



# ICAO

## INTERNATIONAL CIVIL AVIATION ORGANIZATION

### Twenty-Fifth Meeting of the AFI Planning and Implementation Regional Group (APIRG/25)

7 - 11 November 2022

#### Agenda Item 3: Implementation of air navigation goals, targets and indicators, including the priorities set in the regional air navigation plan

##### 3.2. Outcome of the Fifth meeting of the APIRG Infrastructure and Information Management Sub-Group (IIM/SG5)

*(Presented by the Secretariat)*

<b>SUMMARY</b>	
<p>This paper presents the outcomes of the Fifth Meeting of the APIRG Infrastructure and Information Management Subgroup (APIRG IIM/SG5) for consideration by APIRG/25.</p> <p>Action by the Meeting is provided in paragraph 3.</p>	
<b>REFERENCES</b>	
<ul style="list-style-type: none"> <li>▪ APIRG Procedural Handbook</li> <li>▪ Report of the Fourth Meeting of the APIRG Infrastructure and Information Management Subgroup (APIRG IIM/SG4)</li> <li>▪ Report of the Twenty-Fourth APIRG Meeting (APIRG/24) and Seventh RASG-AFI Meeting (RASG-AFI/7)</li> <li>▪ Report of the Fifth Meeting of the APIRG Infrastructure and Information Management Subgroup (APIRG IIM/SG5)</li> <li>▪ Report of the First Meeting of the AFI Volcanic Ash Exercise Steering Group (AFI VOLCEX/SG)</li> </ul>	
<i>Strategic Objectives</i>	<i>A – Safety, B – Air Navigation Capacity and Efficiency, C – Aviation Security and Facilitation, D – Economic Development of Air Transport, and E – Environmental Protection.</i>

## 1 INTRODUCTION

- 1.1. The fifth meeting of the APIRG Infrastructure and Information Management Sub-Group (IIM/SG5) was held virtually from 26 to 29 August 2022. The meeting was attended by two hundred twenty-six (226) participants from thirty-eight (38) States and Organizations.
- 1.2. Ten (10) agenda items were discussed as reflected in the Report of the Meeting presented in the Appendix 1 to this Working Paper.

## 2 DISCUSSIONS

- 2.1. Eighteen (18) draft conclusions/decisions were adopted by the IIM/SG5 meeting. The Infrastructure and Information Management Sub-group gave particular attention to the following issues for consideration by the APIRG/25 meeting.

*Status of the implementation of draft Conclusions and Decisions of the IIM/SG4 Meeting and Conclusions and Decisions of APIRG/24 Meeting related to the Sub-group areas*

- 2.2. The meeting discussed the status of the implementation of the IIM/SG4 meeting draft Conclusions and Decisions and urged IIM Projects Teams and States to consider the outstanding draft IIM/SG Conclusions and Decisions that require their actions.
- 2.3. The meeting also reviewed the status of the implementation of the APIRG/24 Conclusions and Decisions related to the IIM/SG areas and noted that out of twenty-six (26) Conclusions and Decisions, nine (9) Conclusions and nine (9) Decisions were completed, one (1) Conclusion and five (5) Decisions were in progress and one (1) Conclusion, and one (1) Decision have not yet been started. The meeting acknowledged the challenges faced when implementing these Conclusions and Decisions and urged States/Organizations to embark on the effective implementation of these outstanding issues.

*Identification of ASBU elements applicable to AFI Region*

- 2.4. The meeting discussed the identification of ASBU elements applicable to the AFI region in the areas of AIM, MET and CNS, the collection of data on the implementation of ASBU elements, the status of implementation of ASBU elements, as well as challenges in the implementation of IIM/SG Projects.
- 2.5. The meeting agreed that ASBU elements that are essential and related to Standards and recommended practices (SARPs) should apply systematically to the region. Details of the ASBU elements applicability assessment in each area of AIM, MET, and CNS were discussed and are provided in Appendices 2, 3 and 4 to this paper. The following draft conclusion was therefore formulated accordingly.

***Draft Conclusion 25/xx                      Adoption of the ASBU Elements applicable to the AFI Region***  
***That,***

***To align the AFI Regional air navigation plan to the Sixth Edition of the GANP,***

- a) The ASBU elements, as identified in the Appendices 2, 3, 4 to this working paper, are applicable to the AFI region; and***
- b) The Secretariat to finalize the development of the volume III of the AFI eANP for submission to APIRG25.***

*ASBU data collection tool and Status of implementation of applicable ASBU elements*

- 2.6. The meeting was informed on the initiative undertaken by the Secretariat to develop a framework to be used to collect data from States on the status of implementation of the ASBU elements. This process started with the design of an Excel based data collection template to be filled manually by States and forwarded to the ICAO Regional Offices for compilation. The template is in Appendix 5 to this working paper.

- 2.7. Furthermore, the meeting was updated on an online platform under development by the Secretariat, aiming to facilitate the collection of data and to automate the consolidation and generation of dashboards on ASBU implementation.
- 2.8. States were urged to use the Excel template to report the status of planning and implementation of ASBU Elements to the ICAO Regional Offices, through their National Coordinators for Planning and Implementation (NCPI), until the online platform is finalized. To that effect, the following draft conclusion was formulated.

***Draft Conclusion 25/xx                      Collection of data and reporting on ASBU implementation***

***That,***

***To ensure continuous and regular reporting of the region:***

- a) States, through their National Coordinators for Planning and Implementation (NCPI), to use the data collection template as presented in Appendix 5 to this working paper, to report on a quarterly basis to the ICAO Regional Offices the status of planning and implementation of ASBU elements, effective from 31 December 2022, until the online platform is completed; and***
- b) The Secretariat to expedite the development of the online platform aiming to replace the Excel template for data collection and reporting.***

***Challenges faced by the IIM/SG in the implementation of Projects.***

- 2.9. The meeting discussed the challenges encountered by the IIM/SG in carrying out project development and implementation tasks. Challenges include among others, the lack of States responses to survey questionnaires, the low level of support provided to the project teams Coordinators and Experts in inducting them on their roles as well as expectations, the lack of participation of designated experts from different States and the language barrier.
- 2.10. The meeting recognised the difficulties expressed by project teams in conducting their activities. In order to improve the effective operation of the IIM/SG projects, the meeting urged the Secretariat to reinforce its coordination with and support to Project Teams and, in coordination with States and Organizations, to review and update the list of project teams members by 31 December 2022.

***Alignment of the IIM/SG Projects to the 6<sup>th</sup> Edition of the GANP***

- 2.11. The meeting discussed the alignment of IIM projects with the 6<sup>th</sup> Edition of the GANP, reviewed the IIM project documents and identified the GANP ASBU elements applicable to AIM, CNS and MET projects as well as the Key Performance Areas and Key Performance Indicators related to the projects. Project documents were therefore revised and updated accordingly. The following draft decision was therefore formulated:

***Draft Decision 25/xx Alignment of the IIM/SG Projects to the 6<sup>th</sup> Edition of the GANP That,***

***To improve the implementation of the applicable ASBU elements in the Region in AIM, CNS and MET areas, the IIM Project references as provided in Appendices 6, 7A, 7B, 7C to this working paper are endorsed.***

*AFI Plan AIM Results-Based Implementation Support (RBIS) for the AFI Region*

- 2.12. The meeting was informed that the scope of the project “AIM Results-Based Implementation Support (RBIS) for the AFI Region” initiated in 2019, under the Comprehensive regional implementation plan for aviation safety in Africa (AFI Plan), to expedite the support to States in implementing QMS, AIXM and e-TOD had been reframed to cover the deliverables expected from the three AIM projects of the IIM/SG, not showing significant progress so far. Consequently, the meeting agreed to close the activities of the concerned AIM Projects, to avoid duplication of efforts. The meeting formulated the following draft decision.

***Draft Decision 25/xx Termination of the QMS, AIXM and e-TOD projects activities That,***

***Considering the AFI Plan “AIM Results-Based Implementation Support (RBIS) for the AFI Region” project whose scope covers the deliverables of the AIM projects listed below, and to avoid duplication of efforts, the activities of the following projects are terminated:***

- a) ***AFI AIM/1 - Assessment and development of QMS applied to AIM in AFI States;***
- b) ***AFI AIM/2: Implementation of Aeronautical Information Exchange Systems (AIXM); and***
- c) ***AFI AIM/3 - Implementation of the provision of electronic terrain and obstacle data (e-TOD).***

- 2.13. It was however noted that the scope of the AIM RBIS Project covers partially the element DAIM-B1/1 and fully the elements DAIM-B1/2, DAIM-B1/3 and DAIM-B1/4. For the remaining ASBU AIM elements, the meeting proposed, through the following draft decision, the development of new projects as described in Appendices 8 and 9 to this working paper.

***Draft Decision 25/xx Adoption of the projects AFI AIM/4 and AIM/5***

***That,***

***To assist States to improve the quality of Aeronautical information, and the implementation of aerodrome mapping and instrument flight procedure data sets, the following AIM projects, as described in Appendices 8 and 9 to this working paper, are endorsed:***

- a) ***AFI AIM/4 – Monitoring of Aeronautical information quality and Improvement of NOTAM; and***
- b) ***AFI AIM/5 – Implementation of Aerodrome mapping data sets and Instrument flight procedure data sets.***

*IIM Projects activities related to cyber resilience in AFI region*

- 2.14. The meeting discussed the achievements of IIM regional Project COM5 related to Cyber Security and Resilience for the Air Navigation Service and noted that the AFI ANS Cyber resilience framework was developed in consideration of the Aviation Cybersecurity Strategy and the proven cybersecurity standards and frameworks (ISO 27000 series, NIST, etc.).
- 2.15. The meeting was informed that the project has listed and kept up to date available training as well as workshops/webinars on cybersecurity of air navigation services and aviation in general. A webinar to be organized by ICAO Regional Offices with the assistance of the Project and the industry is planned by end of 2022, with the aim to share the cybersecurity culture. The following draft conclusion was formulated:

***Draft Conclusion 25/xx                      Support to the APIRG Projects activities related to cyber resilience in AFI region***

***That,***

***To increase States/Organizations' technical personnel awareness in cyber securing ANS systems, ICAO in coordination with the industry within the framework of the APIRG mechanism, strengthens its support to activities aimed at raising awareness of ANS Cyber resilience through webinars/workshops/seminars on Cyber resilience of ANS systems for the AFI Region.***

*Reframing of the IIM MET Projects*

- 2.16. The meeting recalled the APIRG Decision 24/25 calling for the IIM MET Project 1 to assist States in the implementation of Aeronautical Meteorology Personnel competency standards in the region.
- 2.17. Considering the alignment of the IIM MET Projects to the provisions of the GANP with a focus on the implementation of ASBU applicable elements in the region and noting the need to ensure the consistency of the implementation of competency standards in the region, the meeting proposed the development of a new MET Project to carry out the activities related to the implementation of competency standards.
- 2.18. Furthermore, the meeting noted with concerns, the issues raised by AFI RODBs quarterly reports regarding the low level of the availability of OPMET data in the region and complains of the end-users concerning the lack of OPMET data in some aerodromes of the region.
- 2.19. The unavailability of OPMET data is recurrent in the region and constitutes a source of safety risks for aviation. It is therefore urgent to put in place a mechanism to consistently address this issue. In this regard, the meeting has developed a specific MET project, named "MET Project 5" as a sustainable approach to assist States in addressing the long-standing deficiencies related to the availability of the operation meteorological data in the region.
- 2.20. In view of the above, the following draft decision was formulated:

***Draft Decision 25/xx Adoption of IIM MET Project 4 and IIM MET Project 5***

*That,*

*To assist AFI States in the implementation of Aeronautical Meteorology Personnel competency standards, and to address in a sustainable manner, the long-standing deficiencies related to the availability of the OPMET data in the Region, the following IIM MET Projects, as described in Appendices 10 and 11 to this working paper, are adopted:*

- *IIM MET Project 4 – Aeronautical Meteorology Personnel competency standards, and.*
- *IIM MET Project 5 – Removing deficiencies in OPMET data availability in the Region*

***Composition of new project teams***

- 2.21. The meeting recalled the provisions of the APIRG procedural handbook with regards to the composition of project teams, stating that project teams shall be composed of subject matter experts with adequate qualifications and experience in the specific projects to which they are nominated and be familiar with the areas under consideration. To carry out the new identified projects activities in the areas of AIM and MET, the meeting urged States and Organisations to nominate subject matter experts to the said projects. The following draft conclusion was formulated accordingly.

***Draft Conclusion 25/xx Nomination of Experts for projects AIM/4, AIM/5, MET/4 and MET/5***

*That,*

*To carry out the activities of the new AIM/4, AIM/5, MET/4 and MET/5 projects,*

- a) *States and Organizations in a position to do so to nominate experts to the Project teams, providing information on nominee's qualifications and experience including their CVs, by 31 December 2022; and*
- b) *The Secretariat to review the qualifications of experts and finalize the project team's composition, by 31 January 2023.*

***Reporting on Planning and implementation by States and Stakeholders***

- 2.22. Under this item, the meeting noted with satisfaction and commended the efforts made by ASECNA in the implementation of applicable ASBU elements of Block 0 and Block 1 in its member States. The meeting encouraged ASECNA to continue its implementation activities.

***Development of the AFI eANP***

- 2.23. The meeting was informed of the ongoing development of the Volume III of the AFI eANP, in relation to the changes introduced by the latest edition of the GANP and taking into account the applicable elements of the ASBU identified for the region. The meeting emphasized the need to finalize the development of Volume III of the AFI eANP as a matter of urgency. The meeting formulated the following draft conclusion accordingly.

***Draft Conclusion 25/xx      Development of the Volume III of the AFI eANP***

*That,*

- a) The Secretariat, in coordination with the Subgroup Project Teams, to finalise inputs to the draft AFI eANP Volume III and circulate it for review by States by 30 November 2022; and*
- b) States to review the draft eANP Volume III and provide the Secretariat with their feedback by 31 January 2023, for consolidation and subsequent formal approval by the APIRG through the APCC.*

***Other Air Navigation initiatives******First Meeting of AFI Volcanic Ash Exercise Steering Group (AFI VOLCEX/SG)***

- 2.24. The meeting discussed outcomes of the first meeting of the AFI VOLCEX/SG held virtually on 5<sup>th</sup> July 2022 to review the report of the first AFI volcanic ash exercise (AFI VOLCEX 21/01) conducted in November 2021 by Cabo Verde as the Exercise Leader State. The meeting commended the work done by Cabo Verde and the Steering Group, and agreed that the decisions contained in the report could guide the preparation and conduct of the second exercise AFI Volcanic Ash Exercise to be conducted in 2023. Accordingly, the meeting formulated the following draft decision:

***Draft Decision 25/xx      Outcomes of the First Meeting of AFI Volcanic Ash Exercise Steering Group***

*That,*

***The decisions of the first meeting of the AFI Volcanic Ash Exercise Steering Group held virtually in July 2022 and contained in Appendix 12 to this working paper, be approved and submitted to the APIRG/25 meeting for endorsement and consideration in preparation for the second AFI Volcanic Ash Exercise to be conducted in 2023.***

***States National Coordinators for Planning and Implementation (NCPIs) and Technical Focal Points (FPs)***

- 2.25. The meeting recalled the Conclusion 24/22 of the APIRG/24 meeting which called States to nominate Experts for the coordination of APIRG and its subsidiary bodies activities.
- 2.26. The meeting noted that several States have not yet nominated the experts as NCPIs and FPs in Air navigation related areas. The meeting also discussed the Terms of Reference for the NCPIs and the FPs, which provide details on the role and responsibilities of the nominees. The meeting agreed on the following draft conclusion:

***Draft Conclusion 25/xx      Role and responsibilities of States National Coordinators for Planning and Implementation and Technical Focal Points***

***That,***

***To strengthen the APIRG and its subsidiary bodies activities, the terms of reference of the National Coordinator for Planning and Implementation (NCPI) as well as focal points for each area (AOP, ATM/SAR, AIM, CNS and MET) provided in Appendix 13 to this working paper are adopted.***

*The Fifth Meeting of the African ANSPs*

- 2.27. The meeting was provided with the outcome of the Fifth Meeting of African Air Navigation Service Providers (ANSPs) held in Lomé (Togo) from the 28<sup>th</sup> March to 1<sup>st</sup> April 2022.
- 2.28. The meeting took note of the status of implementation of the conclusions and decisions of the previous meetings, the identified challenges encountered and proposed ways forward. The following draft decision was formulated:

***Draft Decision 25/xx      Consideration of the outcome of the Fifth Meeting of the African ANSPs***

***That,***

***To assist States in improving the provision of Air Navigation services and reinforce the collaboration amongst States/organizations, Projects Teams to consider the key outcomes of the Fifth Meeting of the African ANSPs when revising and implementing the AFI Regional ANS projects.***

*Interference to Radio Navigation Satellite Service*

- 2.29. The meeting was provided with the information on the GNSS signal vulnerabilities and their implications on the safety and security of international civil aviation in light with related issues outlined by the International Civil Aviation Organization (ICAO) and recently collected by the International Telecommunication Union (ITU).
- 2.30. The meeting noted that the ITU Radiocommunication Bureau (RB) has been recently informed of a significant number of cases of harmful interference to the radionavigation-satellite service affecting receivers onboard aircrafts and causing degradation or total loss of the service for passenger, cargo, and humanitarian flights.
- 2.31. The meeting was reminded on the various initiatives taken by the ITU, the ICAO Council, the Air navigation Commission and APIRG and recommended States to take all the appropriate measures to protect the GNSS frequency band. The following Conclusion was formulated:



***Draft Conclusion 25/xx          Prevention of harmful interference to Radio Navigation Satellite Service Receivers in the 1559 – 1610 MHz frequency band and mitigation of their impact***

***That.***

***To ensure the safety, capacity, efficiency and continuity of GNSS based air operation, States to endeavor to :***

- a) plan, conduct and monitor appropriate actions aiming at preventing harmful interferences or mitigating the risk of the impact of such interferences to the Radio Navigation Satellite Service Receivers in the 1559 – 1610 MHz frequency band; in coordination with service providers (Airlines, Air Navigation Service Providers, Aerodrome Operators, and all stakeholders operating in the aviation sector including Air Force units);***
- b) sensitize the national Authority of Regulation of Telecommunication, on the risk encountered by the civil aviation industry; and***
- c) provide feedback of actions taken to the ICAO Regional Offices***

***ICAO Position for ITU WRC- 23***

2.32. ICAO Position on the International Telecommunication Union World Radiocommunication Conference 2023 (ITU WRC-23) Agenda Items of particular importance to civil aviation (1.1; 1.5; 1.17 and 9.1.5) was presented in detail and ICAO specific views on the other various Agenda Items recorded under each respective agenda items in particular agenda items 1.4; 1.6; 1.7; 1.10; 1.11; 1.12; 1.16; 4; 8; 9.1.1; 9.1.6 and 10.

2.33. The meeting reiterated the necessity for States to support the whole ICAO Position at the WRC-23 as per State letter E 3/5-21/37 in the interest of the aviation frequency bands protection. The following draft conclusion was formulated.

***Draft Conclusion 25/xx          Support to ICAO Position for ITU WRC- 23***

***That,***

***In preparation of the ITU World Radiocommunication Conference 2023 (ITU WRC-23), Administrations/Organizations to:***

- a) contribute, when possible, to the Frequency Spectrum Management Panel (FSMP) effort to update the ICAO position to reflect the outcome of ITU-R studies and the concerns identified by the AFI Region;***
- b) liaise with Sub Regional Telecommunication Regulators such as the West African Telecommunication Regulators' Association, the Communication Regulators' Association of Southern Africa and where possible participate in the work of the African Telecommunication Union (ATU) and ITU-R; and***
- c) work with national radio regulators to secure a national/regional position in line with ICAO's position***

*Interference issues related to the rollout of 5G*

- 2.34. The meeting was briefed on the recent and ongoing rollout of 5G in the frequency band below the Radio Altimeter band at 4 200 – 4 400 MHz and the potential associated interference issues to Radio Altimeters that 5G base stations may cause has resulted in questions being asked to ICAO Secretariat, by aeronautical Regulators and others.
- 2.35. The meeting noted that 5G rollout strategies in different States are different in terms of key parameters such as how close the frequency band used is to the Radio Altimeter frequency band and total transmitting power of the base stations. Hence the mitigatory strategies taken will need to be tailored to each specific situation.

*AFI Navigation Infrastructure Strategy*

- 2.36. In consideration of the Block Upgrades Technology Roadmaps of the GANP, the meeting agreed to task the NAV Project to update the AFI Navigation Infrastructure Strategy through the rationalization of conventional Nav'Aids and the update of the GNSS Strategy. The following draft decision was formulated.

***Draft Decision 25/xx Update of the AFI Navigation Infrastructure strategy******That,******In accordance with the GANP Technology Roadmaps and in line with the outcomes of the Continental independent Cost Benefit Analysis (CBA) for the introduction of SBAS in the AFI Region, the AFI NAV Project Document be revised to reflect the need for the NAV Project Team to develop an AFI Navigation Infrastructure Strategy including the rationalization of conventional Nav'Aid and the update of the AFI GNSS strategy taking into account the consensus reached amongst stakeholders.****Support to Resource Mobilization for the implementation of SBAS in the AFI Region*

- 2.37. The meeting recalled the funding requirements for the implementation of SBAS and requested the African Union Commission and AFCAC, in collaboration with ICAO, to support States' efforts to mobilize the resources needed for an effective implementation of SBAS in the AFI Region in compliance with the revised Regional GNSS Strategy. The following draft conclusion was formulated:

***Draft Conclusion 25/xx Support of the African Union Commission (AUC) and the African Civil Aviation Commission (AFCAC) to the implementation of SBAS in the AFI Region******That,******The AUC and AFCAC, in collaboration with ICAO and partners to reinforce the support to States for the mobilization of resources needed for the effective implementation of SBAS in the AFI Region in accordance with the revised Regional GNSS Strategy.***

*Air Navigation Deficiencies**Update on the implementation of the AFI ANDD Tool*

- 2.38. The meeting was updated on the operationalization of the AFI air navigation deficiencies database (AANDD). The training workshop for focal points of States and Organizations was held from 23 to 24 November 2021, with the attendance of almost 100 experts from 15 ESAF States (62.5%), nine (9) WACAF States (37.5%), and from ANSPs and international Organizations.
- 2.39. The meeting noted that the workshop provided to the participants a good understanding of air navigation deficiencies and clarified the difference with USOAP findings. The workshop explained the deficiencies management process and familiarized participants on the tool.
- 2.40. The meeting was also informed that the deployment of the operational version of the platform has taken more time than expected due to some technical constraints. ICAO was urged to expedite this deployment to assist the region in carrying out the air navigation deficiencies management activities.
- 2.41. The meeting urged States and Organizations that are yet to nominate AANDD Focal points to do so, and encourage all States and stakeholders involved in APIRG framework to engage in the Air navigation deficiencies management activities.

*Activities to be coordinated with the RASG-AFI SSTs*

- 2.42. There is no identified activity that requires coordination with the RASG-AFI Safety Support Teams.

*Recommendations/actions to be taken by ICAO Headquarters*

- 2.43. Under this item, the meeting discussed issues related to the effective support to the APIRG Projects activities related to cyber resilience in AFI region.
- 2.44. The meeting noted that to increase States/Organizations technical personnel capability in cyber securing ANS systems, ICAO in collaboration with the industry, should strengthen its support to activities aimed at raising awareness of ANS Cyber resilience through webinars/workshops/seminars on Cyber resilience of ANS systems in the AFI Region. In this regard, the meeting agreed that the **Draft Conclusion 25/xx Support to the IIM APIRG Projects activities related to cyber resilience in AFI region** calls for action from ICAO Headquarters.

*Review of the Work Programme of the Sub-Group*

- 2.45. The meeting reviewed the work programme as approved by APIRG/24 and noted that of the ten (10) tasks planned, one (1) task was completed, six (6) were partially completed and three (3) had not yet started.
- 2.46. Considering the need to focus on the implementation of the ASBU elements applicable to the region, the work programme of the Subgroup was reviewed to allow Project Teams to address the new assigned tasks and objectives. The meeting formulated the following draft decision:

*Draft Decision 25/xx: Work Programme of APIRG IIM/SG for 2022/2023*

*That,*

*The work programme of the IIM/SG as provided in Appendix 14 to this working paper is approved.*

**3 ACTION BY THE MEETING**

3.1. The meeting is invited to:

- a) Take note of the information presented in this working paper;
- b) Review and endorse the report of the fifth meeting of the APIRG IIM Subgroup.