INTERNATIONAL CIVIL AVIATION ORGANIZATION
WESTERN AND CENTRAL AFRICAN OFFICE

Third meeting of the APIRG Infrastructure and Information Management Sub-Group (IIM/SG/3)
(Virtual meeting, 12 to 14 October 2020)

Agenda Item 3: **Review of the outcome of APIRG/22nd meeting**

Conclusions/Decision of the APIRG/22nd meeting in the area of Aeronautical Communication
Navigation Surveillance and Spectrum (CNS)

(*Presented by the Secretariat*)

SUMMARY
This paper presents the outcome of the APIRG/22 & RASG AFI/5 meetings in the areas of Aeronautical Communication Navigation Surveillance and Spectrum (CNS)   Action by the meeting is at **paragraph 3.**
References: • Report of the APIRG/22 & RASG AFI/5 meetings
Related ICAO Strategic Objective (s): A Safety, B Capacity & Efficiency   **Related ASBU KPIs & B0 Modules:** all KPIs applicable to related AIM, CNS and MET

1. INTRODUCTION

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

1.2.   The meetings were attended by 217 participants from AFI States, Regional / International Organizations and industry.

2. DISCUSSION

2.1   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.

2.2   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.

2.3   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.

2.3   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.

2.4   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.

2.5   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.

2.6   The APIRG 22nd 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.

2.7   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.

2.8   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 A** *to this working paper.*

In this regard the meeting formulated the following conclusion:

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.

2.9   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 B** to this working paper.

2.10   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 C** to this working paper.

2.11   This seamlessness should be achieved by sharing ground based surveillance data (SSR & ADS-B) amongst neighbouring 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).

2.12   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.

In view of the above, the meeting therefore formulated the following conclusion:

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

2.13   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.

2.14   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

2.15   The meeting 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 endeavour to fully participate in the ICAO Frequency Management Panel.

2.15   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.

In view of the above, the meeting therefore formulated the following conclusion:

APIRG/22 Conclusion 22/329: 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.

2.16   In the framework of the initiatives by States & Industry and Other Air Navigation Issues, APIRG/22 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).

2.17   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.

2.18   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).

2.19   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 CBA2, 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.

In view of above, the meeting therefore formulated the following conclusion:

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;

b) ICAO and AFCAC organize a regional workshop with all stakeholders involved in SBAS implementation thereafter.

2.20   The meeting was also 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].

2.21   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;

In view of above, the meeting therefore formulated the following conclusion:

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).
d) 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.

3.   ACTION BY THE MEETING

3.1 The meeting is invited to:

a)   note the information provided in this working paper;
b)   review the APIRG/22 Conclusions/Decisions pertaining to CNS provided in this working paper and its Appendix A, identify those that continue to be valid as well as actions to further facilitate their implementation; those that are no longer applicable (actions completed, covered by others, overtaken by events or otherwise redundant);
c)   review the formulation used in the Conclusions and Decisions which continue to be valid/relevant, and take other action as necessary in light of the discussion in this working paper, to facilitate implementation.

3.2 Draft Conclusion/Decision 3/XX: Participation in the activities of IIM/SG Project Teams

That,

a) *The Secretariat circulate the list of IIM Projects Teams to Administration/Organizations no later than DD: MM: YYYY.*

b) *Administration/Organization members of the APIRG IIM SG update the Secretariat with the contact details of their nominees to APIRG IIM Project Teams and take advantage of the available teleworking tools to ensure their effective and continue participation the activities of the IIM Sub Group and notify the Secretariat in case of unavailability of appointed experts;*

c) *IIM/SG Chair convene regular PTCs coordination meetings to assess the progress made and identify the challenges*

3.3 Draft Conclusion/Decision 3/XX: Cooperation and harmonization in planning implementing, operation and monitoring

That,

Administration/Organization members of the APIRG IIM SG:

a) *Take the appropriate measures and actions aimed at integrating their implementation into regional initiatives promoted by the framework of APIRG projects approach;*

b) *Reinforce Cooperation and harmonization in planning and speed up implementation, operation and monitoring of interconnected systems.*

3.4 Draft Conclusion/Decision 3/XX: Preparation of ITU WRC-23

That;

Administrations/Organizations when provided with ICAO Position for ITU-World Radiocommunication Conference 2023 Agenda Items on spectrums requirements, start as earlier as possible, the work for the preparation of WRC-23 and, based on the lesson learnt from the last WRC, reinforce their collaboration with the sub regional Association of National Regulators of Telecommunication and work closely with ATU.

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