation Services, and Aircraft fleet capacity and equipage was coordinated by the AFI Plan Secretariat, and its outcome was validated through a workshop held in Abuja, Nigeria, from 19 to 21 March 2019. It was reviewed by the 22nd meeting of the AFI Plan Steering Committee on 15 May 2019, and further reviewed and endorsed by the Council at its 217th Session on 12 June 2019.

3.25 The meeting recognized and encouraged the efforts being made by ICAO through the AFI Plan programme to progressively improve safety in Africa. The following conclusion was formulated:

APIRG/22 & RASG-AFI/5 Conclusion 1/06: Implementation of the Decisions and Recommendations of the AFI Plan 22nd Steering Committee meeting (AFI Plan SC/22)

That AFI States:

a) Maintain their full commitment and support in the implementation of the AFI Plan and its objectives including the Decisions and Recommendations of the AFI Plan SC/22 meeting; and

b) Examine and consider the various Decisions and Recommendations of the AFI Plan SC/22 meeting, including recommendations related to the aviation infrastructure gap analysis, for incorporation in, or alignment with the relevant activities in the APIRG and RASG-AFI Work Programmes.

PART III:

REGIONAL AVIATION SAFETY GROUP FOR AFI REGION (RASG-AFI/5)

Review and Adoption of the Agenda and Work Programme of the meeting

The adopted its Agenda and Work Programme as indicated in **Appendix 3A** to this report.

Election of the RASG-AFI Bureau (Chairperson and Vice-Chairpersons)

The Chairperson of RASG-AFI, Mr. Levers Mabaso presided over deliberations of this agenda item. Considering the fact that the tenure of office of the current RASG-AFI Bureau would elapse in October 2019, there was a need to elect the members of a new Bureau (comprising the Chairperson and three Vice-Chairpersons), who will steer the affairs of the Group until 2021. The meeting recognized the achievements of the Group and thanked the outgoing members of the Bureau for the leadership demonstrated during their tenure. The meeting subsequently elected the new Bureau as follows:

***Chairperson**:*	*Capt. Gilbert Kibe,* *Director General, Kenya CAA*
***First Vice-Chairperson**:*	*Col. Dokisime Gnama Latta,* *Director General, Togo CAA*
***Second Vice-Chairperson**:*	*Mr. Moses Tiffa Baio,* *Director General, Sierra Leone CAA*
***Third Vice-Chairperson**:*	*Mr. Kavai Blessing, IATA, Africa* *Assistant Director, Safety and Operations*

RASG-AFI/5 Decision 5/01: Election of the RASG-AFI Bureau (Chairperson and Vice-Chairpersons)

That:

The Officials elected to the bureau in line with the provisions of the RASG-AFI Procedural Handbook, shall have tenure of office that will elapse at the end of the annual meeting of the Group in 2021.

DISCUSSION ON THE AGENDA ITEMS

AGENDA ITEM 1: FOLLOW-UP ON RASG-AFI/4 CONCLUSIONS AND DECISIONS

1.1. The status of implementation of the Eleven (11) Conclusions and Eleven (11) Decisions adopted by the Fourth Meeting of the Regional Aviation Safety Group for Africa-Indian Ocean (RASG-AFI/4) held at Nairobi, Kenya, in October, 2017 was presented by the Secretariat. Although progress has been made in the implementation of the activities (4 Conclusions and 9 Decisions accomplished), it was noted that some of the activities are continual in nature and thus their status of implementation remained on-going. The following decision was formulated:

RASG-AFI/5 Decision 5/02: Status of implementation of RASG-AFI/4 Conclusions and Decisions (excluding common areas with APIRG)

That:

a) The Safety Support Team on SSC directs particular attention to the resolution of the only existing SSC in the Region (in Eritrea) by 31 December 2019 as a matter of urgency. The meeting called for high level intervention of ICAO and

other stakeholders in engaging the authorities of the State, as part of the efforts to resolve the SSC; and

b) With regards activities indicated as on-going, the Secretariat indicate the actual level of implementation of the activity and not just "on-going" and carry over to the Group's future Work Programme items that so require.

AGENDA ITEM 2: REPORTS ON RASG-AFI ACTIVITIES

2.1. Updates on the status of implementation of the activities of the RASG-AFI and its subsidiary bodies were presented to the Group by the respective Champion States and by Secretariat where the Champion State was absent. The RASG-AFI has established four Safety Support Teams (SST), as its subsidiary bodies, whose purpose and objective is to respond to the immediate safety challenges facing the AFI Region by facilitating and providing support in the development, prioritization and implementation of safety enhancement initiatives. The SSTs comprise, Significant Safety Concerns (SSC); Fundamentals of Safety Oversight (FSO); Aircraft Accident and Incident Investigation (AIG); and Emerging Safety Issues pertaining to Loss of Control In-Flight (LOC-I), Controlled Flight Into Terrain (CFIT), Runway Safety and Aeronautical Information Management (AIM).

2.2. The RASG-AFI Steering Committee (RASC) oversees and provides directional guidance to the SSTs in their efforts to develop mitigation strategies, which include gathering and processing safety data and information in line with the Global Aviation Safety Plan (GASP). Following the reports, the Group drew Decisions and Conclusions as follows:

RASG-AFI/5 Decision 5/03: Safety Support Team – Significant Safety Concerns (SST- SSC)

That:

RASG-AFI Steering Committee (RASC) through SST-SSC, in collaboration with ICAO, States and other relevant partners, including AFCAC, COSCAPs /RSOOs and Industry:

a) maintain and intensify technical assistance to Eritrea in resolving the outstanding SSC by the end of 2019;

b) profile all States on an ongoing basis in order to proactively identify those with latent or potential SSCs and provide them with tailored assistance to prevent, resolve or mitigate the associated safety risks;

c) maintain and intensify provision of financial resources through the AFI Plan, SAFE Fund, and other development partners, to progress the work of the SST- SSC.

RASG-AFI/5 Decision 5/04: Safety Support Team - Fundamentals of Safety Oversight (SST-FSO)

That:

RASC through SST-FSO, in collaboration with ICAO, States and other relevant partners, including AFCAC, COSCAPs/RSOOs and Industry:

a) profile all States in order to identify those with existing low EIs and those that have not yet been audited under USOAP to identify latent or evident safety deficiencies, and provide them with tailored assistance to resolve or mitigate the associated safety risks; and

b) maintain and intensify provision of financial resources through the AFI Plan, SAFE Fund, and other development partners, to progress the work of the SST- FSO.

RASG-AFI/5 Decision 5/05: Safety Support Team – Aircraft Accident and Incident Investigation (SST-AIG)

That:

RASC through SST-AIG, in collaboration with ICAO, States and other relevant partners, including AFCAC, COSCAPs/RSOOs and Industry provide assistance to States to establish and implement independent and effective aircraft accident and incident investigation systems through:

a) establishment of an effective legislative framework;
b) establishment of mechanisms, such as memoranda of understanding (MOUs), with other relevant entities, including other States and Judicial Authorities; and
c) building of capacity in the form of appropriately trained and qualified investigators by providing scholarships and fellowships as a means of implementing effective training programmes.

RASG-AFI/5 Conclusion 5/01: Safety Support Team - Emerging Safety Issues (SST-ESI, Loss of Control In-flight (LOC-I)

That:

a) States are urged to report on yearly basis, progress made at their level on the implementation of the LOC-I five-year Plan of action;
b) States, Organizations and Industry to complete the LOC-I online survey, for adequate reporting of progress made on the area and to share safety data relating to LOC-I;
c) States, Organizations, air operators and training organizations to nominate experts by 31 October, 2019 and to actively participate in the activities of the Core Expert Group on LOC-I and UPRT;
d) SST-ESI to continuously enhance the RASG-AFI Model guidance material; and
e) States, Organizations, air operators and training organizations to attend the next workshop which is scheduled to take place in Nigeria in November 2019.

2.3. The meeting acknowledged and commended the tremendous work of the ASRT in producing the 5th Edition of the RASG-AFI Annual Safety Report and endorsed in principle, the recommendations contained therein. The following conclusion was formulated:

RASG-AFI/5 Conclusion 5/02: Activities and Recommendations of the RASG-AFI Annual Safety Report Team (ASRT)

That:

a) RASG-AFI Members provide feedback on the Annual Safety Report to further improve its quality as well as addressing safety challenges of the Region;
b) subsequent Editions of the Report feature the impact of Runway Safety Teams in addressing runway related accidents and incidents;
c) The RASG-AFI Steering Committee to do its utmost to drive timely implementation of recommendations in the Annual Safety Report as well as urge participation in submitting input from fellow Safety Support Teams.

2.4. In line with RASG-AFI/3, Decision 3/15 on the establishment of a Joint Coordination Task Force as a subsidiary body of APIRG and RASG-AFI, intended to strengthen and adequately address the requirements for coordination between the two Groups, the Group decided to nominate representatives to serve in the Task Force,

RASG-AFI/5 Decision 5/06: Composition of the APIRG/RASG-AFI Coordination Task Force(ARC-TF)

That:

In consideration of the needs of all stakeholders, representation in, and composition of, the APIRG/RASG-AFI Coordination Task Force (ARC-TF) shall be as follows:

Chairperson:	*Col. Dokisime Gnama Latta (First Vice-Chairperson of RASG-AFI), Director General, Togo CAA*
Members:	*Champions and Co-Champions of the Safety Support Teams (Ghana/South Africa, Senegal/Uganda, Ethiopia/Cabo Verde, Kenya/ASECNA), AIRBUS representing Industry*

AGENDA ITEM 3: ICAO "NO COUNTRY LEFT BEHIND (NCLB)" INITIATIVE

3.1 The meeting was presented with an update on AFI Plan activities and projects including State Safety Programme (SSP) Implementation, Aerodrome Certification, and Fundamentals of Safety Oversight (FSO). In addition, the meeting was briefed on the impact of ICAO ROST Assistance missions and requested for active participation of relevant stakeholders to ensure improved coordination and effectiveness. The meeting also received presentations from safety partners, including Banjul Accord Group Aviation Safety Oversight Organization (BAGASOO), Civil Aviation Safety and Security Oversight Agency (CASSOA), Association of African Aviation Training Organizations (AATO) and the United States Federal Aviation Administration (US FAA).

3.2 The meeting was updated on the status of implementation of the aerodrome certification Project supported by the AFI Plan to assist States certify their international aerodromes. By end of July 2019, twelve (12) Airports out of twenty-four (24) assisted by the Project were certified; and the percentage of States that have developed aerodrome certification capacities was 45.83%. The meeting noted the challenges faced in the project implementation which were related to the resolution of deficiencies found at airports. These require resources (which in certain cases were unavailable) and commitment of both the CAAs and the airports operators Management. The meeting also noted the lack of trained technical personnel at both the CAAs and the airports Operators.

3.3 By end of July 2019, 24.83% of aerodromes in the AFI Region were certified. This was impacted by additional international aerodromes published by States. In fact, many international aerodromes published in the eANP were neither used for international operations, nor compliant with the relevant SARPs. The meeting appreciated progress and efforts made in the aerodrome certification project, while encouraging States to continue its implementation.

In view of the above, the following conclusions were formulated:

RASG-AFI/5 Conclusion 5/03: State Safety Programme (SSP) and Safety Management System (SMS) Implementation

That States:

a) continue their efforts to establish and implement State Safety Programme (SSP), with the support of ICAO through the AFI Plan SSP Project, in accordance with the GASP, Annex 19 provisions, and in line with the relevant revised Abuja Safety target; and

b) regional and international organizations are invited to share tools and examples which support effective State Safety Programme (SSP) and Safety Management System (SMS) implementation to be considered for establishment of regional data base and posting onto the ICAO safety management implementation website.

RASG-AFI/5 Conclusion 5/04: Implementation of the Aerodrome Certification Project

That States:

a) Identified for assistance under the AFI Plan aerodrome certification project and making 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) 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) and airport operators should recruit, train and retain adequate technical personnel; and

d) should review and amend as necessary, information related to their aerodromes published in the eANP to reflect the current status of their classification (i.e. International or Domestic) by 31 December, 2 019.

RASG-AFI/5 Conclusion 5/05: Fundamentals of Safety Oversight (FSO) Project

That:

AFI Plan maintains and intensifies provision of financial resources to progress the work of the FSO Project in its efforts to assist specific States with low EIs (under 40%) and those that have not yet been audited under the USOAP CMA to establish or enhance the fundamentals of an effective safety oversight system.

RASG-AFI/5 Conclusion 5/06: Regional Office Safety Teams (ROST) Assistance Missions, Coordination, Effectiveness and Impact

That:

ICAO, through the AFI Plan and development partners, maintains and provides the necessary support to AFI States in their efforts to improve their safety oversight systems through the conduct of ROST assistance missions.

Safety Initiatives by States, Regional Organizations, Industry and Partners

Aviation Safety Oversight Tools and their relevance in the Implementation of Regional Safety Programmes

3.4 After recognizing that aviation Safety Oversight tools occupy a significant place among the family of IT tools given their relevance to the aviation sector, specifically in supporting the regulatory capacities of civil aviation authorities by facilitating the smooth monitoring of the State's aviation system, the meeting was informed of a number of safety oversight tools developed by BAGASOO and the merits in the use of aviation safety tools as a means of implementing regional safety programmes. The following conclusion was formulated accordingly:

RASG-AFI/5 Conclusion 5/07: Aviation Safety Oversight Tools and their relevance in the Implementation of Regional Safety Programmes.

That:

a) The RASG-AFI Steering Committee formulate and implement programmes and initiatives that will promote strong interests of States and direct efforts towards the use of safety oversight tools in lieu of manually managed systems;

b) AFI RSOOs and COSCAPs consider partnering with BAGASOO to promote the use of safety tools by States within their regions; and

c) States consider utilization of safety oversight tools in the implementation of their safety oversight processes and activities.

Status and Progress on the Implementation of Common Personnel Licensing (PEL) System

3.5 The meeting was presented with the status of implementation of amendment 174 to ICAO Annex 1 which describes the mechanism for enabling a group of States party to a formal agreement under common licensing system to automatically validate Personnel Licenses. Within the AFI Region, the East African States through the Regional Safety Oversight Organization, EAC-CASSOA, have made progress in developing a framework for implementing the mechanism with the chief aim of improving the mutual acceptance and mobility of licensed personnel at regional level. The following conclusions were formulated:

RASG-AFI/5 Conclusion 5/08: Status and Progress on the Implementation of Common PEL System

That:

States and RSOOs consider implementation of automatic validation of personnel licensing systems for the purpose of improving mobility of licensed aviation personnel.

RASG-AFI/5 Conclusion 5/09: Status and Progress on the Implementation of Common PEL System

That:

ICAO develops necessary technical guidance material, and provides training and expertise to States and RSOOs to ensure effective implementation of automatic validation of licensing system.

Harmonization of Aviation Training in Africa

3.6 The meeting recalled the discussions of the 14th meeting of the AFI Plan Steering Committee (SC), (Montreal, Canada, 24th October 2014) on matters related to aviation training in Africa. The Steering Committee considered the lack of information on an inventory on training needs and courses available as one of the key challenges in the region, and accordingly recommended that the Association of African Aviation Training Organizations (AATO) in collaboration with the ICAO Global Aviation Training (GAT) Office and partners carry out the training needs analysis and to come up with Draft Training Needs Road Map.

3.7 The meeting noted with appreciation the action taken by AATO to develop and further enhance the content of the roadmap, including key milestones such as the conduct of two training needs surveys in 2014 and 2015, stakeholders' meetings in April 2017 (Addis Ababa) and December 2018 (Doha), and continuous reporting to the AFI Plan Steering Committee on progress made. The meeting was informed that the final Aviation Training Roadmap incorporating guidance and inputs from stakeholders was presented and endorsed by the Twenty Second AFI Plan Steering Committee meeting held in Kampala, Uganda on 15 May 2019. The following conclusion was formulated:

RASG-AFI/5 Conclusion 5/10: Harmonization of Training in Africa: The Aviation Training Roadmap

That:

a) States and Stakeholders, such as Aviation Training Institutions, Industry partners etc. continue to provide training related information for the continuous improvement of the African Aviation Training Roadmap; and

b) States and Development partners provide technical and financial support to the projects, programmes, and the Roadmap related activities of AATO.

AGENDA ITEM 4: REVIEW OF THE FUTURE WORK PROGRAMME OF THE RASG-AFI AND ITS AUXILIARY BODIES

4.1 The meeting reviewed and endorsed the proposed Work Programme and activities for 2020 of RASG-AFI and its Subsidiary bodies, as contained in the **Appendix 3B** to this report; and formulated the following decision:

RASG-AFI/5 Decision 5/07: Review and endorsement of the RASG-AFI Work Programme for 2020

That:

a) the Group endorse the Work Programme and activities for 2020 of RASG-AFI and its Subsidiary bodies and tasked the APIRG/RASG-AFI Coordination Task Force to coordinate with APIRG/22 not later than 31 August, 2019 and incorporate its outcomes as relevant and applicable to RASG-AFI activities;

b) the APIRG/RASG-AFI Coordination Task Force review the revised Terms of Reference (ToRs) of APIRG and RASG-AFI to be aligned with the recommendations of ANC and submit its report to the RASC and APCC for their review and endorsement by 31 March, 2020.

AGENDA ITEM 5: ANY OTHER BUSINESS (AOB)

Sustainability of RASG-AFI programmes and activities

5.1 Under this Agenda Item, the meeting implored the Group to start looking for sustainable sources of funding for its programmes and activities from within and not to always rely on external sources.

US FAA ADS-B mandate

5.2 The issue of ADS-B becoming mandatory in 2020 for aircraft operating into the United States of America was discussed by the meeting and the following conclusion was formulated:

RASG-AFI/5 – Conclusion 5/11: Operations into destinations where ADS-B is mandatory

> *That States ensure that their air operators meet the requirements for ADS-B prior to operations into destinations where it is mandatory.*

PART IV:

TWENTY SECOND MEETING OF THE AFRICA -INDIAN OCEAN PLANNING AND IMPLEMENTATION REGIONAL GROUP (APIRG/22)

Adoption of the Agenda and Meeting Work Programme

The Agenda adopted by the meeting is provided at **Appendix 4A** to this report.

AGENDA ITEM 1: FOLLOW-UP ON APIRG/21 MEETING CONCLUSIONS AND DECISIONS

Review of the action taken by the ANC and Council on the report of APIRG/21

1.1. Under this agenda item, the meeting reviewed the action taken by the Air Navigation Commission (ANC) and the ICAO Council on the report of APIRG/21 meeting as presented during the APIRG/22 and RASG-AFI/5 Joint Session.

Review of the action taken by the APCC on the report of APIRG/21

1.2. The meeting reviewed the actions conducted by the APIRG Project Coordination Committee (APCC) to follow up on the implementation of APIRG/22 outcome. In this regard, it was reported that the APCC held its third meeting in Dakar, Senegal, from 17 to 18 December 2018 with the aim to review the follow up actions conducted by the APIRG AAO and IIM Sub Groups.

1.3. The meeting was informed on the outcome of the APCC fourth meeting held in Nairobi, Kenya, from 24 to 25 June 2019 which reviewed and adopted the report of the APCC/3 meeting that focused on preparations of the APIRG/22meeting. It was reported that the meeting also agreed to provide a short update of the information contained in the Sub-Groups reports at the end of their presentation to the APIRG/Meeting.

Status of implementation of APIRG/21 Conclusions and decisions

1.4. The meeting reviewed the status of implementation of the 28 Conclusions and 10 Decisions adopted by the APIRG Twenty First Meeting held in Nairobi, Kenya, from 9 to 11 October 2017. The meeting noted the progress made in the implementation of these various Conclusions and decisions at regional level as observed by both the AAO and IIM Sub-Groups meetings held in May and July 2018 respectively.

1.5. The meeting recognized that in order for APIRG to report efficiently and in a timely manner, there was the need for States to improve on the level of information provided to ESAF and WACAF Regional Offices regarding their status of implementation.

1.6. During the review, and where information has been made available, constraints to implementation were identified and indicated as well as some of the challenges faced in the implementation of APIRG conclusions and decisions such as but not limited to:

a) Inadequate or lack of financial resources and high level commitment to aviation;
b) Lack of expertise within States CAAs and ANSPs to implement, follow up or provide feedback on APIRG activities including recommendations, decisions and Projects implementation.
c) Ineffective mechanisms and participation to coordinate and support implementation of the APIRG conclusions, decisions and Projects implementation.

d) Weak effective safety oversight in some States at the level of regulators
e) Poor reporting of APIRG recommendations, decisions and Projects implementation.

The following conclusion was formulated:

APIRG/22 Conclusion 22/01: Effective implementation of AFI Regional ANS projects

That, in order to ensure and effective and efficient implementation of APIRG projects, States and industry:

a) Commit the necessary resources and infrastructure towards implementation of APIRG decisions and conclusions;
b) Effectively participate in AFI projects, including those linked to the APIRG Decisions and Conclusions;
c) Strengthening the effectiveness and efficiency of ANS related projects such as but not limited to the African Flight Planning Procedures Programme (AFPP) and ANSP Peer review mechanism.

1.7. The meeting noted that whereas some States have made progress in instituting mechanisms and actions to address the Conclusions and Decisions, there continues to be lack of information from States regarding their current status. Administrations and organizations were, therefore, invited to provide the ICAO Secretariat with the required information on the status of implementation of APIRG Conclusions and Decisions on a regular basis, in order to assess progress in the strengthening of the air navigation system and reporting as required by APIRG.

The following conclusion was formulated:

APIRG/22 Conclusion 22/02: Regular and timely reporting on the status of implementation of APIRG Conclusions and decisions

That in order to strengthening the AFI air navigation reporting system, Administrations/Organizations:

a) Establish effective internal mechanisms within civil aviation organizations to facilitate collection of information on the status of implementation of APIRG Conclusions and Decisions in all applicable areas through the Air navigation reporting Forms (ANRFs);
b) Provide the ICAO Secretariat and all relevant parties with the required information on the status of implementation of Conclusions and Decisions on a regular basis, in order to assess progress in the strengthening of the air navigation system and to enable reporting by ICAO to APIRG;
c) Timely report on Incidents and continuously fill up the AFI Air Navigation Deficiency Database (AANDD).

AGENDA ITEM 2: PERFORMANCE FRAMEWORK FOR REGIONAL AIR NAVIGATION PLANNING AND IMPLE-MENTATION

Performance Framework for Regional Air Navigation Planning and Implementation

Outcome of the Thirteenth Air Navigation Conference (AN-Conf/13)

2.1. The outcome of the Thirteenth Air Navigation Conference (AN-Conf/13) was discussed during the APIRG/22 and RASG-AFI/5 Joint meeting of 29 July 2019.

Outcome of the Second meeting of the APIRG Airspace and Aerodrome Operations Sub Group (AAO SG/2)

2.2. The Group was informed that the Second Meeting of the APIRG Airspace and Aerodrome Operations Sub-Group (AAO SG/2) was held in the ICAO ESAF Regional Office in Nairobi, Kenya, from 21 to 25 May 2018. The meeting was attended by sixty (60) participants from sixteen (16) AFI States and seven (7) Regional/International Organizations. The AAO SG/2 reviewed the list of APIRG Conclusions and Decisions applicable to the sub-group and provided guidance on the follow up actions to be taken by AFI States, in order to facilitate and expedite their implementation.

Planning and implementation

2.3. The meeting 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 noted that no special funding is provided under the new APIRG structure to support projects implementation. Finally, the meeting recognized the need for enhanced flow of information from States to the two ICAO AFI Regional Offices on the status of implementation.

AFI SSR Code Management Plan

2.4. The meeting noted the progress made in the implementation of the AFI Secondary Surveillance Radar (SSR) Code Allocation and Assignment Review (ASCAAR) Project and formulated the following conclusions and decisions:

APIRG/22 Decision 22/03: Revised AFI SSR Code Management Plan (CMP)

That:

*a) the amendment proposals to the AFI SSR Code Management Plan (CMP) provided at **Appendix 4B** to this report are endorsed;*

b) the Secretariat should finalize and disseminate the revised CMP, and initiate the consequential amendments to the AFI Air Navigation Plan (eANP), ensuring coordination as necessary between the ICAO AFI and adjacent Regions; and

c) In coordination with States, the Secretariat should monitor substantial developments such as air traffic increase, airspace restructuring, operational requirements, etc. and ensure that related proposals for amendment to the ANP are initiated in a timely manner.

APIRG/22 Conclusion 22/04: SSR Code Occupancy Time

That,

a) Effective 8 November 2020, the protection period will change from three hours to two hours; Protection period of more than 2hrs applied within specific FIRs should be justified by need taking into consideration of such factors as flight time across FIRs/Blocks of airspace as applicable, and supported by sound safety assessment in accordance with ICAO safety management provisions; and

b) The Secretariat take necessary measures to amend the SSR code allocation table in the AFI ANP Doc 7474.

APIRG/22 Decision 22/05: Collection of data on traffic volumes and patterns in the AFI Region and the interface with other ICAO Regions

That:

The APIRG Traffic Forecast Group (TFG), with support of the Air Transport Bureau (ATB), take necessary action to obtain traffic data from States and traffic forecasts, in order to assess the relevance of the traffic information and data for use in reviewing the AFI SSR CMP elements.

APIRG/22 Decision 22/06: Workshops to Facilitate Implementation of the Revised SSR Code Management Plan

That:

ICAO ESAF and WACAF Regional Offices arrange for workshops before 31 March 2020 to provide knowledge and awareness on the revised CMP, and to facilitate coordination between ATS Units.

Performance Based Navigation (PBN)

2.5. 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. 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. 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.

2.6. The meeting noted the lack of implementation of the Continuous Climb Operation (CCO) and Continuous Descent Operations (CDO) in the region. The meeting noted the difference between procedures for PBN STARS/SIDS from those of CCO/CDO and urged States that have developed CCO/CDO procedures to coordinate with the ICAO AFPP for confirmation. The meeting formulated the following conclusion:

APIRG/22 Conclusion 22/07: Improvement and funding of States PBN Implementation Plans

That:

States that have not already done so, are urged to review their PBN implementation plans to ensure that:

a) they are sufficiently robust and detailed to effectively support implementation thereof; and

b) they are formally adopted at the appropriate level of the State/ANSP and are accordingly funded.

APIRG/22 Conclusion 22/08: Implementation of PBN with CCO and CDO

That:

a) States that have not already done so, are urged to coordinate with the ICAO AFPP for the review and confirmation of status of their PBN - CCO/CDO procedures; and

b) ICAO organize workshops to provide the requisite knowledge and assistance to facilitate PBN -CCO/CDO implementation in the AFI Region.

Search and Rescue

2.7. The meeting was updated on the progress made in the implementation of the Search and Rescue Project under the AFI Plan and agreed on the following Conclusion:

APIRG/22 Conclusion 22/09: Follow-up on the AFI Plan SAR Projects for AFI States

That:

a) AFI States:

i. Expedite the development and operationalisation of their SAR plans, which should include State agencies that would be involved with supporting SAR operation;

ii. 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;

iii. Use Regional Economic Communities (RECs) frameworks to pursue signing of outstanding SAR agreements where high level intervention is required;

b) Having adequate SAR expertise and resources to assist other States, upon request, in improving their SAR organisation and capabilities; and

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

Establishment of an FIR in South Sudan

2.8. The meeting noted the efforts made 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 services, in the airspace over its territory.

Restructuring of Kigali FIR

2.9. The meeting was informed that Rwanda communicated in March 2018 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 by Dar es Salaam. The meeting acknowledged the coordination activities undertaken for this purpose.

Relocation of Mogadishu FIR

2.10. The meeting recognized 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), and agreed on the following Conclusion:

APIRG/22 Conclusion 22/10: Relocation of the Mogadishu FIC from Nairobi to Mogadishu, ATS Organizational Changes and Airspace Operational Improvements

That:

a) *Somalia is urged to ensure that necessary safety assessments are carried out and applicable mitigations implemented, 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, such 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 measures.*

IATA Regional Survey on Aeronautical Mobile Service

2.11. The meeting noted the report on the Aeronautical Mobile Service Survey for the AFI Region, conducted by IATA, from 8th to 22nd February 2017, aimed at determining the real VHF coverage and the quality of HF and CPDLC service provisions to users. The meeting identified the need for additional action to be taken by AFI ANSPs that experience continuous deficiencies in aeronautical mobile service provision, and formulated the following Conclusion:

APIRG/22 Conclusion 22/11: Efforts to Address Aeronautical Mobile Service Deficiencies

That:

The concerned AFI ANSPs establish Service Level Agreements (SLAs) with users and collaborate to identify measures to address aeronautical mobile service (AMS) deficiencies.

Performance Based Communication and Surveillance (PBCS)

2.12. The meeting deliberated on developments in the implementation of Performance Based Communication and Surveillance (PBCS), noting other discussions within the framework of APIRG date back to APIRG/17 in 2010. 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.

2.13. The meeting also observed that the South Atlantic Regional Monitoring Agency (SATMA) is responsible for the provision of RVSM monitoring for States/FIRs in the AFI region which form part of the EUR/SAM Corridor airspace. The meeting therefore expressed strong support for SATMA to include as part of its functions, responsibility for providing PBSC monitoring to those States, and collaborate with ARMA as necessary for safety and efficiency of flights in the corridor. Accordingly, the sub-group formulated the following conclusion:

APIRG/22 Conclusion 22/12: Establishment of the AFI Performance-Based Communication and Surveillance (PBCS) Monitoring

That:

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 4C*** *to this report be reviewed and updated as necessary.*
f) *PBCS monitoring should be established as part of the South Atlantic Regional Monitoring Agency (SATMA) monitoring mechanism*

Adoption of RCP 240 and RSP 180 for implementation in the AFI Region

2.14. The meeting also noted the low pace of implementation of PBCS operation in the AFI Region and took note that the NAT region has experienced 7 months after PBCS implementation and that States were still not able to produce PBCS approvals and recognized that setting up the process to transmit PBCS/RCP/RSP approvals is expected to be slow in the AFI region. It was therefore recommended to urge this region to begin the process as soon as possible.

APIRG22 Conclusion 22/13: Adoption of RCP 240 and RSP 180 for PBCS operations in AFI Region

That,

a) *AFI States start pre-implementation as RCP/RSP specifications have been defined to establish PBCS policies for ANSP, Operators and Airworthiness. Publish the PBCS requirements in Aeronautical Information Publication;*
b) *States/ANSPs adopt RCP 240 and RSP 180 for implementation in the AFI and SAT area and establish a line of communication with AFI Regional Monitoring Agencies regarding non-compliance.*
c) *ANSPs establish mechanisms to recognize RCP/RSP Capabilities in ATC automation and provide RCP/RSP compliant air traffic services;*
d) *Operators prepare to file RCP/RSP capabilities in flight plans and participate in PBCS Implementation and Monitoring programmes; and*

e) States that have aircraft that operate outside of the AFI Region to start developing PBCS policies to help their operators with RCP/RSP(PBCS) Approvals as per ICAO Doc 9869.

AGENDA ITEM 3: RVSM AIRSPACE SAFETY – 11TH COLLISION RISK ASSESSMENT (CRA/11)

3.1. The meeting acknowledged 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). The meeting acknowledged the current efforts by the TAG and ARMA in managing the UCRs including occurrences of Non RVSM approved aircraft, as best as possible. 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.

Air Traffic Contingency Planning

3.2. Pursuant to APIRG 21/05 implementation, as well as Annex 11, 2.31, and Appendix C, the WACAF and ESAF Regional Offices organized workshops on the development of ATM Contingency Plans that resulted in the development and publication of National ATM Contingency Plans by States, as well as the development of Sub-Regional ATM Contingency Plans by ESAF and WACAF.

3.3. Consequently, the ESAF and WACAF regions convened in Johannesburg in May 2019, and developed a single Draft AFI Regional ATM Contingency Plan that was presented to APIRG 22 for consideration and approval.

The highlights of the AFI Regional ATM Contingency Plan are:

a) The composition of the AFI Contingency Coordination Team (CCT) for management of contingencies at the Regional level in coordination with the Contingency Coordination Committee (CCC) at the State level.
b) The description of Levels 1 contingencies that involves partial failures that can be handled internally, and level 2 contingencies that involves total ATM system failures requiring the intervention of adjacent States or FIRs in the provision of ATS, and level 3 Contingencies that involves contingencies requiring the total avoidance of the affected State/FIR or airspace.
c) The Contingency Routes and Flight Level Allocation Schemes for managing the flow of international traffic during Level 2 and level 3 contingencies.
d) The Contingency Plans for handling of Volcanic Ash Contingencies and Public Health Emergencies.
e) The Template for National ATM Contingency Plan, as well as Template Memorandum of Understanding for the delegation of the provision of ATS between adjacent States/FIRs.

The meeting agreed on the following conclusions:

APIRG/22 Conclusion 22/14: Adoption of the AFI ATM Contingency Plan

That:

a) the classification of contingencies into the proposed level 1, 2 and level 3 contingencies is adopted;
b) the Regional Contingency Routes for level 2 and level 3 contingencies are adopted;
*c) the AFI Regional ATM Contingency Plan in **Appendix 4J** is adopted; and*
d) the establishment for an AFI Regional Contingency Coordination Team (CCT) that includes Regional ATM/SAR Officers (ESAF/WACAF), State Focal Points, ARMA, IATA, IFALPA, IFATCA, CANSO, etc. is endorsed.

AFI Tactical Action Group (TAG)

3.4. The AFI Tactical Action Group (TAG) was established based upon Recommendation 6/6 of the Special AFI Regional Air Navigation Meeting AFI RAN. The key functions of the Group include performance of Safety Assessments and Reduced Vertical Separation Minimum (RVSM) and scrutinize incidents and ATM occurrences that has the potential to reduce the Target Level of Safety necessary for continued RVSM operations across the region. The meeting was presented with the report of the Eleventh Meeting of the Tactical Action Group (TAG/11) which was held in Johannesburg, South Africa on 8 March 2019.

3.5. It was noted that in 2018, 100% of all coordination failures, 92% of all communication failures and 47% of all AIRPROX events took place in the RVSM airspace; whilst only 31% of all ATS events occurred in RVSM airspace.

3.6. The meeting was informed of the high number of AIRPROXES in Mogadishu FIR and called for an urgent action to address the contributing factors.

3.7. ICAO was requested to advise if the use of CPDLC could be mandated for aircraft operating over the high-seas. The TAG was informed that CPDLC had been mandated in the EUR/NAT region and urged ICAO to ensure coordination between APIRG and GREPACAS and stakeholders in this regard.

3.8. It was reported that under-reporting of Large Height Deviation (LHD) from the mathematicians working on the RVSM TLS does help in providing accurate assessment of the safety situation in the AFI region.

3.9. The technical and total vertical collision risk assessment was conducted based on the data and information available from AFI RVSM operations during the calendar year 2017 as collected and collated by ARMA. The CRA/12, 2017 estimate of the total vertical collision risk was 58.6 x 10-9 fatal accidents per flight hour, i.e. 12 times the total vertical TLS. It was approximately 1.6 times larger than its CRA/11, 2016 counterpart. The increase in the CRA/12, 2017 estimate of the total vertical collision risk represented the combined effect of increases in the probabilities of vertical overlap due to improper flight level crossings and flying at wrong flight levels. The former increased by a factor of approximately 1.2 and the latter by a factor of approximately 1.8.

3.10. Non RVSM approved aircraft pose a risk in RVSM airspace which has been debated on many occasions and will continue to be pursued. It is believed that TAG/ARMA is managing the occurrences of Non RVSM approved aircraft as best as possible currently.

3.11. The meeting reiterated the need for all FIRs to submit RVSM safety data for the assessment every month, aimed at improving the distribution of the assessment area, and therefore urged all States/FIRs to submit all the RVSM data from 2018 as soon as practically possible, to enable inclusion in the next Collision Risk Assessment.

APIRG/22 Conclusion 22/15: Implementation of eleventh TAG meeting report

That:

a) States update the contact details of RVSM National Programme Managers or Focal Points by 31 December 2019;
b) ICAO and ARMA jointly conduct seminars for State agencies and RVSM NPM/Focal Points in 2019 to inform and/or update them on RVSM requirements and post implementation responsibilities of States, ANSPs, Airspace Users and other stakeholders;
c) ICAO ESAF and WACAF Regional Offices facilitate Coordination Meetings for Addis Ababa, Kinshasa and either Gaborone or Lusaka FIRs, and ensure the participation of neighbouring FIRs and/or ATC Units to resolve the high numbers of Coordination Failures by 30 June 2020;
d) States/ANSPs be urged to report all vertical events involving large height deviations and take the necessary corrective action to reduce the total vertical risk further down to below the total vertical Target Level of Safety;
e) AFI Trans-regional co-ordination failures between Sanaa FIR and Mogadishu, Asmara and Djibouti should be given immediate attention due to the number of events that have occurred; and
f) States/FIRs which have not yet done so are urged to submit all the RVSM data from 2018 to 2019 and establish a mechanism for submission of monthly data to ARMA.

Aerodrome Operations

3.12. With regard to the implementation of the aerodrome operations projects, the meeting was informed that the sub-group endorsed the project definition work done by the Secretariat, including the definition and description of expertise required in the project teams. The meeting noted that the sub-group identified Experts to participate in the Project Teams, as well as project Teams Coordinators and discussed the methodology of work and timelines. The meeting was updated on the status of implementation of Projects related to aerodrome operations (see **Appendix 4D)** and challenges faced in the implementation. Therefore, the meeting formulated the following conclusion and decision:

APIRG/22 Decision 22/16: Implementation of the aerodrome operations project

That:

a) Experts to be members of the Project Teams have been identified as per the AAO SG/2 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.

APIRG/22 Conclusion 22/17: Participation of States and Organizations to the AAO subgroup 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 CVs to ICAO Regional Offices. In Addition, Aerodrome Operators and ACI should participate and effectively support the AAO/SG and APIRG activities including meetings.

Aerodrome Certification

3.13. The meeting was updated on the current percentage of certified aerodromes in the AFI region which is 24.83% (37 aerodromes out of 149). The meeting noted the challenges faced in the project implementation which are related to the resolution of deficiencies found on airports and training of technical personnel. The meeting appreciated progress made in the aerodrome certification Project and encouraged States and airports to pursue its implementation. The meeting commended Zambia for certifying the Lusaka airport and organizing the aerodrome certification workshop, aimed at building capacity and sharing its experience with neighboring States. Cabo Verde expressed the willingness to share their experiences in aerodromes certification with other States. Following the discussions, the meeting agreed on the following:

APIRG/22 Conclusion 22/18: Certification of international aerodromes

That:

a) States should ensure the implementation of their aerodrome certification action plans, including timely resolution of deficiencies found on airports

b) States are encouraged to share their experiences and host workshops and trainings on aerodromes matters.

Runway Safety

3.14. Regarding the runway safety programme, the meeting noted that the status of implementation of the Project developed under the RASG-AFI frame work to assist States. Since 2014, several States made use of the Go-Teams in establishing RSTs at their aerodromes. To date, thirty (30) aerodromes have established operational RST, out of 139 contained in the eANP. The meeting agreed on the following conclusion:

APIRG/22 Conclusion 22/19: 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.

AFI eANP

3.15. 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 ICAO Regional Offices had circulated a Proposal for Amendment (PfA) of Volume II to concerned States and organizations, which incorporated all comments received. It was noted that the final endorsement will be effected by APIRG. The meeting raised concern regarding the consistency of information published by States related to aerodromes in the AFI Region, and called for their diligence to ensure the alignment and accuracy of information published in the eANP, their USOAP SAAQ and AIPs. In this regard, the Group formulated the following conclusions:

APIRG/22 Conclusion 22/20: Amendment to the AFI Air Navigation Plan (eANP, Doc 7474)

That:

*a) APIRG endorse the final Draft of AFI ANP Volume II as presented in **Appendix 4E** to the report;*

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

c) States comply with the procedures for amendment (PfAs) of the AFI eANP upon initiation by the ICAO ESAF and WACAF Regional Offices; and

d) 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.

APIRG/22 Conclusion 22/21: Harmonization of the information published by States related to aerodromes

That:

States should harmonize information published in the AFI eANP, their USOAP SAAQ and their AIPs.

Air Navigation Reporting

3.16. 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 on implementation progress called for under the APIRG Conclusion 20/05 was still limited. The meeting acknowledged the introduction and planning targets of the ASBU Block 1 Modules which took effect as from January 2019.

AFI Air Navigation Deficiency Database (AANDD)

3.17. The meeting observed 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. It was noted however, that many States were yet to communicate to the Regional

Offices, the requested focal points. The meeting was informed that the focal points would be issued credentials to access the AANDD for reporting deficiencies, and submitting updates on the measures taken to address the deficiencies. 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 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 also requested to circulate guidance for users in order to facilitate their effective use of the tool.

Outcome of the Second meeting of the APIRG Infrastructure and Information Management Sub-Group (IIM SG/2)

3.18. The meeting was provided with the report of the Second meeting of the APIRG Infrastructure and Information Management Sub-Group (IIM/SG/2) held in Dakar, Senegal from 09 to 11 July 2018 with inter alia, the main objectives to:

a) Review the Conclusions/Decisions of the First meeting of the APIRG Infrastructure and Information Management Sub-Group (IIM/SG/1) held in Nairobi, Kenya from 27 to 30 June 2017
b) Review the outcome of the APIRG/21 meeting (held in Nairobi, Kenya from 09 to 12 October 2017) pertaining to the areas of Aeronautical Information Management (AIM), Aeronautical Communication Navigation Surveillance and Spectrum (CNS), Aeronautical Meteorology (MET);
c) Review the status of implementation of the regional projects adopted by APIRG in the above mentioned fields (AIM, CNS and MET) to be implemented based on the ICAO ASBU prioritized related modules selected by the AFI Region; and
d) Review the Terms of Reference (ToRs) and work Programme of the Sub Group.

3.19. The meeting noted with concern, incomplete implementation of the Conclusions/Decisions of the previous meeting, the low pace of participation of Administrations/Organizations in the activities of the IIM Projects, as well as a lack of efficient and reliable communication facilities that may enable effective participation of project team member's meetings through teleconferences. Therefore, the meeting advised Administrations/Organizations members of the IIM subgroup to assess prior to their commitment, their capability, capacity and availability to ensure an effective participation of their representatives to the IIM activities including Projects coordination Teleconferences etc. The following conclusion was formulated:

APIRG/22 Conclusion 22/22: Effective and efficient participation of Administrations in the IIM Projects activities

That:

Administrations/Organizations members of the APIRG IIM subgroup, assess prior to their commitment, their capability, capacity and availability to ensure an effective participation of their representatives to the activities of the Sub Group, including Projects coordination Teleconferences and accordingly provide them with the adequate facilitation for their full involvement.

3.20. The meeting commended the reports on the work successfully carried out under the coordination of committed Project Team Coordinators namely, South Africa (coordinating COM Project 3), ASECNA on behalf of Togo (coordinating COM Project 4), Cote d'Ivoire (coordinating COM Project 5) and Ghana (coordinating SUR Project) and encouraged the other

Project Teams Coordinators to follow the example of best practices from these well-coordinated IIM Projects.

3.21. However, it was reported that there was a lack of coordination of some IIM projects, namely Administrations committed to coordinate the Teams of the identified Projects. The relevant administrators were urged to confirm to the APCC with copy to the Secretariat their commitment to effectively lead the respective projects teams they volunteered to coordinate.

The following conclusion was formulated:

APIRG/22 Conclusion 22/23: Effective coordination of IIM COM Project 2, AIM Project 3, Spectrum Project and MET Project 2

That;

As a matter of urgency:

a) Nigeria (coordinator of AIM Project 3 and COM Project 2), Senegal (coordinator of MET Project 2) and Uganda (coordinator of Spectrum Project 1) confirm to the APCC with copy to the Secretariat, their commitment to effectively lead the respective projects teams they were volunteer to coordinate;

b) States willing to coordinate the above projects express their interest to the Secretariat in case the current nominated States may not be willing to continue the coordination.

3.22. The meeting confirmed the lack of continuous reporting by Administrations and States on the status of implementation of the outcomes of APIRG meetings through the Air Navigation Reporting Forms (ANRFs). The issues related to the update of air navigation deficiencies in the areas of AIM, CNS, MET were reported to experience lack of relevant information provided by Administrations.

3.23. It was noted that IATA recalled to have been continuously updating a database on deficiencies in the framework of the APIRG Tactical Action Group (TAG), although the IIM Group was not provided with the deficiencies data collected by the TAG in the above areas. The meeting encouraged States, Organizations and IATA to take the appropriate actions to update, assess and address deficiencies identified in the areas of AIM, CNS and MET with regard to the AFI air Navigation Plan procedures and regularly report on the status of implementation of the APIRG meetings outcome.

The following conclusion was formulated:

APIRG/22 Conclusion 22/24: Report on APIRG outcome and Update of the deficiencies in the areas of AIM, CNS and MET

That:

a) Administrations regularly report on the status of implementation of the APIRG meetings outcome through ANRFs;

b) IATA and concerned Administrations/Organizations take the appropriate actions to update, assess and address deficiencies identified in the areas of AIM, CNS and MET with regard to the AFI air Navigation Plan procedures.

3.24. The meeting was informed on the lack of awareness of IIM Teams members on the GANP concept and its related emerging technologies Roadmap. These barriers jeopardize the ability of Team members to fully and efficiently participate in the development and conduct of the regional IIML projects. Therefore, the need for an adequate education on these matters was recognized. The following conclusion was formulated:

APIRG/22 Conclusion 22/25: ICAO support to IIM activities

That;

ICAO reinforces its support to the activities of the APIRG IIM Sub-Group, in particular those related to the conduct and coordination of regional projects by:

a) The effective activation of the Regional Air Navigation Assistance Teams (RANSTs) to conduct support missions to States in accordance with Decision 21/03: Establishment of Regional Air Navigation Support Teams (RANSTs) APIRG/21;
b) Organizing workshops, seminars on the emerging technologies/systems involved in the GANP technology Roadmap in support to regional IIM projects.

3.25. The meeting noted that the APIRG Project Approach Concept can therefore be considered as the coordination for integrated regional /sub regional initiatives aimed at ensuring a harmonized implementation of service with the same Service Level Performance in a cost effective manner.

3.26. The issues on funding of AFI Regional Projects are discussed in length below under Agenda Item 4.3. Funding of Regional Projects.

3.27. The meeting discussed the issue of the implementation of aeronautical surveillance service in the AFI Region taking due account of the deployment of new technologies (ADS-B Space) and considering the ICAO provisions on the Performance Based Communication and Surveillance (PBCS) Manual (Doc. 9869 2nd, Ed., 2017). In this regard, the meeting agreed on the need to amend the AFI Aeronautical Surveillance implementation strategy and tasked the surveillance Project Team to develops proposals. The following conclusion was formulated:

APIRG/22 Conclusion 22/26: Amendments to the AFI Aeronautical Surveillance implementation strategy

That:

Considering the deployment of new technologies and the need for a rationalized aeronautical infrastructure, the surveillance Project Team develops proposals for amendments to the AFI Aeronautical Surveillance implementation strategy and report to the APCC.

3.28. The meeting considered APIRG 21 conclusion 21/33 paragraph c) related to the implementation of surveillance infrastructure in the AFI Region. As the referred conclusion called upon for a study on the modalities for the imposition of a mandate for ADS-B 1090 MHZ Mode S "Extended Squitter» in the AFI Region, the meeting decided that the Terms of Reference of the Surveillance Project Team was to be expanded to conduct the requested study.

Update on CNS Matters

Aeronautical Fixed Service

3.29. The meeting was provided with the update on CNS matters. In the area of Ground/Ground Communication it was noted that the status of implementation of the Aeronautical Fixed Telecommunication Network (AFTN) remains standing since this legacy system is assumed to be gradually replaced by the ATS Message Handling System (AMHS). Although the operation of AFTN remains major in the AFI Region, the pace of implementation of AMHS is more and more increasing.

3.30. The status of implementation of the AFI Regional Plan for Air Traffic Service-Direct Speech (ATS-DS) is satisfactory since most of the regional planned circuits have been successfully implemented except those identified unserviceable due to non-technical reasons. Moreover, some ANSPs have implemented bilateral ATS/DS circuits to comply with operation coordination requirements. The meeting applauded these initiatives and encouraged Administration and Organizations to maintain the availability of these AFS circuits in compliance with the provision of the AFI/RAN 7 meeting.

3.31. The meeting was also informed on the progress made in the implementation of ATS Inter-facility Data Communication (AIDC) in the AFI Region in support to Air traffic coordination between ATSUs. Various initiatives on AIDC interconnection are discussed below in this Report under Agenda Item 4.4 - Initiatives by States & Industry and other air navigation issues. The status of implementing of AMHS and AIDC in the AFI Region is summarized in the table in **Appendix 4H** to this report.

In this regard the following conclusion was formulated:

APIRG/22 Conclusion 22/27: Implementation of AMHS in the AFI Region

That;

In order to ensure a robust and sustainable operation of the future ATM systems in compliance with the timeframe of the technology roadmap for the implementation of ICAO ASBU threads, Administrations/Organizations are urged to speed up the planning, implementation, operation and monitoring of AMHS.

Aeronautical Mobile Service

3.32. The meeting noted that Aeronautical Mobile Service in the AFI Region is provided by High Frequency (HF) radio systems within oceanic and continental remote airspace. However, the implementation of Controller/Pilot Data Link Communication (CPDLC) has been increased in particular in the major Air Traffic Service Units (ATSUs).

3.33. At the same time, Administrations and Organizations continue to implement and sustain within continental airspaces, remote Very High Frequency (VHF) radio systems to extend VHF coverage. In this regard, the satellite based VSAT technics used to operate remote VHF was considered as now mature in the AFI Region offering a good opportunity to reinforce the quality of Air Ground Communication. The meeting was reminded that IATA regularly conducts surveys on the status of implementation and the quality of Air Ground communication.

Aeronautical Radio Navigation Service

3.34. The meeting was informed that the table of deficiencies in the implementation of conventional aeronautical radio navigation stations (VOR, DME, ILS) reviewed by APIRG/21 still stands to have not evolved notably due to lack of reporting of concerned States.

3.35. In the area of Global Navigation Satellite System (GNSS) services, the meeting noted that Phase I and Phase II -a) of the AFI GNSS Strategy have been implemented, with a region-wide use of basic GNSS for continental, remote continental and oceanic operations. Terminal operations are using aircraft based augmentation systems (ABAS) at many airports. Initiatives are being undertaken for the implementation of GNSS satellite-based augmentation systems (SBAS).

Aeronautical Surveillance Service

3.36. The meeting was informed that amongst the four surveillance sensors (SSR, ADS-C, ADS-B, MLAT) identified by the AFI aeronautical surveillance strategy, the pace of implementation of SSR Mode S and ADS-B was increased during these last years. The status of implementation of SSR, ADS-C and ADS-B is presented in **Appendix 4H** to this report.

3.37. The meeting discussed issues related to surveillance data sharing and noted that the combined SSR Mode S & ADS-B coverage within Area of Routing 5 offers an opportunity to ensure a seamless surveillance service within and across Flight Information Regions, as illustrated in **Appendix 4I** to this report.

3.38. This seamlessness should be achieved by sharing ground based surveillance data (SSR & ADS-B) amongst neighboring Air Traffic Service Units (ATSUs). As an example in this regard, the meeting was informed that a cooperation framework has been initiated with the assistance of ICAO, in order to develop and implement a regional project on surveillance data sharing amongst four main ANSPs in WACAF (ASECNA, GCAA (Ghana), NAMA and The Roberts FIR).

3.39. The meeting welcomed this initiative and encouraged Administrations and Organizations to pursue their effort to establish a sustainable seamless surveillance coverage within and across the AFI areas of routing. The following conclusion was formulated:

APIRG/22 Conclusion 22/28: Seamless Aeronautical Surveillance Service

That:

a) Administrations/Organizations plan and implement ground base surveillance sensors (SSR Mode S, ADS-B) data shearing in order to provide a seamless aeronautical surveillance Service through within and across FIRs in concerned Area of Routing;

b) ICAO and AFCAC, provide the continue desirable support for project development, training, mobilization of funding

Aeronautical Spectrum issues

3.40. In the area of aeronautical spectrum, the meeting was reminded on ICAO Position for the International Telecommunication Union World Radio Communication Conference 2019

(ITU-WRC-19) scheduled to take place in Sharm el-Sheikh, Egypt, from 28 October to 22 November 2019.

3.41. The follow up actions by the AFI aviation community in the discussions between the African National Authorities of Telecommunication within the African Telecommunication Union (ATU) framework in preparation of the conference were reported to the meeting

3.42. It was noted that strategies and coordination have been developed to encourage the participation of CAAs in the ATU preparatory meetings to the conference. Moreover, some AFI Administrations ensured the attendance of their specialized staff to the Study Groups established by ITU-R to discuss key technical issues emanating from particular agenda items of the Conference while some of them endeavor to fully participate in the ICAO Frequency Management Panel.

3.43. The meeting appreciated these initiatives and encouraged Administrations to keep and reinforced their efforts to ensure the full support of the AFI Group to the ICAO Position for WRC-19.

The following conclusion was formulated:

APIRG/22 Conclusion 22/29: Support to ICAO Position for ITU WRC-19

That:

Administrations are urged to intensify the supporting initiative and actions towards their national Authority of Regulation of Telecommunication to ensure that the ICAO position for WRC-19 is shared understood and reflected in the national position of the State to the Conference.

In doing so, they will ensure as well as possible their participation in the national coordination meetings and in the Conference itself, coordinating between the CAA with the aviation industry to identify the national concerns on spectrum and promoting ICAO policy in the matter prior to the Conference.

Status of implementation of Aviation System Block Upgrades (ASBUS)

Initiatives by CANSO

3.44. The meeting was updated on the status of implementation of ASBU in the region. It was noted that the implementation process has been slow resulting in a non-completion of implementation of some Block 0 modules.

3.45. The meeting was informed that CANSO members have identified the implementation of ICAO ASBUs modules including PBN as some of their areas of focus to minimize the impact on environment, improve seamless operations, safety and efficiency in the Air Traffic Management environment. Accordingly, the meeting took note of the ICAO/CANSO workshops held in Mozambique, Kenya and Uganda (24-25 of April 2019) which aimed to improve the understanding of the ASBU concept in the region. In this regard, States were assisted with the completion of their Air Navigation Reporting Forms (ANRFs) and also given opportunity to present their status of ASBU implementation.

Initiatives by ASECNA

3.46. The meeting was provided with the status of implementation of ASBU Block 0 in the 17 ASECNA Members States. It was reported the progress made in the implementation of some modules such as B0-FRTO, B0-AMET, B0-DATM and B0-SNET. However, the meeting noted that their completion cannot require a tight coordination amongst adjacent ATSUs in some cases and encouraged States to strengthen the bilateral and multilateral cooperation necessary for the effective and coordinated implementation of the modules with a view to ensuring interoperability between systems and services.

3.47. The meeting encouraged these initiatives and approved the decisions and proposals to enable improvement of ASBU implementation in the region.

The following conclusion was formulated:

APIRG/22 Conclusion 22/30: Harmonization of the implementation of ASBU elements in the AFI Region.

That, in order to ensure a harmonized implementation of ASBU elements:

- *a) States:*
  - *i) Strengthen the necessary bilateral and multilateral arrangements for the coordinated and effective implementation of the ASBUs modules with the view of ensuring systems and services interconnectivity and interoperability.*
  - *ii) Appoint National Focal Points to coordinate at State level the implementation of ASBU;*
  - *iii) Develop National Implementation Plans for the coordinated implementation of ASBU.*
- *b) ICAO provides more Training workshops to improve the understanding on ASBU and the new modules for Block 1.*

Dissemination of Meteorological Information in ICAO Meteorological Information Exchange Model (IWXXM) in support of System Wide Information Management (SWIM)

3.48. The meeting was reminded that Amendment 77 to ICAO Annex 3 – Meteorological Service for International Civil Air Navigation introduced new requirements for reporting and dissemination of regular meteorological data (METAR and TAF) as well as non-regular meteorological data (SPECI, AIRMET, SIGMET, Volcanic ash advisory and tropical cyclone advisory) in digital format - ICAO Meteorological Exchange Model (IWXXM).

3.49. With regard to APIRG previous conclusions and decisions, States and Administrations were urged to develop capabilities for exchange of OPMET data in digital format to meet the implementation date of November 2020 for the OPMET and 2022 for the SIGMET and to enter into bilateral/multilateral agreements for testing the interoperability of AMHS system for readiness by November 2020.

3.50. The London World Area Forecast Centre (WAFC), the designated SADIS Provider States presented remotely to the meeting the 10-year plan which will ensure the adherence of the WAFS to the future of the aviation industry and will bring high resolution data sets and new data delivery system. The main objective of the WAFS plan is to deliver on the Global Air

Navigation Plan through ASBU methodology. This will include improved horizontal and vertical resolution of Significant Weather Forecast Charts (SIGWX).

3.51. The meeting highly applauded the initiative for a remote presentation as well as the information provided information and urged Administrations and Organizations to follow-up on these developments.

Status of Implementation of the AFI Air Navigation Targets

3.52. The status of implementation of the AFI Air Navigation Targets was reviewed during the APIRG/22 and RASG-AFI/5 Joint Session on Monday 29 July 2019, and provided at **Appendix 2B** to this report.

3.53. The AFI RVSM Airspace was discussed during the first APIRG/22 and RASG-AFI/5 Joint Session.

AGENDA ITEM 4: OTHER AIR NAVIGATION ISSUES

Air Navigation Deficiencies

Survey on Aeronautical Mobile Service

4.1. IATA reported to the meeting on aeronautical mobile communication 2018 regional survey conducted from 8th to 22nd October 2018 as per APIG Decision 16/20 and Conclusion 16/21. The aim of this survey being to determine the coverage and the quality of aeronautical mobile communication i.e. VHF/HF and CPDLC/SATCOM service provisions, identify deficiencies and develop corrective action plans to be implemented with concerned States/ANSPs.

4.2. ANSPs such as ASECNA raised concerns on poor coordination for this survey and reported on the conduct of another survey from 24th April to 08th May 2019. ASECNA also informed the meeting about the monitoring of CPDLC being currently performed for the all datalinks operated by the various centres and noted that although CPDLC is the primary communication mean in its oceanic and remote airspace as published in their AIP, some airlines with CPDLC equipped aircraft are reluctant to the use of CPDLC.

4.3. The meeting recalled that CPDLC was part of the AFI communication strategy and ANSPs have been encouraged to implement this infrastructure to improve safety, particularly in oceanic and continental remote airspace. It was agreed that AFI ANSPs establish Service Level Agreements (SLAs) with users and collaborate to identify measures to address such deficiencies and states ensure that CPDLC is included in their regulation as part of aircraft equipage minimum list and published in their AIP.

The following conclusion was formulated:

APIRG/22 Conclusion 22/31: Efforts to Address Aeronautical Mobile Service Deficiencies

That:

a) IATA and AFI concerned ANSPs:

1) *Establish Service Level Agreements (SLAs) with users and collaborate to identify measures to address deficiencies in the area of Aeronautical Mobile Service;*
2) *Reinforce cooperation and communication between stakeholders, prior to the conduct of aeronautical mobile communication surveys for more reliable results;*

b) *States ensure that CPDLC is included in their regulation as part of aircraft equipage minimum list and published in their AIP as such; and*
c) *IATA and States encourage airlines to continue their effort to equip their aircraft with CPDLC and use it particularly when they fly in airspace where CPDLC is the primary mean of communication.*

OPMET Data Quality and Availability in the AFI Region

4.4. The meeting discussed issues related to OPMET Data Quality and Availability in the AFI Region and noted that several factors continue to impact on the quality and availability of OPMET data in the AFI Region. These factors are systematic in nature and require drastic measures by all relevant stakeholders to address them. The impact of poor quality OPMET data is significant to the safety of air navigation in the region. It also impacts on the accuracy of numerical prediction models and subsequent products provided to support the safety of flight operations.

4.5. The roles and responsibilities of the AFI Regional OPMETs Data Bases (RODBs) of Dakar and Johannesburg include the collection, storage and exchange of OPMET data within the AFI Region and exchange of such data with other Regions of ICAO in accordance with the AMBEX scheme. In addition, RODBs are expected to play a significant role in OPMET data exchange under the System States were therefore encouraged to use the ICAO guidelines to ensure transmission of data in the correct formats.

AFI Air Navigation Deficiency Database (AANDD)

4.6. 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.

4.7. 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 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 also requested to circulate guidance for users in order to facilitate their effective use of the tool.

The meeting agreed on the following conclusions:

APIRG/22 Conclusion 22/32: Operationalisation of the AFI Air Navigation Deficiency Database

That:

a) ICAO to expedite the development of a harmonised methodology to be used by all regions on the reporting of deficiencies;
b) That the Database be improved to enable States upload evidence for the closure of deficiencies;
c) States to appoint Focal points to be trained by ICAO; and
d) *ICAO ESAF and WACAF Regional Offices hold workshops to train Focal Points on how to interact with the database.*

4.8. ICAO Electronic Tools (iMPLEMENT) in support to Regional planning implementation and monitoring under this agenda item the meeting was provided with information on the ICAO implement, a process designed to assist Directors General of Civil Aviation and Ministers of Transport to make informed decisions based on data. iMPLEMENT facilitates data-driven decision making using a set of applications and tools available on the iSTARS platform and supports the Regional Planning and Monitoring actions.

4.9. The iMPLEMENT four steps and their related set of tools and applications were presented to the meeting:

a) Step 1: Assessment of the current status of aviation in terms of safety and connectivity;
b) Step 2: Prioritization of problems and identification of solutions available in order to maintain or improve the State aviation capability;
c) Step 3: Evaluation of the needs of the aviation system in terms of resources: financial, people and infrastructure;
d) Step 4: Access and better resources management.

4.10. The meeting was also informed on the results of iMPLEMENT workshops held in the region developed in order to raise awareness of the tools available to help States prioritize activities based on data and the opportunity given to Administrations to host a workshop on a cost recovery basis.

4.11. The meeting applauded the iMPLEMENT project and gave interest to specific tools such as but not limited to the Integrated Staffing and Training Roadmap for Inspectors (iSTRI), the Risk Based Surveillance, Donor Profiles, Protocol Questions (PQ) Tester, and Solution Center.

Funding of Regional Projects

Review of AFI Plan 2019 Aviation Infrastructure for Africa Gap Analysis

4.12. The meeting recalled the discussions held during the First APIRG/22 and RASG-AFI/5 Joint Session on the outcome of the 22nd meeting of the AFI Plan Steering Committee (Kampala, Uganda, 15 May 2019), including the 2019 Aviation Infrastructure for Africa Gap Analysis which was conducted by the AFI Plan Secretariat in response to ICAO Council Decision (C-DEC 24/7) on the implementation of the IWAF/3 Declaration and Framework for a Plan of Action for Development of Aviation Infrastructure in Africa.

4.13. The meeting reiterated its appreciation of the work done by the AFI Plan Secretariat and identified the activities of relevance to the mandate of APIRG in accordance with APIRG/22 & RASG-AFI/5 Conclusion 1/06. The following conclusion was formulated accordingly:

APIRG/22 Conclusion 22/33: Implementation of AFI Plan 2019 Aviation Infrastructure for Africa Gap Analysis Recommendations

That:

a) The Secretariat should prepare the gap analysis of a long term horizon based on 25-year projections of traffic growth, operational and capacity / regulatory requirements, and demand for aviation professionals;

b) States and RECs should utilize available guidance material from ICAO and the results of the gap analysis to prepare national and regional Aviation Master Plans;

c) RECs and States should determine the funding required to bridge the long term infrastructure gaps and identify appropriate financing mechanisms at State and / or regional level; and

d) Regional programme with specific plans, projects and effective implementation monitoring mechanism should be developed by States and RECs to ensure that the identified gaps are properly addressed.

4.14. The meeting discussed issues related to the mechanisms and opportunities of funding IIM Projects. It was outlined that the mobilization of resources to fund regional project was a challenge that may seriously jeopardize the effective implementation of the APIRG Project Approach Concept, if tangible and sustainable funding solutions are not found.

4.15. Three scenarios were presented for the funding of APIRG projects namely:

a) ***Scenario 1*** consisting on Common funding with direct mobilization of resources by Administration/Organizations. In this case each Administration/Organizations will mobilize and bring its own resources for the funding based on the cost estimation for the desired service/infrastructure to be modernized.
b) ***Scenario 2*** calling upon for a prefunding the total of the project by one or more Administration/Organizations in a cost recovery basis. In this case, a Memorandum of Understanding will include in the project the schedule for reimbursement of the prefund.
c) ***Scenario 3*** searching for a common funding source. In this funding profile, the project is considered as a sub-regional Integrated Aeronautical Project by donors or funders.

4.16. The African Development Bank (AfDB) under Agenda item 4.3. Funding of Regional Projects, provided the meeting with a Framework and guidelines to support the aviation sector. The financing options with focus on Air navigation services were presented to comply with the following:

a) Regional approach preferred
b) Involvement of private sector encouraged through PPP
c) Co-financing
d) Projects included in a Master Plan

4.17. The meeting applauded the contribution of the AfDB and encouraged Administrations and Organizations and agreed to reinforce the initiatives to ensure a sustainable funding of the

AFI APIRG related regional projects.

The following conclusion was formulated:

APIRG/22 Conclusion 22/34: Organization of a Round Table for APIRG Projects Funding

That;

In order to ensure sustainable funding for effective implementation of APIRG Projects in accordance with regional programmes:

a) ICAO, with the assistance of AFCAC and Regional Economic Commissions, explore mechanisms for the establishment of a framework for the funding of APIRG Projects preferably before the end of year 2020.

b) A Round Table meeting be convened to consider in particular the Air Navigation Deficiencies identified by APIRG and the outcome of assessments and gap analysis of the AFI Air Navigation Infrastructure and systems and identify feasible solutions to be funded;

c) The outcome of the Round Table be shared with the African Union and United Nations specialized institutions promoting a sustainable development.

Initiatives by States & Industry and Other Air Navigation Issues

Contribution to improvement of aviation safety in Africa and update on APEX in safety program

4.18. The meeting was provided with an overview of some safety initiatives executed by Airports Council International (ACI) and an update of its Airport Excellence in Safety Program (APEX), aimed to assist States in improving operational safety across aerodromes especially on runway safety and aerodromes certification.

4.19. The meeting recognized the valuable contribution of ACI initiatives such as the Safety and Technical Working Group activities, the ACI Africa Safety Awards, the ACI Africa Safety week, the APEX in Safety program and the African Airports Development Program (AADP), to the implementation of SARPs by Airports, accordingly, States and airports operators were encouraged to participate to the ACI initiatives. The meeting finally encouraged ACI Africa and its members to actively participate and contribute to the APIRG and RASG-AFI activities and meetings.

Seamless ATM System

4.20. The meeting was presented with the concept of a seamless ATM system. The presentation highlighted the need for a coordinated effort by States and all Stakeholders in improving the interoperability of ATM systems and procedures by harmonizing standards, regulations and internal procedures.

4.21. The meeting also noted that APIRG 21 Conclusion 21/08 called for all Regional Economic Communities and ANSPs to develop a clear and agreed roadmap, in consultation with users for the implementation of seamless, harmonized, interoperable Air Traffic Management Systems and Procedures with clear benefits to the aviation stakeholders.

4.22. The meeting recognized that an adequate ATM Infrastructure should support the implementation of the Single African Air Transport Market (SAATM) initiative which is intended to drive the economic development and betterment of air transport in the continent. Accordingly, it formulated the following conclusion:

APIRG/22 Conclusion 22/35: Seamless Air Traffic Management

That, in order to improve the seamless flow of air traffic in the AFI Region:

- *a) the development of an AFI ATM regional Vision Document, Concept of Operations and Master ATM Plan with enabling Infrastructure Strategy for Africa, is endorsed;*
- *b) the ATM Infrastructure Strategy should be developed in collaboration with aviation stakeholders;*
- *c) the ICAO Regional Offices consider the hosting of an AFI Air Navigation Summit on seamless ATM system for the AFI Region in 2020;*
- *d) the finalized Master ATM Infrastructure Strategy for Africa should be endorsed and approve by the African Union through the appropriate channels and following an agreed process including timelines;*
- *e) the process and timelines for the implementation of the strategy and the cascading of the strategy to States should be achieved through the development of National Aviation Master Plans and an agreeable funding model; and*
- *f) AFCAC should monitor and follow up with States the implementation of the process, and encourage States to remove Foreign OpSpecs requirements as per ICAO Annex 6 and Doc. 8335 and improve the process of timely approval of overflight clearance.*

Free Routing Airspace

4.23. The meeting observed that Free Route Airspace (FRA) is concept that allows States/ANSPs to overcome the challenges in ATM efficiency, capacity and environmental issues facing aviation. The full benefits of efficiency of FRA can only be achieved if it is deployed over large areas and; appropriated measures are taken to reduce the associated safety risks. FRA implementation is an incremental process where implementation should start at the State/ANSP level and extend over a cluster of States/ANSPs into a region. FRA is a specified airspace within which users may freely plan a route between a defined entry point and a defined exit point, with the possibility to route via intermediate (published or unpublished) waypoints, without reference to the ATS route network, subject to airspace availability. Within this airspace, flights remain subject to air traffic control.

4.24. FRA implementation provide Air traffic controllers with the possibility to remove constraints imposed by fixed route structure in order to optimize airspace capacity, flight efficiency, flexibility and environmental protection. Regions that have developed and successfully implemented FRA concept of operations have demonstrated that there are clear benefits to airspace users as well as improvement of airspace utilization.

4.25. Therefore, coordination with neighboring States is key, not only to reduce the risks associated with the change of the airspace design (as a result of implementing FRA) and update of LOAs, but also to ensure a smooth transition from a local FRA (State) to cross boarder FRA (over many States), where airspace users can flight plan direct point-to-point (DCT) length to maximize route optimization.

4.26. Implementation of Free Route Airspace (FRA) in AFI Region should be incremental and the approach should involve:

a) The identification of States/ANSPs that have the capacity to implement free routing based on ATM systems infrastructure and capability e.g. communication and surveillance (VHF coverage, ADS-B, ADS-C/CPDLC, Radar), requisite separation standards, air traffic controller conflict detection tools, controller training and capacity enhancement**.**
b) Develop the concept of operations and an implementation plan which shall include; definition of the applicable 'specific airspace', the airspace design, time of operationalization (e.g. night, weekend), applicable flight level blocks (e.g. above FL360 only), procedures and requirements for flight planning, procedures for transitioning from free route to fixed route and vice a versa and entry/exit points (for complex airspace) defined by Latitude/Longitude, etc.
c) Implementation of FRA should be preceded by a safety case and a definite trial period before full implementation. In the meantime, States/ANSPs identified under above should start to allow flight plannable waypoint-to-waypoint direct routes.

The meeting agreed on the following conclusion:

APIRG/22 Conclusion 22/36: Free Routing Airspace

That, in order to foster the concept of free routing in the AFI continental airspace in preparation for the ASBU B1 module,

a) States consider incorporating Free Route Airspace concept into their national airspace concept and ATM Master Plan in line with the B1-FRTO ASBU module and AAO Sub-Group project plans; and
b) East African States including, Seychelles, Mauritius, Kenya, Ethiopia, Tanzania and Uganda develop and implement Free Route Airspace as a case study for implementation of Free Routing Airspace in AFI Region as part of B1-FRTO ASBU module.

Operations of Unmanned Aircraft Systems (UAS)

4.27. The meeting was updated on the developments made by South Africa on the process to accommodate and integrate Unmanned Aerial Systems (UAS) into the ATM system in South Africa. The meeting was informed of the key focus areas of RPAS management based on ICAO SARPS, in the context of Unmanned Aircraft Systems Traffic Management (UTM) as well as Anti Drone Systems and the current South African RPAS regulatory framework on drones/RPAS/UAS traffic management within non-segregated airspace. The meeting noted possible misunderstanding caused by duplication of the abbreviation UTM which refers to Unmanned Aircraft System Traffic Management as well as to Universal Transverse Mercator (Mapping/Projection).

4.28. The meeting noted the report from FAA on the developments undertaken by the U.S. Federal Aviation Administration to integrate Unmanned Aircraft Systems (UAS) into the U.S. National Airspace System. The report highlighted the steps which includes new rulemaking, remote identification, the Drone Advisory Committee, the UAS Integration Pilot Program, Low Altitude Authorization and Notification Capability, UAS Traffic Management (UTM), and FAA Reauthorization. The meeting was informed that States with operators that intend to

operate within the affected United States of America airspace to promote awareness of the upcoming new regulations requirement within the USA.

The following conclusion was formulated:

APIRG/22 Conclusion 22/37: Operations of Unmanned Aircraft Systems (UAS)

That,

a) States are urged to coordinate with other States in the harmonisation of UAS regulations.

b) ICAO to provide guidance material on seamless integration of UAS into non-segregated airspace.

AFI ANSP Peer Review Mechanism

4.29. The meeting reviewed initiatives taken by ANSPs for the AFI ANSP Peer Review Mechanism by the industry. In this regard, CANSO provided the meeting with the summary up of the actions conducted using the CANSO Standard of Excellence in safety management, safety maturity matrix, and SMS guiding material to conduct Peer review visits between and among each other.

4.30. The Africa ANSP Peer Review Mechanism is a joint initiative between African air navigation service providers (ANSPs) to improve aviation safety and seamless ATM performance across Africa. It works by encouraging African ANSPs to work in partnership with each other to assess safety management systems (SMS) and other operations requirements, share experiences and learn about measures for improvement in safety and operational performance.

4.31. It was highlighted, that this mechanism neither seeks to address nor supersede the regulatory aspects of a safety oversight system. Rather, its desired outcome is to highlight areas where improvements should be made at the ANSP operational level, major or incremental, in the hope that it will ready an ANSP for further regulatory oversight audits by the authority concerned. Reported to the meeting was the establishment of four Teams for the reviews namely:

Team 1: ASECNA, Air Traffic & Navigation Services (ATNS), Civil Aviation Authority of Botswana (CAAB) and Swaziland Civil Aviation Authority -The follow up review meeting is scheduled to take place in May 2019 in Eswatini.

Team 2: CAA Uganda, Tanzania Civil Aviation Authority, Kenya Civil Aviation Authority (KCAA), Rwanda Civil Aviation Authority (Rwanda CAA)and Burundi Civil Aviation Authority (Burundi CAA)

Team 3: Nigerian Airspace Management Agency (NAMA), Roberts F.I.R and Ghana Civil Aviation Authority (GCAA)

Team 4: Aeroportos de Moçambique, E.P., Zambia Airports Corporation Limited ,

4.32. Based on the learnings of Team 1 above, the following will supplement the reviews: Training in Just culture, Training in SMS, Identification of dedicated SMS staff by review

partners, Budgeting for implementation of SMS, Risk management practices, Safety accountabilities, Safety performance monitoring, Safety interfaces, Fatigue risk management as well as Change management.

4.33. ASECNA provided the meeting with the actions taken for the implementation of the Peer Review mechanism with the main objectives to:

a) establish and maintain a uniform level of safety for the AFI Region; assist ANSPs in fulfilling their international obligations related to air navigation services, including: air traffic services (ATS), the design of flight procedures, aeronautical information service (AIS), mapping, meteorology (MET), communications, navigation, and surveillance (CNS), search and rescue (SAR) and safety management system (SMS); and
b) pooling toolkits, human resources and available training and integrating safety and quality reviews within a safety and quality assurance programme specific to the ANSPs in order to reduce certification costs.

4.34. It was reported that since the launch of the process, the following actions have been completed:

a) reviews have been conducted based on CANSO Standards of Excellence in several countries. This SOE is mainly based on Annex 19.
b) ATNS and ASECNA have made reciprocal reviews according to agreed tasks
c) A common peer review manual has been developed by ICAO and adopted by ANSP during a meeting called in 2018 In Sierra Leone.
d) A workshop was conducted in Abidjan by ICAO to disseminate the manual and provide training to ANSPs to be able to conduct review based on the adopted manual.
e) Two ANSPs (Ghana and Madagascar) were identified as ANSP pilot to evaluate the use of the manual.

4.35. The steering committee (composed of ASECNA ATNS and CANSO) met on June 2019 in South Africa and convey for new dates for the review of Ghana and Madagascar. After this review a workshop is planned in November 2019 to evaluate the use of the manual for peer review. The lessons learnt will guide the 2020 peer review planning. It was observed that the AFI Plan Project on the implementation of the African ANSP Peer Review Programme can set up a team to recruit the experts from ANSP to be used for the review.

4.36. The meeting applauded these initiatives and requested African ANSPs to work together to strengthen the African ANSP Peer Review Programme to enhance safety and efficiency of air transport operations in Africa, encouraged ICAO to continue to provide its support to the African ANSP Peer Review Programme and encouraged the other ICAO Regions to take benefits from this experience of African ANSP Peer Review Program, as a mean of improvement of Air Navigation services
The following conclusion was formulated:

APIRG/22 Conclusion 22/38: ANSP Peer review mechanism

That:

a) The relevant ANSP Peer review manual as adopted be used by all ANSPs;

b) In order to strengthen the African ANSP Peer Review Programme, an AFI Plan Project be established to enhance the human resource capacity to support ANSPs;
c) African ANSPs strengthen their cooperation towards enhancement of safety and efficiency of air transport operations in Africa; and share the benefits of the African ANSP Peer Review Program, with other ICAO Regions as a mean of improvement of Air Navigation services.

"SBAS for Africa and Indian Ocean" Initiative

4.37. The meeting was informed on the "SBAS for Africa and Indian Ocean" initiative taken by ASECNA for the continent with the intention to confirm its strategy to own the augmented GNSS signal based on an African Communication Service Provider (NIGCOMSAT).

4.38. After deliberations, an ad hoc committee composed of AFCAC, AFRAA, ASECNA, IATA, ICAO and States was established to discuss and reach a consensus on this issue. The sought consensus having not been reached by the ad hoc committee, ASECNA agreed to withdraw the draft WP on SBAS submitted to the AFCAC stakeholders' coordination meeting in preparation for the 40th Session of ICAO Assembly, which was appreciated by the meeting.

4.39. The meeting reiterated the need for such initiatives to be aligned with the AFI GNSS Strategy in order to ensure the buy-in of all stakeholders and facilitate a collaborative decision making among them. It was agreed that, a clear demonstration of the cost-effectiveness of SBAS initiatives under consideration would be a key input in this process, in accordance with the ICAO provisions contained in the Manual on the economy of air navigation services (Doc 9161) and GNSS Manual (Doc 9849).

4.40. In this respect, the meeting expressed concern at the delay in the conduct of cost benefit analysis (CBA) on SBAS as requested by APIRG/17 in 2010 under its Conclusion 17/29 refers), in order to assist States in making an informed implementation decision with respect to SBAS, and facilitate the updating of the AFI GNSS Strategy. Therefore, it requested AFCAC to find ways and means of expediting the conduct of AFI GNSS/SBAS CBA[2], in coordination with the African Union Commission (AUC). The meeting furthermore raised concern on the lack of workshops/seminars on augmented GNSS in particular SBAS and called upon ICAO to reinforce its assistance through the organization of Workshops and seminars.

APIRG/22 Conclusion 22/39: SBAS for Africa - Indian Ocean Initiative

That, while taking note of the "SBAS for Africa - Indian Ocean" initiative by 17 member States of ASECNA,

a) AFCAC should fast-track the conduct of a continental cost-benefit analysis (CBA) on SBAS implementation in the region by June 2020, to support the decision making process by States and stakeholders, and to enable update of the AFI GNSS strategy accordingly; and
b) ICAO and AFCAC organize a regional workshop with all stakeholders involved in SBAS implementation thereafter.

[2] APIRG Conclusion 18/33 (2012) requests ICAO to facilitate the search for funding to support the conduct of a CBA for an AFI SBAS, in coordination with AFCAC; while Conclusion 19/29 (2013) requests the ICAO Regional Offices to facilitate the search for the funding of an impact analysis related to SBAS, that covers operational, technical, environmental and economic aspects of this GNSS augmentation system.

Mandate for ADS-B Transponder Extended Squitter 1090 equipage

4.41. The meeting was informed on regional initiatives from the industry in the implementation of ADS-B in particular space-based ADS-B. ASECNA reported on its ambitious project consisting to collocating ground based ADS-B stations with the remote VSAT/VHF stations and the implementation of space-based ADS-B for remote continental and oceanic airspaces offering real opportunities to increase aeronautical surveillance service. ANSPs raised the concerns on insufficient or non-equipage of fleet with ADS-B Transponder Extended Squitter 1090 in the region[3].

4.42. The above ad hoc commission discussed the issue and considered the following:

a) Opportunity should be given to aircraft properly equipped to take benefit of Flight Levels and preferred routes allocation in particular for RVSM airspace;
b) Airlines in the region that intend to fly in the EUR/NAT or USA airspaces should be ADS-B Transponder Extended Squitter 1090 equipped with respect to the mandate being applicable November 2020;
c) While setting up a mandate for ADS-B Transponder Extended Squitter 1090 equipage in the AFI Region consideration should be given to airlines of the region by allocating them enough time to comply through the retrofit of the legacy fleet or the upgrade of their fleet with compliant aircraft.

The following conclusion was formulated:

APIRG/22 Conclusion 22/40: Mandate for ADS-B Transponder Extended Squitter 1090 equipage in the AFI Region

That:

a) States and aircraft operators ensure that all aircraft operating within the AFI RVSM airspace are equipped with ADS-B Transponder Extended Squitter 1090 by June 2023 (AIRAC date);
b) An Assessment for a Go or No Go Decision be conducted on 2022 targeting 90% aircraft equipped with Transponder Extended Squitter 1090 for AFI RVSM airspace as the threshold; and
c) States and aircraft operators ensure that all aircraft operating within the AFI Region airspace are equipped with ADS-B Transponder Extended Squitter 1090 by January 2025 (AIRAC date).

Regional and Interregional Activities

Runway surface conditions: The Global Reporting Format

4.43. The attention of the meeting was brought on the urgency and need for States to ensure the implementation of the Global Reporting Format before November 2020 by developing a robust implementation framework at national levels. The meeting was briefed on the outcomes of the Symposium conducted in March 2019 in Montreal, Canada, that recommended the conduct of regional Seminars, aiming to assist States in the implementation of GRF.

[3] APIRG Conclusion 15/24 (2005) requested that the SSR Mode S extended squitter should be the initial data link for the introduction of ADS-B in the AFI Region.

4.44. The first regional seminar held in July 2019 in Dakar (Senegal) made some recommendations, and will be followed by Nairobi (Kenya) in August, Accra (Ghana) in October and Johannesburg (South Africa) in November 2019. The meeting raised concerns regarding the low attendance of States and the industry (Airports, ANSPs, Airlines, etc.) to the Dakar Seminar and urged States to ensure appropriate attendance to the upcoming seminars.

The meeting formulated the following conclusion:

APIRG/22 Conclusion 22/41: Implementation of the Runway surface conditions Global Reporting Format (GRF)

That:

a) States should:

i) set up national and local plans with dedicated Teams, for the implementation, and make use of existing national and regional mechanisms to support the implementation of the GRF (RSTs, Go-Teams, RSOOs, …) ensure appropriate participation of the concerned stakeholders (CAAs, airports operators, ANSPs, airlines, …) to the upcoming seminars (Accra, Nairobi and Johannesburg);

ii) States should report on the implementation of the GRF to the ICAO regional Offices;

b) International Organizations (IATA, ACI, CANSO, ASECNA, …) should actively participate in the conduct of the Seminars and any further required activities; and

c) ICAO Regional Offices and International Organizations such as ACI, IATA, etc. to increase training activities, including onsite trainings.

SAT Matters

Report on SAT/24

4.45. The meeting was provided with the report on the 24th Informal Coordination Meeting on the improvement of air traffic services over the South Atlantic (SAT/24) which took place in Luanda, Angola from 5 to 7 June 2019 and was attended by Eighty-One (81) participants from Thirteen (13) States from three ICAO regions.

4.46. The meeting welcomed the developments presented by the Secretariat, endorsed the conclusions arrived at and agreed on the priorities identified for cooperation between SAT and NAT as well as with the ACM/1 meeting statement recalling and confirming that the final goal is to improve and enhance the current working arrangement of the parties involved in the Atlantic coordination, and does not seek to disband any of the current established coordination groups dealing with air traffic management over the Atlantic Ocean nor establish a new group with additional bureaucratic layer.

4.47. The meeting was briefed in detail on the actions taken in the areas of ATM and CNS by SAT members, and encouraged them to strengthen their collaboration for the implementation of services and systems aim at enhancing Air Navigation safety in the SAT airspace.

Development of SAT Procedural Handbook

4.48. The meeting was also presented with the Draft SAT Procedural Handbook comprising SAT Terms of Reference, SAT Working Methodology & Arrangements, Rules of procedures of SAT meetings, SAT Contributory Bodies, Composition of the Group, Reporting and Future

Work Programme of the SAT Group approved by the SAT/24 meeting was submitted to the meeting for discussion and endorsement bearing in mind the need to improve efficiency and collaboration between the NAT and the SAT.

4.49. The meeting considered the work carried out by SAT/24 and established Study Group composed with the relevant AFI SAT States/Organizations and the Secretariat with the mandate to review and finalize the SAT Procedural Handbook. The following conclusion was formulated:

APIRG/22 Conclusion 22/42: SAT Procedural Handbook

That:

a) A Study Group composed with the relevant AFI SAT States/Organizations under the coordination of the Secretariat is established with the mandate to review and finalize the SAT Procedural Handbook submitted by SAT /24;

b) The Group will carry out its assigned task in coordination and consultation with the NAT and CAR/SAM Administrations/Organizations involved in SAT activities and report to APIRG through the APCC for consideration.

Coordination and cooperation between SAT and NAT

4.50. With regards to coordination, the meeting was informed of the outcome of preliminary discussions related to the improvement of communication and coordination in the Atlantic Area among the SAT Group, NATSPG, APIRG and GREPECAS held on 18th October 2018 in Montreal, during the 13th Air Navigation Conference.

4.51. The meeting reviewed a proposal by a group of States and an International Organization related to the potential safety and efficiency benefits to Atlantic Oceanic Operations by coordinating working relationships between the NAT Systems Planning Group (SPG) and the SAT. The Group was also informed of the outcome of the discussions of the first Atlantic Coordination Meeting (ACM/1) that was held in Paris, France on 31st January 2019 and noted that a wide range of current aviation matters were discussed and addressed.

4.52. As part of the efforts to further improve coordination, it was noted with appreciation that the NAT SOG invited SAT Group State oversight authorities and associated stakeholders to the next NAT SOG meeting/21that will take place in Madrid, Spain from 10-13 December 2019.

The following conclusion was formulated:

APIRG Conclusion 22/43: Participation in the 2nd Atlantic Coordination Meeting (ACM/2) and NAT SOG/21 Meeting

That:

a) AFI States are requested to participate in the planned ACM/2 meeting to be held during the first quarter of 2020; and

b) SAT States, through the ICAO Regional Offices concerned, to participate as observers the NAT SOG/21 meeting in Madrid, Spain.

4.53. It was noted that the ACM agreed on the following prioritized list of joint projects that aim to further harmonization and seamless operations in the Atlantic airspace:

a) Harmonization of contingency plans,
b) Performance-based communication and surveillance (PBCS) implementation, and
c) Space-based automatic dependent surveillance – broadcast (ADS-B) implementation

4.54. With respect to the contingency planning, it was noted that the updated SAT Contingency Plan was approved by the SAT/24 meeting.

4.55. With respect to PBCS, it was noted that based on the conclusions from last ICAO Regional Monitoring Agency Coordination Group (RMACG) meeting held in June 2019, SATMA, ARMA and CARSAMA will need to update their ToRs for the inclusion of PBCS monitoring and the installation plans for an additional RVSM HMU in the AFI Region to ensure global harmonization.

4.56. The meeting further agreed that the critical safety aspects of regional monitoring for the vertical, lateral, and longitudinal dimension as it relates to reduced separation and that implementation of PBCS is a necessary safety component of future services. The following conclusions were formulated**:**

APIRG Decision 22/44: Focal points for coordination between SAT and NAT

That the Secretariat coordinate and confirm the appointment of focal points to coordinate with the NAT on the identified and prioritized list of projects as per the ACM /1 meeting resolution.

APIRG Conclusion 22/45: PBCS Monitoring by RMAs

That the Regional Monitoring Agencies SATMA, ARMA and CARSAMMA update their ToRs for the inclusion of PBCS monitoring and the installation plans for an additional RVSM HMU in the AFI Region to ensure global harmonization.

Formalization of the SAT Group

4.57. The meeting was informed that the Council agreed that various options should be developed for consideration by the ANC and Council on how to formalize the work of the SAT. It was noted that the Secretariat requires guidance and input on this matter from all the role players in the SAT area, to prepare the viable options be considered by the ANC and Council.

In view of the above, the meeting formulated the following conclusion and decision:

APIRG/22 Conclusion 22/46: Formalization of the SAT Group

That States and SAT role players are requested to provide information to the SAT Secretariat related to various options be considered by ICAO to formalize the SAT Group with the aim to further improve coordination with the NAT, harmonize operations and provide a platform for discussions, by 31 October 2019.

APIRG/22 Decision 22/47: Formalization of the SAT Group

That the Secretariat coordinate the various options proposed by the SAT role players to formalize the SAT Group with ICAO HQ for presentation to the ANC and Council.

Safety Oversight of SAT activities

4.58. The meeting noted that the SAT Group currently reports to multiple PIRGs and RASGs and involves their respective member States' ANSPs, which poses challenges in respect to the safety oversight roles of implementing States. It was recalled that oceanic service provision requires a unique focus not only on implementation but also on ensuring that implementing ANSPs are meeting prescribed and agreed levels of safety. This can best be accomplished by having State regulators accountable for the delivery of the agreed level of safety performance in the provision of air navigation services and in aircraft operations.

4.59. To address this challenge, it was agreed to establish an independent SAT Safety Oversight Group (SAT SOG) to complement the SAT IMG work. The proposed solution would ensure that implementation proposals receive appropriate safety oversight and provide the respective PIRGs and RASGs with complete information regarding SAT initiatives. The Secretariat will inform the SAT Group accordingly.

4.60. The meeting agreed to the following potential defined safety roles for a SAT SOG that would complement the SAT IMG and allow the SAT IMG to concentrate on implementations, procedures, and technical issues:

a) Clearly define all accountabilities and responsibilities for the delivery of safety performance with respect to the provision of air navigation services,
b) Support the safety management activities that will result in an organizational culture that fosters safe practices, encourages effective safety reporting and communication, and actively manages safety within the SAT,
c) Share safety related data, knowledge and expertise with concerned stakeholders,
d) Disseminate safety information and SAT operating requirements to stakeholders,
e) Establish and implement hazard identification and risk management processes in order to eliminate or mitigate the safety risks associated with air navigation services supporting aircraft operations in the SAT,
f) Establish and measure SAT Region safety performance against agreed safety standards, and
g) Continually improve SAT safety performance through safety management processes.

PART V:

APIRG/22 AND RASG-AFI/5 SECOND JOINT SESSION

AGENDA ITEM 1: REVIEW OF THE OUTCOME OF THE SECOND MEETING OF THE APIRG/RASG-AFI COORDINATION TASK FORCE

Coordination Task Force (ARC-TF/2)

1.1. The meeting reviewed the Outcome of the Second Meeting of the APIRG/RASG-AFI Coordination Task Force (ARC-TF/2) as presented by the First Vice-Chairperson of the APIRG. The ARC-TF/2 reviewed the terms of reference and composition of the APIRG/RASG-AFI Task Force as provided in **Appendix 5A** to this report.

1.2. The Task Force then reviewed the common areas between APIRG and RASG-AFI, the PIRGs/RASGs Enhancement Strategy and APIRG/22 and RASG-AFI/5 assignments to the ARC Task Force. **Appendix 5B** provides a summary of the task allocations and common areas between APIRG and RASG-AFI

1.3. The meeting held preliminary discussions on the elements that would have an impact on the terms of reference and the handbooks of the APIRG and RASG-AFI. The elements identified included (but are not limited to) the format, venue, frequency and structure of meetings, and the reporting cycle. The meeting recognized that the Task Force needs more time to analyze the impact of the identified elements and other provisions and agreed to the timelines for the development of proposals to be presented to the two groups, together with the structural changes to be implemented.

1.4. The Task Force was particularly requested to present an initial set of proposals to the APIRG Projects Coordination Committee (APCC) and the RASG-AFI Steering Committee (RASC) by mid-September 2019. Thereafter, an Extraordinary Meeting may be considered during the first quarter 2020 to consider and adopt the structural changes to be implemented in order to ensure AFI Regional Groups' compliance with the PIRGs/RASGs Enhancement Strategy.

AGENDA ITEM 2: EVALUATION OF THE FORMAT OF APIRG/22 & RASG-AFI/5 MEETINGS

2.1. The meeting exchanged views on the format adopted by the APIRG/22 and RASG-AFI/5 meetings as compared to the usual back-to-back approached. The logistical constraints, cost implications and challenges for some States and Organizations to cover parallel meetings were highlighted among other issues. It was agreed to include the evaluation of this format in the work of the ARC Task Force.

AGENDA ITEM 3: VENUE AND DATE OF THE NEXT APIRG & RASG-AFI MEETINGS

3.1 The date and venue for the next meetings of APIRG and RASG-AFI will be coordinated by the Secretariat and communicated to members in due course.

AGENDA ITEM 4: CLOSING CEREMONY

4.1 Mr. Simon Allotey, Director-General, Ghana Civil Aviation Authority, presided over the closing ceremony. He was joined by all participants unanimously commending Mr. Mam Sait Jallow, the ICAO Regional Director for Western and Central African (WACAF) Office whose second tenure will come to an end on 8 September 2019, for his tremendous and wonderful contribution to the work of ICAO, through the WACAF Regional Office, APIRG, RASG-AFI and the AFI Plan. The meeting wished him success in his future endeavors.

4.2 Mr. Jallow expressed his gratitude for the support and collaboration he benefitted from States, International and Regional Organizations/Institutions, Aviation Stakeholders, Industry and ICAO colleagues.