



## INTERNATIONAL CIVIL AVIATION ORGANIZATION

### Twenty-Seventh Meeting of the Africa-Indian Ocean Planning and Implementation Regional Group (APIRG/27)

5 - 6 November 2024

#### 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 Seventh meeting of the APIRG Infrastructure and Information Management Sub-Group (IIM/SG7)

*(Presented by the Secretariat)*

<b>SUMMARY</b>	
<p>This paper presents the outcomes of the Seventh Meeting of the APIRG Infrastructure and Information Management Sub-group (IIM/SG7), held in Dakar, Senegal, from 5 to 8 August 2024.</p> <p>The Sub-Group reviewed the status of implementation of APIRG/26 Conclusions/Decisions relevant to the IIM/SG and discussed the status of implementation of regional projects adopted by APIRG, as well as the implementation status of ASBU elements applicable to the AFI Region. The meeting also discussed the amendment and the update of the AFI eANP and the management of air navigation deficiencies.</p> <p>Action by the meeting is provided <b>in paragraph 3</b></p>	
<b>REFERENCES</b>	
<ul style="list-style-type: none"> <li>▪ APIRG Procedural Handbook</li> <li>▪ Doc 7300, Convention on International Civil Aviation, 1944</li> <li>▪ The Global Air Navigation Plan</li> <li>▪ Doc 7474, Air Navigation Plan - Africa-Indian Ocean Region</li> <li>▪ APIRG/26 Report</li> <li>▪ IIM/SG6 Report</li> <li>▪ IIM/SG Terms of References</li> </ul>	
<i>Strategic Objectives</i>	<i>A – Safety, B – Air Navigation Capacity and Efficiency, D – Economic Development of Air Transport, and E – Environmental Protection.</i>

## 1 INTRODUCTION

- 1.1. The meeting was attended by fifty-eight (58) participants from fifteen (15) ESAF and WACAF States and seven (7) Organizations.
- 1.2. It was chaired by Mr. Issoufou Abdoulaye (Niger), Chairperson assisted by Ms. Nokuthula Phakathi (South Africa), Vice Chairperson of the Sub-group. ESAF and WACAF Regional Offices served as the Secretariat of the meeting.

## 2 DISCUSSIONS

- 2.1. Ten (10) agenda items were discussed as reflected in the Report of the Meeting presented in the Appendix 1 to this Working Paper and available at <https://www.icao.int/WACAF/Pages/IIM-SG-7.aspx>
- 2.2. The meeting deliberated on eight (8) draft Conclusions/Decisions and this paper presents the meeting outcomes for consideration.

### *Review of the Conclusions and Decisions of the APIRG/26 meeting applicable to IIM/SG*

- 2.3. The meeting reviewed the implementation of APIRG/26 Conclusions and Decisions relevant to the IIM/SG. Out of nine Decisions, 67% were completed, and 33% are in progress. Of the seven Conclusions, 43% were completed, and 57% are still in progress. States and organizations were urged to expedite the pending actions.
- 2.4. The updated status of implementation of APIRG/26 Conclusions and Decisions is provided at Appendix 2.

### *Status of the Regional Air Navigation Plan*

- 2.5. The meeting recalled that APIRG/25 identified inconsistencies in the Regional eANP Volumes I and II, urging States to provide updates. Several activities were conducted to support these updates, including webinars held in October 2023. However, APIRG/26 expressed concerns regarding the low participation in these activities.
- 2.6. The meeting noted that the Secretariat had initiated the processing of Proposals for Amendment (PfAs) received so far, urging States to submit their contributions by 28 February 2024, and requesting ICAO Regional Offices to consolidate these contributions by 30 April 2024.

### *Operationalization of ASBU data collection tool*

- 2.7. The meeting recalled the need for alignment of the Regional Air Navigation Plan with the GANP as directed by APIRG/24 and endorsed by APIRG/25, identifying relevant ASBU elements for the region. An Excel-based template for ASBU implementation reporting was agreed upon until an online tool is developed and integrated into the AANDD platform for ASBU monitoring.
- 2.8. The meeting noted with satisfaction that, despite limited feedback on the eANP Volume III, the ASBU tool was completed, allowing management and reporting of the implementation status of ASBU elements. A testing phase is ongoing, with training workshops planned for October 2024.

### *Status of implementation of ASBU elements in AIM, CNS and MET areas*

- 2.9. The meeting reviewed ASBU implementation in AIM, CNS, and MET fields, noting low feedback from States. Challenges in implementing elements like FICE-B0/1 (AIDC), ASUR-B0/2 (MILAT), ASUR-B0/1 (ADS-B), AXIM DB, and AMET-B1/4 were highlighted.
- 2.10. Low implementation percentages may be due to reporting gaps and data inconsistencies in eANP Volume III. States and stakeholders were encouraged to update their data and take corrective actions.

### *Implementation of ASBU elements and Achievements of APIRG IIM Projects*

- 2.11. The meeting provided updates on APIRG IIM Projects, highlighting achievements and challenges in implementing ICAO SARPs and ASBU elements in CNS, AIM, and MET fields.

#### *For Communication, Navigation and Surveillance related Projects*

- 2.11.1. The key communication projects reported on the progress of ground-to-ground (COM1, COM2), air-to-ground (COM3), and telecommunication infrastructure (COM4), emphasizing the need for better participation of experts, resources, and infrastructure upgrades.
- 2.11.2. Cyber resilience (COM5) highlighted the development of a framework and awareness workshops. Surveillance (SURV) and frequency protection (SPEC) projects achieved milestones like strategy development and managing 5G impact.
- 2.11.3. Challenges include expert engagement, financial support, and data collection. No report was received on the NAV project.

#### *For Aeronautical Information Management related Projects*

- 2.11.4. The meeting recalled that APIRG/25 meeting adopted AIM Projects 4 and 5 to improve aeronautical information quality, NOTAM, aerodrome mapping, and instrument flight procedure datasets.
- 2.11.5. At APIRG/26, challenges such as a lack of expertise in flight procedure design and aeronautical charting were identified. To address this issue, the meeting established criteria for selecting qualified experts, and the Secretariat was tasked to disseminate these criteria to States and Organizations.

#### *For Aeronautical Meteorology related Projects*

- 2.11.6. All MET projects demonstrated notable progress. MET Projects 1, 2, and 5 completed project costing and documentation, while MET Projects 2, 3, 4, and 5 conducted awareness workshops and seminars to enhance the knowledge of States' experts on SARPs implementation relevant to each project's scope. Additionally, MET Projects 2 and 4 developed and administered questionnaires to assess implementation in various States, and MET Project 3 successfully produced guidance material for space weather implementation.

2.11.7. However, challenges such as coordination, active participation, and inconsistent implementation persist across projects. MET Projects 1, 3, 4, and 5 face difficulties in ensuring States' participation and achieving uniform progress. Common issues include limited expert attendance, delays in activities and a lack of financial support.

#### *Projects Costing*

2.11.8. The APIRG/20 and APIRG/21 meetings requested APIRG to seek assistance and funding through collaboration with regional and sub-regional organizations such as the African Union, AFCAC, Regional Economic Communities (RECs) and financial institutions to support the adopted regional projects.

2.11.9. The Secretariat, with the support of Project Team Coordinators, developed a consolidated catalogue of all identified projects, including project documentation and costing. The related cost estimates are summarized in Appendix 3 for meeting review and consideration.

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

#### *Progress Update on AFI VSAT networks (SADC and NAFISAT) and Implementation of Ground/Ground Communication (AFTN and AMHS) in South Africa*

- 2.12. The meeting was informed that the SADC and NAFISAT VSAT networks in South Africa have over 99% availability and are being upgraded to meet ATN IPS requirements. These networks are fully interoperable with AFISNET, reducing delays.
- 2.13. ATNS has implemented VPN solutions in several locations and will continue to prioritize satellite communication for its reliability and coverage. Collaboration among network operators is encouraged to further improve interoperability.
- 2.14. The State successfully conducted testing of IWXXM message exchange between RODB Pretoria Met and the Communication Centre in 2016, upgraded AFTN/AMHS systems and migrated AIM connections from AFTN to AMHS with several States.
- 2.15. As challenges, the meeting noted issues in connecting with other ANSPs/States due to lack of training, unprepared States, and complex AMHS transitions and the need for States to register with AMC, update information, and provide AFTN/AMHS training or webinars.

#### *Regional cooperation between AFI ANSP in terms of AIXM databases*

- 2.16. The meeting acknowledged the ongoing support provided by ASECNA to The Gambia through a joint plan signed in 2022 as part of the "No Country Left Behind" initiative. This plan focuses on implementing low-cost, interoperable systems by hosting The Gambia's AIXM database on ASECNA's server, as well as providing tools, training, and safeguarding intellectual property.
- 2.17. It was noted that 80% of the project is complete, with remaining tasks centred on finalizing the eAIP, printing new AIPs, and conducting a safety study. The meeting also encouraged ASECNA to continue supporting other States.

*WMO partnering with ICAO and WMO activities of relevance to ICAO*

- 2.18. The meeting received updates on the World Meteorological Organization's (WMO) recent activities related to ICAO, including new organizational structures, engagement with ICAO and other agencies at the global and regional levels.
- 2.19. Highlights included (but not limited to) the latest WMO organizational structures for aviation services and regional Association I (Africa), WMO’s contributions to the ICAO Meteorology Panel (METP).
- 2.20. The meeting acknowledged WMO's support for aeronautical meteorological services in Africa and encouraged continued collaboration between WMO and ICAO to help States effectively implement upcoming changes to MET-related SARPs.

**Other Air Navigation initiatives**

*Outcomes of the Second Volcanic Ash Exercise (VOLCEX 2023/01) in the AFI Region*

- 2.21. The meeting commended the successful execution of the AFI second volcanic ash exercise (AFI VOLCEX) in December 2023, led by the Democratic Republic of Congo. This exercise aimed to enhance coordination, message distribution, and contingency management.
- 2.22. While the results were generally satisfactory, areas for improvement were identified, particularly in NOTAM formats, stakeholder engagement, and message timeliness. The full report on AFI VOLCEX can be found in Appendix 4.
- 2.23. Additionally, the meeting reviewed the outcomes of the Extraordinary Meeting of the AFI Volcanic Ash Exercise Steering Group, held virtually on July 26, 2024, and acknowledged Kenya's proposal to take the lead for VOLCEX 2025. Consequently, the meeting formulated the following draft conclusion.

<b>Draft APIRG/27 Conclusion 27/xx: Conduct of the third volcanic ash exercise in the AFI Region</b>					
Why:	<i>That, to practice and develop inter-agency response to volcanic activity</i>				
What:	<i>a) The proposal of Kenya to lead the third volcanic ash exercise is endorsed</i> <i>b) Kenya to direct and coordinate the third volcanic ash exercise in the AFI Region by 30 November 2025; and</i> <i>c) ESAF and WACAF Offices to facilitate the conduct of the volcanic ash exercise in the AFI Region by 30 November 2025.</i>				
Who:	<i>a) APIRG</i> <i>b) Kenya</i> <i>c) ESAF and WACAF Offices</i>				
When:	<i>b) and c): By 30 November 2025</i>				
<b>Implementation following-up</b>					
Follow-up required	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Metrics	<b>Metric 1:</b> Approved volcanic ash exercise schedule	Means to collect	Mean 1: State Letters Mean 2: Coordination meetings

			<b>Metric 2: Final Report of the third volcanic ash exercise</b>		
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*Update on the progress of the RBIS Project*

- 2.24. The AIM Results-Based Implementation Support (RBIS) project, aimed at helping African States implement Quality Management Systems (QMS), Aeronautical Information Exchange Model (AIXM), and Terrain and Obstacle Data (TOD).
- 2.25. The AIM RBIS project, now in its third phase, has completed its initial phases, with documentation validated in March 2023. As of 2023 and 2024, Four (4) States (Guinea, Sierra Leone, Liberia, and the Democratic Republic of the Congo) have received assistance for QMS, AIXM/eAIP/TOD, one (1) State (Mauritania) received TOD assistance.
- 2.26. Planned future assistance includes QMS for Nigeria and AIXM/eAIP/TOD for Benin, as well as TOD for Côte d’Ivoire, Togo, and Gabon.
- 2.27. The project team continues to monitor implementation, recognized as a good practice, and encouraged States to utilize these activities to enhance AIM implementation.

*Update on the progress of the CODEVMET-AFI Project*

- 2.28. The CODEVMET-AFI project, launched in 2016, aims to address air navigation deficiencies in aeronautical meteorology within the AFI region by enhancing State capacities to meet ICAO safety standards, and implementing quality management systems (QMS).
- 2.29. To date, eight (8) states (Botswana, Cameroon, Cabo Verde, Côte d’Ivoire, Gambia, Nigeria, Senegal, and Togo) have received assistance to improve their MET safety oversight systems and align regulations with ICAO standards.
- 2.30. Furthermore, four (4) States (Cameroon, Cabo Verde, Senegal, and Togo) received assistance in QMS implementation and ongoing assistance to ASECNA in implementing space weather requirements.
- 2.31. The meeting urged states to utilize the project’s channel to improve regulatory capacities for aeronautical meteorology and eliminate critical air navigation deficiencies in MET.

*Introduction of the new SADIS API services*

- 2.32. The meeting was briefed on the updates to the World Area Forecast System (WAFS), including the introduction of upgraded gridded data sets, new Significant Weather (SIGWX) forecasts, and new distribution systems via the SADIS and WIFS APIs.
- 2.33. Key enhancements include higher resolution data, automated SIGWX forecasts covering 6 to 48 hours, and the new IWXXM format. While the implementation of the new SIGWX forecasts was delayed until November 2024, current charts will remain available until 2026-2028.

2.34. Participants were encouraged to transition to the new systems, with guidance provided in an updated SIGWX flyer in Appendix 5. The meeting then formulated the following draft Conclusion accordingly

<b>Draft APIRG/27 Conclusion 27/xx: New SADIS API and WIFS API services</b>					
Why:	<i>That, to prepare for the upcoming SIGWX changes and ensure the use of the new IWXXM format SIGWX data sets,</i>				
What:	<i>a) SADIS user States and Organizations to conduct awareness activities on the upcoming T+24 SIGWX changes effective on 26 November 2024 by sharing the SIGWX flyer or by directing them to <a href="https://www.metoffice.gov.uk/services/transport/aviation/regulated/wafs-2023">https://www.metoffice.gov.uk/services/transport/aviation/regulated/wafs-2023</a> by end of December 2024; and</i> <i>b) States and Organizations to develop plans to upgrade their systems to be able to visualize the higher resolution WAFS gridded data sets and new IWXXM SIGWX data sets and use the new SADIS API by November 2025.</i>				
Who:	<i>a) SADIS user States and Organizations</i> <i>b) States and Organizations.</i>				
When:	<i>a) By end of December 2024</i> <i>b) By November 2025</i>				
Implementation following-up					
Follow-up required	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Metrics	Metric 1: Number of States with capability SADIS API capabilities Metric 2: Conducted <i>awareness activities</i>	Means to collect	Mean 1: SL Mean 2: SL ....

*Update on the Air Navigation Services Summit*

2.35. The IIM/SG7 meeting reviewed the focus of APIRG meetings from APIRG/21 to APIRG/26 on enhancing air navigation and traffic management in the AFI region.

2.36. APIRG/21 emphasized aligning national air navigation plans with regional strategies, leading to coordinated planning and the development of a seamless air traffic management (ATM) system. Subsequent meetings highlighted the need for a seamless AFI air traffic management system, with APIRG/22 and APIRG/23 calling for the development of an ATM Master Plan and a Regional ATM Summit in 2024.

2.37. APIRG/26 highlighted the need to consolidate various initiatives under a single ICAO-driven mechanism, urging stakeholders to commit resources and establish a Steering Committee for the AFI ANS Summit.

2.38. Preparations for the Summit are ongoing, with discussions revealing concerns about low participation of States to the preparatory activities and need of alignment with APIRG procedural guidelines. The meeting agreed on the following to address these issues.

<b>Draft APIRG/27 Decision 27/xx: Finalization of the preparation of the Air Navigation Services Summit</b>	
Why:	<i>That, to foster the preparation of the AFI Air Navigation Service Summit.</i>



What:	a) <i>The AFI ANS Summit is postponed pending completion of the ongoing preparatory activity; and</i> b) <i>The Secretariat to coordinate with key stakeholders the review of :</i> i). <i>the ANS Summit related terms of references to ensure their alignment with the provisions of the APIRG Procedural Handbook; and</i> ii). <i>the required activities for the effective conduct of the AFI Air Navigation Services Summit.</i>				
Who:	a) <i>APIRG</i> b) <i>Secretariat, IATA</i>				
When:	a) <i>b) by December 2025</i>				
Implementation following-up					
Follow-up required	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Metrics	Metric 1: Established expert teams Metric 2: Deliverables for the Summit	Means to collect data	Mean 1: e-mails Mean 2: Online meetings

*Update on the Enhancement of APIRG and RASG-AFI Structure*

- 2.39. The meeting was provided an update on the actions taken in response to APIRG/26 & RASG-AFI/9 Decision 5/05, which focused on enhancing the structures of APIRG and RASG-AFI through their merging into a single entity.
- 2.40. It took note of the organizational structure of the merged group, which was favoured by the participants to the APIRG/26 & RASG-AFI/9 joint session, as well as the development of the related draft Procedural Handbook.
- 2.41. The meeting was also informed that the Extraordinary Joint Meeting endorsed the new structure, now named the Africa-Indian Ocean Aviation System Planning and Implementation Group (AASPG) and tasked the Secretariat to circulate the Draft Procedural Handbook and new Working Methods for further input by 30 September 2024, in view of presenting the finalized version at the next APIRG and RASG-AFI meeting.

*Air Navigation Deficiencies*

*Update on Status of the implementation of CNS, AIM and MET related BBBs*

- 2.42. The meeting discussed the global technical aspects of the Global Air Navigation Plan, emphasizing that BBBs provide the foundation for essential air navigation services, while ASBUs enhance system performance.
- 2.43. The meeting also noted the implementation status of the USOAP-CMA PQs related to the BBBs range from 34% to 68% in the region. Key challenges in implementing BBBs include funding shortages, project prioritization issues, and low regional collaboration.
- 2.44. The meeting emphasized the importance of strategic planning, collaboration, and capacity-building to achieve harmonized and interoperable air navigation services, urging states to actively participate in relevant meetings and activities for improvement.

*Scope of Minimum Reporting Areas*



2.45. The APIRG/16 meeting in 2007 highlighted the need for States to address persistent air navigation deficiencies impacting safety. The APIRG/18 meeting in 2012 endorsed a list of minimum reporting areas for deficiency reporting, in areas of AOP, ATM, SAR, CNS, AIM, and MET.

2.46. The meeting discussed the incorporation of ASBU elements into this reporting framework, and finally agreed that the minimum reporting areas would align with ICAO's definition of "air navigation deficiency," as approved by the Council of ICAO on 30 November 2001 and provided in the PART V of the APIRG Procedural Handbook. The following draft Decision was formulated.

<b>Draft APIRG/27 Decision 27/xx: Scope of the minimum reporting framework</b>					
Why:	<i>That, to ensure consistency of the minimum reporting areas with the Council definition of air navigation deficiency,</i>				
What:	<i>The list of minimum reporting areas shall be revised as appropriate by 31 December 2024.</i>				
Who:	<i>APIRG</i>				
When:	<i>31 December 2024</i>				
<b>Implementation following-up</b>					
Follow-up required	Yes <input checked="" type="checkbox"/>	Metrics	Metric 1: updated list of minimum reporting areas	Means to collect	APIRG Report
	No <input type="checkbox"/>				

*Status of Air Navigation Deficiencies in CNS, AIM and MET fields*

2.47. The meeting recalled that the APIRG/26 meeting recognized the operational launch of the online AANDD platform developed by the Secretariat for the identification and resolution of air navigation deficiencies.

2.48. The meeting expressed concern on the continued low level of reporting on deficiencies and urged states, regulatory bodies, ANSPs, Regional Offices, and user organizations to more effectively identify and report air navigation deficiencies.

**Implementation challenges of the Sub-group**

2.49. The meeting highlighted several challenges facing the IIM/SG in supporting states, including delays in project deliverables, limited expert participation, unavailability of facilitators. Recommendations include, holding regular progress meetings, updating team lists, facilitating expert involvement, and providing accelerated support for project teams. The following draft Conclusion was formulated accordingly.

<b>Draft APIRG/27 Conclusion 27/xx: Revision of IIM Project membership</b>	
Why:	<i>That, to enhance the effectiveness of APIRG IIM Projects,</i>
What:	<ul style="list-style-type: none"> <li><i>a) The Secretariat and the IIM Project Team Coordinators to revise project teams composition to reflect active participants and consider qualified experts by 31 December 2024;</i></li> <li><i>b) The Secretariat to notify States and Organizations of the designation of their experts by 31 December 2024;</i></li> <li><i>c) States and Organization to ensure the effective participation of experts in projects' activities and Subgroup meetings by 31 December 2024. .</i></li> </ul>

Who:	a) Secretariat, IIM Project Team Coordinators b) Secretariat c) States, Organizations				
When:	a) b) and c): 31 December 2024				
Implementation following-up					
Follow-up required	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Metrics	Metric 1: Revised project team composition Metric 2: Sensitization activities conducted	Means to collect	Mean 1: State letters Mean 2: Meetings with Project teams

**Activities to be coordinated with the AAO/SG and RASG-AFI SSTs**

2.50. The meeting identified the finalization of the preparation of the Air Navigation Services Summit as item necessitating coordination with the AAO Subgroup.

**Proposed recommendations/actions to be taken by ICAO HQ**

2.51. The meeting reviewed the outcomes of discussions, and no proposals of recommendations/actions were found to require the attention of the ICAO Headquarters (HQ).

**Review of the Terms of Reference and the Work Programme of the Sub-Group**

2.52. The meeting was reminded that the IIM/SG Sub-Group is tasked by APIRG to support the implementation of ICAO SARPs in MET, AIM, and CNS areas. The Sub-Group's terms of reference in Appendix 6 were reviewed without specific amendments, and its work program was updated as provided in Appendix 7. The following draft decision was formulated accordingly.

<b>Draft APIRG/27 Decision 27/xx: Work Programme of APIRG IIM/SG for 2024/2025</b>					
Why:	That, to support the implementation of the Subgroup objectives;				
What:	The Work Programme of the Sub-Group as provided in Appendix 7 be approved.				
Who:	APIRG/27 meeting				
When:	By November 2024				
Implementation following-up					
Follow-up required	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Metrics	Metric 1: Approved Work Programme	Means to collect	Mean 1: APIRG/27 Meeting Mean 2:

**3. ACTION BY THE MEETING**

3.1. The meeting is invited to:

- a) Take note of the information presented in this working paper, highlighting the work achieved by the Seventh Meeting of the APIRG IIM/SG; and
- b) Provide further guidance as appropriate.

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