



# ICAO

*International Civil Aviation Organization*

**The Twelfth Meeting of the Common Aeronautical  
Virtual Private Network Operations Group (CRV OG/12)**

*Denarau Island, Fiji, 23-26 January 2024*

Agenda Item 2: Review outcomes of relevant meetings

## REVIEW OF RELEVANT MEETINGS

(Presented by the Secretariat)

### SUMMARY

The paper presents the relevant outcomes of the meetings held in 2023 including the Thirty-Fourth Meeting of the Asia/Pacific Air Navigation Planning and Implementation Regional Group (APANPIRG/34), the Twenty Seventh Meeting of Communication, Navigation, and Surveillance (CNS SG/27), the Tenth Meeting of the Aeronautical Communication Services Implementation Coordination Group (ACSICG/10), and relevant discussions in other meetings.

## 1. INTRODUCTION

1.1 The Thirty-Fourth Meeting of the Asia/Pacific Air Navigation Planning and Implementation Regional Group (APANPIRG/34) was held at the Hong Kong Civil Aviation Department (HKCAD) Headquarters Auditorium *from 11 to 13 December 2023*, which was graciously hosted by Hong Kong, China. The Meeting was attended by **146** participants from **26** Member States, **2** Special Administrative Regions of China, and **7** International Organizations. The APANPIRG/34 meeting report, working papers, information papers, and other resources can be accessed by following link:

<https://www.icao.int/APAC/Meetings/Pages/2023-APANPIRG-34.aspx>

1.2 The Twenty Seventh Meeting of the Communications, Navigation and Surveillance Sub-group (CNS SG/27) of Asia/Pacific Air Navigation Planning and Implementation Regional Group (APANPIRG) was held at the ICAO APAC Regional Office, Bangkok, Thailand, *from 28 August to 1 September 2023*. The Meeting was attended by **108** participants (94 In Person + 14 virtual) from **24** States/Administrations, **3** International Organizations, and **2** industry partners. The Meeting report and other documents of the meeting can be accessed at ICAO APAC Meeting webpage at: <https://www.icao.int/APAC/Meetings/Pages/2023-CNS-SG-27.aspx>

1.3 The Tenth Meeting of the Aeronautical Communication Services (ACS) Implementation Coordination Group (ACSICG/10) was held at ICAO APAC Regional Office, Bangkok, Thailand, *from 24 to 26 May 2023*. The Meeting was attended by 62 participants from 19 States/Administrations, 2 International Organizations, namely IATA, and ICAO, and 1 industry partner, namely Frequentis. The ACSICG/10 meeting report, working papers, information papers, and other

**Agenda Item 2**

23 – 26/01/24

resources can be accessed by following link: <https://www.icao.int/APAC/Meetings/Pages/2023-CRV-OG-Ad-hoc-Governance-Group-and-the-ACSICG10.aspx>

1.4 The Eleventh Meeting of the Common Aeronautical Virtual Private Network Operations Group of APANPIRG (CRV OG/11) was held from *1 to 3 February 2023* in ICAO Asia and Pacific Regional Office, Bangkok, Thailand. The Meeting was attended by 65 participants from 19 Member States/Administrations. The meeting report, working papers, information papers, and other resources can be accessed by the following link:

<https://www.icao.int/APAC/Meetings/Pages/2023-CRV-OG11-.aspx>

1.5 The Seventh Meeting of System Wide Information Management Task Force (SWIM TF/7) was held from *9 to 12 May 2023* in ICAO Asia and Pacific Regional Office, Bangkok, Thailand. The Meeting was attended by **73** participants from **16** States/Administrations, **2** International Organizations and **1** telecommunication service provider. The SWIM TF/7 meeting report, working papers, information papers, and other resources can be accessed by <https://www.icao.int/APAC/Meetings/Pages/2023-SWIM-Seminar-and-SWIM-TF7.aspx>.

1.6 The Eighth Meeting of the System Wide Information Management Task Force (SWIM TF/8) was held from *8 to 10 November 2023* in ICAO Asia and Pacific Regional Office, Bangkok, Thailand. The Meeting was attended by **79** participants from **15** States/Administrations, **3** International Organizations and **1** telecommunication service provider. The SWIM TF/8 meeting report, working papers, information papers, and other resources can be accessed by <https://www.icao.int/APAC/Meetings/Pages/2023-workingSessionandSWIMTF8.aspx>.

1.7 The Third Meeting of the Surveillance Study Group (SURSG/3) was held in Hong Kong, China, with the hybrid option (In-Person and Virtual Participation) from *22 to 24 March 2023*. The Meeting was attended by **102** participants (25 In-Person and 77 Virtual) from **14** States/Administrations, **2** International Organizations, and **3** industry partners. The Meeting Report, Working Papers, Information Papers, and other resources can be accessed by following the link: <https://www.icao.int/APAC/Meetings/Pages/2023-SURSG-3.aspx>

1.8 The APANPIRG/34 Meeting reviewed the outcomes of CNS SG/27, noted with appreciation the following work done and achievements by the CNS SG and the contributory bodies reporting to APANPIRG through the CNS SG. APANPIRG/34 also discussed CNS related matters and acted on the Report of the CNS SG/27 meeting and other papers presented under Agenda Item 3.4.

1.9 This paper summarized relevant information and updates with the highlight on the reviewed outcomes of CRV OG/11, ACSICG/10, SWIM TF/7&8, SURSG/3, and relevant discussions of other meetings of CNS SG/27 and APANPIRG/34.

## **2. DISCUSSION**

The actions taken by APANPIRG/34 & CNS SG/27 meetings on Aeronautical Fixed Service (AFS) related matters are highlighted below:

2.1 The CNS SG/27 meeting adopted following **8** Conclusions and **2** Decisions:

Reference	Subject
<b>Conclusion CNS SG/27/01</b> (ACSICG/10/01)	- Adoption of the Asia/Pacific Regional ATN Documentation Tree
<b>Conclusion CNS SG/27/02</b> (ACSICG/10/04)	- Telecommunication Infrastructure Table

- |   |  |
|---|--|
| <b>Decision CNS SG/27/03</b><br>(ACSICG/10/06)                          | - Revised ToR of Aeronautical Communication Services Implementation Coordination Group (ACSICG)                    |
| <b>Conclusion CNS SG/27/05</b><br>(SRWG/7/1)                            | - Asia Pacific Regional Aeronautical Radio Frequency Management Guidance Material Edition 1.0                      |
| <b>Conclusion CNS SG/27/06</b>  | - Revised GBAS safety assessment guidance document related to anomalous ionospheric conditions                     |
| <b>Conclusion CNS SG 27/07</b>  | - Revised SBAS safety assessment guidance document related to anomalous ionospheric conditions                     |
| <b>Conclusion CNS SG/27/08</b>  | - Extension of the Asia/Pacific GBAS/SBAS Implementation Task Force to complete tasks as per ToRs of GBAS/SBAS ITF |
| <b>Conclusion CNS SG/27/11</b><br>(SURICG/8/2 (Mode S and DAPs WG/6/2)) | - Mode S DAPs IGD Edition 5.0  |
| <b>Decision CNS SG/27/12</b> (SURICG/8/4)                               | - Revised ToR of Surveillance Implementation Coordination Group (SURICG)   |
| <b>Conclusion CNS SG/27/13</b>  | - Regional Guidance Document for Addressing Human Factor Issues of ATSEP   |

2.2 The contents of above Conclusions/Decisions adopted by the CNS SG/27 are provided in **Attachment A** to this paper.

2.3 Based on the outcome of discussions on various agenda items, the CNS SG/27 meeting developed **3** Draft Conclusions for consideration by APANPIRG/34 Meeting, which were further adopted by APANPIRG/34. The Conclusions/Decisions adopted by APANPIRG/34 are as follows:

- | <b>Reference</b>   | <b>Subject</b>  |
|--|---|
| <b>Conclusion APANPIRG/34/9</b><br>(CNS SG/27/04 (SWIM/TF/07/04))                        | - Asia/Pacific Regional FIXM version 4.2 Extension                              |
| <b>Conclusion APANPIRG/34/10</b><br>(CNS SG/27/09)                                       | - Revised Navigation Strategy- APAC   |
| <b>Conclusion APANPIRG/34/11</b><br>(CNS SG/27/10 (SURICG/8/1 (Mode S and DAPs WG/6/1))) | - General Strategy on Assignment of and Migration to SI Code in the APAC Region |

2.4 All APANPIRG/34 Conclusions related to CNS are provided in **Attachment B** to this paper.

**Tenth Meeting of the Aeronautical Communication Services Implementation Coordination Group (ACSICG/10) and Eleventh Meeting of the Common Aeronautical Virtual Private Network Operations Group (CRV OG/11)**

**Agenda Item 2**

23 – 26/01/24

*Eleventh Meeting of the Common aeRonautical Virtual Private Network Operations Group (CRV OG/11)**Key Outcomes of ICAO APAC Idea Generation Workshop: CRV Governance and the Draft ToR of CRV OG Ad-Hoc Governance Group*

2.5 The ACSICG/10 noted the key outcomes of the *ICAO Asia Pacific Idea Generation Workshop: CRV Governance* held at the ICAO APAC Office, Bangkok, Thailand, on **31 January 2023**, and the draft ToR of CRV OG Ad-Hoc Governance Group. The Workshop agreed to create the **CRV OG Ad-hoc Governance Group** for preparing and presenting the **potential CRV OG Governance model** to future CRV OG Meetings. The First Meeting of CRV OG Ad-hoc Governance Group held on 22-23 May 2023 agreed that while defining modified CRV Governance, it is crucial to consider AMHS/SWIM Transition over CRV. The CRV OG Ad-hoc Governance Group Meeting reviewed and adopted the draft ToR of CRV OG Ad-hoc Governance Group.

*Update to CRV Implementation Plan and CRV OG Operations Manual Status*

2.6 The CNS SG/27 Meeting noted the **Decision CRV OG/11/01 - Publish the updated APAC CRV Operations Manual (CRV OG OM v1.2)** and the **Decision CRV OG/11/02 - Update to the CRV Implementation Plan**. The latest version of the documents has been published on [ICAO APAC e-docs](#) under CNS, [ICAO APAC CRV Secure portal](#), and on the [CRV portal](#) hosted by Airways New Zealand.

*Outcomes of CRV OG Experts Ad-hoc Group Meetings*

2.7 The CRV OG/11 meeting noted that a total of seven virtual Ad-hoc Meetings were held between CRV OG/9 organised from 25-27 January 2022 till CRV OG11 and one distinct Meeting was held with the SWIM Task Force task leads on 28 October 2022. The outcomes of the Ad-Hoc Group Expert Group discussions on contract extension, upgrade/downgrade CRV circuits subscribed, different CRV Users and their joining process, and Package D+ formalization were presented.

*ATN Documentation Tree Update*

2.8 The CRV OG/11 meeting deliberated the proposed **APAC ATN Documentation Tree** and various CRV documents suggested to be placed in the Tree. Supplementary consultation requirements with more Member States for further modifications and updates were sensed. The CRV OG/11 Meeting agreed that the CRV OG Ad Hoc Expert Group will work on modifying relevant CRV documents and updating the CRV OG Operations Manual to ensure that any changes within CRV consider modifications required to the document tree.

2.9 The proposed Asia/Pacific Regional ATN Documentation Tree, which was reviewed, updated and endorsed by ACSICG/10, was further updated and adopted by CNS SG/27 through **Conclusion CNS SG/27/01 (ACSICG/10/01) – Adoption of the Asia/Pacific Regional ATN Documentation Tree**. It was agreed that ACSICG will update the tree every year based on latest development of relevant ICAO documents mentioned in the ATN Documentation Tree.

*Risk Assessment Framework for CRV OG*

2.10 New Zealand presented a risk assessment framework for CRV. Over years of CRV operations, various installations and CRV processes issues have been encountered. These issues can be considered as the risk impacting the availability of CRV networks and services. The CRV OG/11 meeting noted that these risks were documented in the Airways New Zealand risk evaluation template, which can be accessed on the portal [APAC CRV - Risk Register.docx](#), which has criteria that suit and

reflect Airways New Zealand. The CRV OG/11 meeting noted it would be prudent to create a Risk Evaluation Framework against the ICAO DOC 9859 Safety Management that would suit the particular environment for CRV.

*Mandate Firewall*

2.11 New Zealand presented information on the potential to mandate the use of a firewall as part of the CRV implementation. Referring to the APAC CRV Operations manual and the System Design Document (SDD), the CRV OG/11 meeting noted the router with an ACL can only provide very limited security and it is recommended that external security advice is sought. Three options for mandating a firewall were presented for consideration. Other proposals were also discussed during the CRV OG/11 meeting.

*Update the APAC CRV Implementation Table*

2.12 The CRV OG/11 meeting reviewed and updated the APAC CRV Implementation Table. The latest updates presented on the planning and implementation status of CRV were as follows:

- **Under Operation**

Australia, Bhutan, China, Fiji, Hong Kong China, India, Indonesia, Japan, Malaysia, New Zealand, Philippines, PNG, Republic of Korea, Singapore, Thailand, and USA.

- **Under Provisioning**

Nepal, Mongolia, Vietnam

- **Hot Prospects in 2023**

Sri Lanka, Pakistan, and New Caledonia

*Upgrade/Downgrade of CRV Circuits Subscribed and Addition of New Sites and Services in the CRV Contract*

2.13 The paper summarized the outcomes of the discussion of the ICAO CRV Steering Group formed in the CRV OG/9 to devise the terms and conditions for the addition of new services, upgrade/downgrade of Packages along with the addition of new sites by the CRV contracted States into their contract. The CRV OG/11 meeting **reviewed, modified and endorsed** the Addendum to Terms And Conditions between PCCW Global and CRV Authority **v3**, High-Level Individual Site Questionnaire **v2.2**, PCCWG System Design Document **v4.6**, and Service Order Form (**v2**), which can be accessed on [ICAO CRV Secure portal](#), and [CRV portal](#) hosted by Airways New Zealand. The CRV OG Operations Manual v1.2 has also been updated to incorporate an agreed Addendum to Terms and Conditions between PCCW Global and CRV Authority.

*Various CRV users and their joining process*

2.14 The Meeting was informed that to close Action Item 9-9 of the CRV OG/9 and Action Item 6-1 of SWIM TF/6, CRV OG/11 adopted the following definition of CRV users in concurrence with MET SG experts.

**CRV USER – State/Administration:** An entity officially designated by the State to provide the air traffic or air navigation services the State is obligated to provide according to the ICAO provisions.

**CRV USER – Industry:** An entity not officially designated by the State but authorised by the State to provide aviation or related services commercially.

**Agenda Item 2**

23 – 26/01/24

2.15 It was approved that State's ANSPs will assign IP addresses to any entities joined CRV, and all entities will sign their contract individually. Additionally, for the difference in the joining process, CRV Users- State/Administration **will follow the same process** as mentioned in CRV OG Operational Manual and CRV Landing Page, while industries will **need sponsorship** by States.

*Extension of CRV Contract*

2.16 The Meeting noted the **Conclusion APANPIRG/33/7 - Extension of CRV Contract for one year**. Member States are urged to initiate a service order with the PCCW Global for CRV implementation as early as possible, on or **before 31 December 2023** and synchronize the implementation of CRV in the APAC region.

*Flexibility in CRV Contract Renewal*

2.17 With some States approaching the five-year anniversary of their contracts with PCCWG, questions were being asked about the ability to sign for different periods. Therefore, it was proposed that the CRV OG Operations Manual is updated to allow contract extensions of two or three years. The CRV OG/11 meeting agreed on the proposed clauses and added them to CRV OG Operations Manual v1.2.

*New Package D+ in CRV*

2.18 The CNS SG/27 Meeting noted a new Package D+, intended to enhance the existing Package D option. The collective modified CRV common Package document agreed for the upgrade/downgrade/addition of new sites and services, and Package D+ is provided on the [ICAO CRV Secure portal](#) and [CRV portal](#) hosted by Airways New Zealand.

*CRV Post-Implementation Issues in Bhutan*

2.19 The paper updated the progress of the issues faced by Bhutan related to CRV post-implementation in 2021 due to the non-readiness of peer States and the actions taken by CRV OG and ACSICG for its resolution. Bhutan and Thailand confirmed that the CRV connectivity among them had been implemented. Therefore, the ad-hoc group formed to resolve this issue was **dissolved**. The relevant action items resulting from past CRV OG and ACSICG Meetings were marked as closed.

*PASNet for the Pacific Islands CRV connectivity*

2.20 The paper presented an overview of the options for using PASNet to connect the Pacific Islands to CRV. Considering the options for network connectivity to some Pacific Islands are limited and, in some cases expensive, the World Bank implemented the **Pacific Aviation Safety Network (PASNet)** in 20xx. The PASNet was built in a similar way to the CRV, focusing on immediate needs. The CRV OG/11 meeting discussed the significance of PASNet project, its potential benefits after implementation and noted the project's progress. New Zealand will share further updates on the project in CRV OG Meetings.

*Progress of CRV Implementation by APAC Member States*

2.21 Fiji, India, Indonesia, Japan, Malaysia, and the Republic of Korea presented the CRV implementation status through different Papers.

*MPLS/IP-Based Inter-Regional Connection*



2.22 The paper provided the current status of discussion being done for potential interconnection of CRV and REDDIG II and CRV and New PENS and requested APAC Member States to record their interest, willingness, or need for interconnection of the CRV with other regional networks such as REDDIG II / New PENS with the ICAO secretariat. It was noted that there is no concert technical proposal ready to work further for CRV and REDDIG II interconnection, while the interconnection proposal for CRV and New PENS is in progress.

*The inter-regional connection between Russian and APAC AMHS Centers*

2.23 Considering the restrictions on the use of Cisco equipment at Moscow and Khabarovsk COM centers, the Russian Federation shared the 3 proposed solutions to be studied for connecting Moscow and Khabarovsk COM centers to CRV to ensure the transition to AMHS technology with COM centers of the APAC region (Japan and China). With due consideration to the time needed to study the available solutions, Russia proposed to implement an interim connection between COM centers via a dedicated L2 VPN link to expedite the transition to AMHS. Japan informed that as it had already implemented CRV, instead of establishing an additional L2 VPN link, Japan would prefer to wait for Russia to join CRV. Russia shared its willingness to discuss with Japan other proposals for interconnection individually.

*Update on Using the Rest of CRV MSA*

2.24 The Meeting noted the latest status of **Conclusion APANPIRG/33/6** - Revised Amendment of the Management Service Agreement for CRV project (RAS14801). It was informed that all pioneer Member States countersigned the Revised amended Project Document and provided consent to utilize the remaining funds for the CRV.

*Using the rest of the money: ToR of Safety Assessment*

2.25 The CNS SG/27 Meeting noted that the CRV OG/11 and ACSICG/10 Meetings adopted Option 2 - *Penetration test of the PCCWG implementation only* and Option 5 - *Engage a Security consultant to review the Common Package, RFP documentation including the response, Implementation Plan and the Operations Manual and provide a Security recommendation based on this review* by the **Conclusion ACSICG/10/02** (CRV OG/11/03) – Selection of Security Review Options 2 and 5 and Develop a ToR, for utilization of remaining money from CRV Project. The Meeting also noted the **Conclusion ACSICG/10/03** – Adoption of ToR for CRV Security Review using Options 2 and/or 5.

*(New) PENS and the EATM CERT Cybersecurity Considerations*

2.26 EUROCONTROL generically introduced the security management practices from the PENS Community perspective and the activities of the European Air Traffic Management Computer Emergency Response Team (EATM CERT) with a focus on penetration testing (ethical testing).

*(New) PENS IPv6 Addressing Considerations*

2.27 EUROCONTROL shared that PENS is IPv6 enabled (dual IPv4/IPv6 stack available) and each individual PENS User is assigned upon request 4x /48 IPv6 public ranges by EUROCONTROL.

*AFTN/ATSMHS Routing Directory in APAC*

**Agenda Item 2**

23 – 26/01/24

2.28 The paper presented a brief history of the ICAO APAC AFTN Routing Directory which was based on the existing AFTN circuits in the Asia and Pacific regions. The ACSICG/10 Meeting was reminded again that the Region would follow the AFTN/ATSMHS routing directory during transition period, for inter-regional traffic, it is required to follow the existing entry/exit points and procedure. The AFTN/ATSMHS CONNECTIONS\_ASIA/PAC Routing Directory reviewed and updated by ACSICG/10.

*Proposal for Transition from AFTN to AMHS between Indonesia (Jakarta) and Australia (Brisbane)*

2.29 Indonesia presented the proposal for the transition from AFTN to AMHS between Indonesia (Jakarta) and Australia (Brisbane). Several issues of message distribution between Jakarta and Brisbane due to mix used of AMHS and AFTN systems were introduced, while as a solution, a transition from AFTN to AMHS between Jakarta and Brisbane via CRV was proposed. The ACSICG/10 Meeting noted in March 2023, there were discussions between Indonesia and Australia regarding to the transition process of the AMHS. It was acknowledged to propose the connection between AMHS to AMHS and the interoperability Test is planned for June 2023. The ACSICG/10 Meeting also advised Indonesia to update the AMHS implementation with AMC in time.

*AMHS/ATN Implementation Status of Thailand*

2.30 The paper presented information about the AMHS/ATN implementation status of Thailand as well as the summary of link configuration after the successful implementation of the CRV network in May 2022. Thailand shared the work plan to consider solutions for Business Continuity Plan (BCP) for CRV connections, use ATS Direct Speech Circuit over CRV with Malaysia, and experiment on using CRV to relay ATFM messages with relevant stakeholders. The Meeting noted that the AMHS link between Thailand and Bhutan has been migrated from the Internet to CRV. Thailand and Bhutan informed that CRV provided a better performance to both parties.

*Telecommunication Infrastructure Plan for APAC*

2.31 It was noted that AMHS had been centric on telecommunication infrastructure before CRV was implemented. CRV now allows direct connection over Internet Protocol (IP) networks without the need for an AMHS routing plan. As such, the current tracking table developed for AMHS should be modified to reflect CRV infrastructure. For better management and coordination, a draft version of the Telecommunication Infrastructure table, which compiles all tables developed by CRV OG and includes a section for AMHS coordination with AMC, was proposed for review and recommendation.

2.32 The CNS SG/27 Meeting was informed that CRV OG/11 and ACSICG/10 modified and posted the [Telecommunication infrastructure table](#) on the CRV OG website hosted by New Zealand for members to update. The **Conclusion CNS SG/27/02 (ACSICG/10/04) - Telecommunication Infrastructure Table** formulated by ACSICG/10 was adopted by CNS SG/27. The Meeting agreed to stop updating Table CNS II-1 and II-2 in APAC e-ANP Volume II in the APAC region. All Member States were requested to update the [Telecommunication infrastructure table](#) on priority.

*Outcomes of MET/IE WG/21*

2.33 The Twenty-first Meeting of the ICAO APAC Meteorological Information Exchange Working Group (MET/IE WG/21) noted that the capability for inter-regional exchange presented a significant obstacle in progressing the global availability of IWXXM. The lack of global availability of OPMET in IWXXM form is inhibiting system suppliers and users from switching to IWXXM and,



therefore, delaying the realization of benefits from implementing IWXXM. MET/IE WG/21 also identified the need for the establishment of inter-regional IWXXM exchange with the MID and AFI regions, alternate (secondary) paths to each region, adequate capacity and bandwidth to support IWXXM exchange, and interconnecting of the CRV with future equivalents in the MID and AFI regions for the global IWXXM exchange to succeed. The ACSICG/10 Meeting supported the MET/IE WG/21 proposal for action on the global dissemination of meteorological information in IWXXM form, and formulated modified the Draft Conclusion CNS SG/27/03 (ACSICG/10/05)- *Global Dissemination of IWXXM*, which is a modification of the proposal by MET/IE WG/21, for further endorsement by CNS SG/27.

2.34 The CNS SG/27 shared its support for the global dissemination of meteorological information in IWXXM format by prioritizing the implementation of intra- and inter-regional aeronautical communication services and network circuits, including support for the implementation of AMHS with File Transfer Body Part (FTBP) and Interpersonal Message Heading Extension (IHE), and facilitating, through inter-regional consultation, the enhancement of inter-regional network redundancy (i.e., primary circuits and backup paths). Yet, the CNS SG/27 observed that a similar titled draft conclusion, with slightly different contents, will also be considered by MET SG/27 for endorsement and further adoption by APANPIRG/34. As the IWXXM dissemination related Conclusion is more relevant to MET SG and to avoid confusion caused by submitting two draft conclusions, with the same title but different contents, to APANPIRG, the Meeting agreed that the proposed draft Conclusion CNS SG/27/03 (ACSICG/10/05) - *Global Dissemination of IWXXM* should be withdrawn, and the ICAO Secretariat would forward the CNS SG's support to MET SG/27 for further follow-up. The Member States were requested to enhance network capabilities to support these requirements.

#### *AFTN/AMHS Connection between APAC Region and Other Regions*

2.35 The paper summarized the status of the AFTN/AMHS connection between the APAC region and other regions (Europe, Mideast, Africa, North America, and South America) with reference to the information contained in ASIA/PAC ROUTING DIRECTORY and the COM Charts by EUROCONTROL AMC. It was also noted there is no direct connection between South America and Asia/Pacific, the aeronautical messages are routed via USA.

2.36 The ACSICG/10 Meeting reminded that global SWIM implementation should be the real push for the interconnection of regional IP networks in the future. But for now, AMHS connections between regions are the feasible solution to support global dissemination of meteorological information in IWXXM form, which implies additional costs for concerned States if they need to enhance the inter-regional AMHS connections to support XML format messages.

#### *Protecting the Integrity and Efficiency of CRV Time-Sensitive Exchanges*

2.37 USA presented considerations for CRV information exchanges as CRV usage increases and evolved to support SWIM. The ACSICG/10 Meeting reviewed the challenges faced by CRV regarding defined exchanges, edge protection, network user governance, network contingencies, migration to swim information exchanges, information transport priorities, and SWIM information security, and summarized the proposed suggestions for the introduction of SWIM traffic for consideration.

#### *CRV-Evolution of Services*

2.38 USA presented CRV-Evolution of Services. USA explained that different types of traffic are marked with Differentiated Services Code Points (DSCPs), which help PCCW apply different priorities and transport processing in the network. Considering a network Access Point may support

**Agenda Item 2**

23 – 26/01/24

multiple tunnels to different partners, PCCW will engineer the network so that the minimum required bandwidth is available for each defined path. It was also suggested that as paths and traffic grows, ANSPs may have to increase access bandwidth. It's recommended that CRV OG coordinate with CRV vendor, PCCW Global, and SWIM Task Force to set the priority of the traffic types: voice service, time-sensitive message, advisory message, etc.

*Review Terms of Reference of ACSICG*

2.39 Through a joint effort by Thailand and the Secretariat, a draft of ToR was proposed for ACSICG consideration. The Meeting reviewed and updated the proposed ToR against the new direction given by APANPIRG in the fields of Aeronautical Communication Services. The CNS SG/27 Meeting reviewed the updated ACSICG ToR prepared by ACSICG/10 and adopted as **Decision CNS SG/27/03 (ACSICG/10/06) - Revised ToR of Aeronautical Communication Services Implementation Coordination Group (ACSICG)**. The the Revised Terms of Reference of ACSICG is provided in **Appendix A** to this paper.

*Election of Co-Chair*

2.40 Nominated by the USA and seconded by Thailand and Philippines, Mr. Kelepi Dainaki, General Manager Assets & Infrastructure, Fiji Airport Limited, Co-Chair (Pacific) of CRV OG, was elected as Co-Chair of ACSICG.

*AMHS Upgrade in Jordan*

2.41 The paper presented the AMHS implementation status in Jordan and the plan for full migration. The ACSICG/10 Meeting noted Amman COM Center implemented AMHS in 2009 to ensure seamless and interoperable Aeronautical Ground/Ground communication. Furthermore, Jordan expressed their willingness to join the Regional IP Network projects (CRV or New PENS) pending the technical and financial details that make a positive business case.

*Note of Appreciation*

2.42 The ACSICG/10 Meeting extended sincere gratitude to Mr. Hoang Tran for his dedication and contributions towards the planning and implementation of Aeronautical Communications Infrastructure and Services in APAC Region as the Chairman of Aeronautical Telecommunication Network (ATN) Implementation Coordination Group of APANPIRG (ATNICG) from May 2006 to March 2013 and as the Chairman of Aeronautical Communication Services Implementation Coordination Group of APANPIRG (ACSICG) from May 2014 to June 2023.

*Seventh Meeting of System Wide Information Management Task Force (SWIM TF/7)**Overview of APAC SWIM-TI Profiles*

2.43 Japan presented overviews of the content list of the draft APAC SWIM Technical Infrastructure Profiles document. The SWIM TF/7 Meeting requested Member States and Task 3, 5, and 6 leads to review the *APAC SWIM Technical Infrastructure Profiles- Draft Version* and provide comments/feedback to the Task 2 lead by **31 August 2023**. The Task 2 lead will compile and review all comments and feedback and submit the revised draft document to the **SWIM TF/8** Meeting to be held from 8-10 November 2023. ICAO Secretariat will share the *APAC SWIM Technical Infrastructure Profiles- Draft Version* with CRV OG and ACSICG for their feedback and provide feedback to the Task 2 Lead.

*Outcomes of SWIM TF Task Leads (TLs) Meetings and Joint CRV OG Ad-hoc Expert Group and SWIM TF TLs Meetings after SWIM TF/6*

2.44 The paper presented outcomes of SWIM TF TLs Meetings and Joint CRV OG Ad hoc Expert Group and SWIM TF TLs Meetings after SWIM TF/6.

**Third Meeting of the Surveillance Study Group (SURSG/3)**

*A Joint Event for Surveillance Data Sharing in SWIM Trial and SWIM over CRV Demonstration*

2.45 Hong Kong China proposed combining the surveillance data sharing in the SWIM Trial under S3TIG (“the Trial”) and the SWIM Demonstration over CRV under SWIM TF as a joint event for States’ consideration. The SURSG/3 meeting endorsed that *the Trial* and *SWIM over CRV Demonstration* should be conducted as a Joint Event, which was also agreed by SWIM TF/7 held from 9 to 12 May 2023 to conduct both events as a Joint Event.

*Survey for Expression of Interest (EOI) in participating in Demo/Trial of S3TIG*

2.46 The SURSG/3 meeting deliberated the proposed questions for Expression of Interest (EOI) in participating in the Joint Event of S3TIG and reviewed the S3TIG Joint Event Tentative Timelines. The SURSG/3 meeting agreed that the S3TIG will amend the questionnaire and prepare supporting documents containing useful information such as definitions of various terms used in the questionnaire to clear potential doubts of Member States/Administrations responding to the survey and any other necessary modifications.

2.47 Reviewed, modified, and agreed by SWIM TF/7, the survey questionnaire has been circulated through ICAO APAC State Letter Ref.: T 8/13.1: AP071/23 (CNS) with Subject – *Survey on a Joint Event of SWIM over CRV Demonstration ("the Demo") and Surveillance Data Sharing in SWIM Trial ("the Trial")* on 16 May 2023. As on today, **14 Member States**, namely Australia, China, Hong Kong China, India, Indonesia, Japan, Lao PDR, Macau, Malaysia, New Zealand, Pakistan, Philippines, Republic of Korea, and Singapore, have submitted the response. The responses are being analyzed by S3TIG and further action is being taken to conduct trial/demo by Q4 2023 or Q1 2024.

**Current status of CRV Implementation in India (WP/34)**

2.48 India provided its latest progress of AMHS/CRV implementation and suggested extending the existing CRV network to the MID Region to facilitate smooth connectivity and exchange of Aeronautical/meteorological and other traffic from the APAC region. The CNS SG/27 Meeting supported the suggestion for MID States to join CRV and the potential benefits to both regions. The ICAO Secretariat will coordinate with the MID office and PCCWG to take follow-up actions.

**Challenges and Requirements for IPS Environment (WP/29)**

2.49 The paper from USA addressed challenges and requirements for supporting future services, including SWIM, in an Internet Protocol Suite (IPS) environment. The requirements were suggested from ICAO, network, and user perspectives. Regarding ICAO requirements mentioned in the paper, ICAO HQ has informed about the creation of a new inter-panel task force to address the IPv6 addressing and other related mutual concerns. This may include the global guidelines for IPv6 dedicated address block for fixed service and A/G mobile service. ICAO Secretariat will further coordinate with appropriate ICAO HQ panels to update on the latest developments.

**Agenda Item 2**

23 – 26/01/24

2.50 Furthermore, the Meeting noted that CRV OG is already deliberating on the way forward to efficiently utilize available CRV bandwidth to disseminate obligatory critical aeronautical messages. Further guidelines related to this aspect may be prepared by CRV OG for ACSICG consideration and adoption by CNS SG. The ICAO Secretariat will share the pertinent information mentioned in the paper with CRV OG for further action.

**Distribution of XML Based Messages in AMHS and SWIM Environment (IP/14)**

2.51 The FAA informed about its plan to support the distribution of Extensible Markup Language (XML) based information using AMHS messaging as an interim step towards transition to a SWIM environment. This effort should support the exchange of XML-based messages such as FIXM and IWXXM. Other plans related to IWXXM-formatted data and a smooth transition to direct SWIM-SWIM exchanges were shared with the Meeting.

**Eighth Meeting of System Wide Information Management Task Force (SWIM TF/8)****Updates of APAC SWIM Technical Infrastructure Profiles**

2.52 Japan, Task 2 Lead, presented the updated draft of the APAC SWIM Technical Infrastructure Profiles document incorporating comments received from SWIM TF task leads and members after the SWIM TF/7. The modifications done on the previous draft version presented at the SWIM TF/7 were highlighted and the future plans were also shared. During the meeting, feedback was provided on the draft APAC SWIM TI Profiles document, and several action items were adopted to refine the draft further in response to the comments.

2.53 In response to the clarifications about the term *limited capabilities of CRV*, Task 2 lead notified that the current available CRV subscription packages come with limited bandwidth and that there is a user type restriction to join CRV. ICAO Secretariat informed that CRV OG has already modified the definition of CRV users to include also others who are not ANSPs and that the non-ANSP users can join CRV following the procedure described in the CRV OG Operations Manual. PCCWG, the current CRV provider, shared that CRV has no bandwidth limitation. CRV users subscribing to any available packages can request more bandwidth at an additional cost based on their needs. The Meeting agreed to submit the request, through the ICAO Secretariat, to CRV OG to consider deliberating the enhancement of CRV bandwidth and the cost optimization associated with supporting operational SWIM implementation over CRV.

**Progress Update by S3TIG for the Joint Event of SWIM Demonstration over CRV and Surveillance Sharing in SWIM Trial**

2.54 The paper presented the progress update of the joint event of SWIM Demonstration over CRV and Surveillance Data Sharing in the SWIM Trial (the Joint Event). The Meeting noted that the survey questionnaire prepared by SURSG/3 was shared with States by the ICAO APAC Office on 12 June 2023. A total of 16 questionnaire responses were received from 8 States to participate as surveillance data contributors and/or consumers, while 7 States were observers. The summary of the progress made between June-October 2023 to prepare for the Joint Event was also presented. The Meeting was requested to provide input on future/potential SWIM services/applications for the Joint Event. Additionally, Sri Lanka and Vietnam expressed interest in joining the Joint Event as observers.

**3. ACTION BY THE MEETING**

3.1 The meeting is invited to:

- a) note the outcome of the APANPIRG/34, CNS SG/27, and its contributory bodies, and take any necessary follow-up actions; and
- b) discuss any relevant matters as appropriate.

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List of Conclusion/Decisions adopted by CNS SG/27

Conclusion CNS SG/27/01 (ACSICG/10/01) – Adoption of the Asia/Pacific Regional ATN Documentation Tree		
What: <b>a.</b> the ATN Technical Document be published in a loose-leaf form to include future amendments to the Document Tree; and <b>b.</b> The ATN Documentation Tree provided in <b>Appendix A</b> of the Report is adopted.		Expected impact: <input type="checkbox"/> Political / Global <input type="checkbox"/> Inter-regional <input type="checkbox"/> Economic <input type="checkbox"/> Environmental <input checked="" type="checkbox"/> Ops/Technical
Why: The current ATN/AMHS Documentation Tree published on the ICAO APAC Website has not been updated for a few years. Therefore, it required updates. Additionally, some documents related to CRV are needed to be added, and others are required to be deleted from the Tree due to obsolete documentation.	Follow-up: <input checked="" type="checkbox"/> Required from States	
When: 01-Sep-23	Status: Adopted by Subgroup	
Who: <input checked="" type="checkbox"/> Sub groups <input checked="" type="checkbox"/> APAC States <input type="checkbox"/> ICAO APAC RO <input type="checkbox"/> ICAO HQ <input checked="" type="checkbox"/> Other: CRV OG		

Conclusion CNS SG/27/02 (ACSICG/10/04) - Telecommunication Infrastructure Table		
What: TRACKING TABLE To have a single tracking table with online update capability to support implementing future services managing bandwidth. This table will supersede telecommunication tables maintained by CRV OG and ACSICG.		Expected impact: <input type="checkbox"/> Political / Global <input type="checkbox"/> Inter-regional <input type="checkbox"/> Economic <input type="checkbox"/> Environmental <input checked="" type="checkbox"/> Ops/Technical
Why: Managing Telecommunication Infrastructure	Follow-up: <input checked="" type="checkbox"/> Required from States	
When: 01-Sep-23	Status: Adopted by Sub-group	
Who: <input checked="" type="checkbox"/> Sub groups <input type="checkbox"/> APAC States <input type="checkbox"/> ICAO APAC RO <input type="checkbox"/> ICAO HQ <input checked="" type="checkbox"/> Other: ACSICG		

<b>Decision CNS SG/27/03 (ACSICG/10/06): Revised ToR of Aeronautical Communication Services Implementation Coordination Group (ACSICG)</b>	
<b>That,</b> The Revised Terms of Reference of the Aeronautical Communication Services Implementation Coordination Group (ACSICG) provided in <b>Appendix B</b> to the Report is adopted.	<b>Expected impact:</b> <input type="checkbox"/> Political /Global <input type="checkbox"/> Inter-regional <input type="checkbox"/> Economic <input type="checkbox"/> Environmental <input checked="" type="checkbox"/> Ops/Technical



CRV OG/12  
Attachment A to WP/02

List of Conclusion/Decisions adopted by CNS SG/27

Why: The proposed ToR of the ACSICG includes the new direction given by APANPIRG in the fields of Aeronautical Communication Services.	Follow-up: <input type="checkbox"/> Required from States
When: 01-Sep-2023	Status: Adopted by Sub-Group
Who: <input checked="" type="checkbox"/> Sub groups <input type="checkbox"/> APAC States <input type="checkbox"/> ICAO APAC RO <input type="checkbox"/> ICAO HQ <input type="checkbox"/> APANPIRG <input checked="" type="checkbox"/> Other: ACSICG	

<b>Conclusion CNS SG/27/05 (SRWG/7/1) - Asia Pacific Regional Aeronautical Radio Frequency Management Guidance Material Edition 1.0</b>	
What: Asia Pacific Regional Aeronautical Radio Frequency Management Guidance Material provided in <b>Appendix D</b> to the Report is adopted.	Expected impact: <input type="checkbox"/> Political / Global <input type="checkbox"/> Inter-regional <input type="checkbox"/> Economic <input type="checkbox"/> Environmental <input checked="" type="checkbox"/> Ops/Technical
Why: Per discussion from SRWG/7 for the region to utilize the Guidance Material	Follow-up: <input type="checkbox"/> Required from States
When: 01-Sep-2023	Status: Adopted by Subgroup
Who: <input checked="" type="checkbox"/> Sub groups <input type="checkbox"/> APAC States <input type="checkbox"/> ICAO APAC RO <input type="checkbox"/> ICAO HQ <input checked="" type="checkbox"/> Other: SRWG	

<b>Conclusion CNS SG/27/06 – Revised GBAS safety assessment guidance document related to anomalous ionospheric conditions</b>	
What: That, the revised GBAS safety assessment guidance document related to anomalous ionospheric conditions (Edition 2.0) provided in <b>Appendix E</b> to the report is adopted.	Expected impact: <input type="checkbox"/> Political / Global <input type="checkbox"/> Inter-regional <input type="checkbox"/> Economic <input type="checkbox"/> Environmental <input checked="" type="checkbox"/> Ops/Technical
Why: Major updates to reflect the development of GAST D SARPs and the progress of GBAS development and implementation in the region.	Follow-up: <input type="checkbox"/> Required from States
When: 1-Sep-23	Status: Adopted by Subgroup
Who: <input checked="" type="checkbox"/> CNS Sub group <input type="checkbox"/> APAC States <input checked="" type="checkbox"/> ICAO APAC RO <input type="checkbox"/> ICAO HQ <input type="checkbox"/> Other:	

<b>Conclusion CNS SG 27/07 – Revised SBAS safety assessment guidance document related to anomalous ionospheric conditions</b>	
What: That, the revised SBAS safety assessment guidance document related to anomalous ionospheric conditions (Edition 2.0) provided in <b>Appendix F</b> to the report is adopted.	Expected impact: <input type="checkbox"/> Political / Global <input type="checkbox"/> Inter-regional

List of Conclusion/Decisions adopted by CNS SG/27

		<input type="checkbox"/> Economic <input type="checkbox"/> Environmental <input checked="" type="checkbox"/> Ops/Technical
Why: Major updates to enrich the contents and reflect the progress of SBAS development and implementation in the Region and DFMC SBAS SARPs development.	Follow-up:	<input type="checkbox"/> Required from States
When: 1-Sep-23	Status:	Adopted by Subgroup
Who: <input checked="" type="checkbox"/> CNS Sub group <input type="checkbox"/> APAC States <input checked="" type="checkbox"/> ICAO APAC RO <input type="checkbox"/> ICAO HQ <input type="checkbox"/> Other:		

<b>Conclusion CNS SG/27/08</b> - Extension of the Asia/Pacific GBAS/SBAS Implementation Task Force to complete tasks as per ToRs of GBAS/SBAS ITF		
What: To extend the period of Asia/Pacific GBAS/SBAS Implementation Task Force for another 3 years (i.e., up to 2026) for completing the following remaining tasks with high priority in the Action List and considered essential for fulfilling the objectives stated in the Terms of Reference (ToRs) of the APAC GBAS/SBAS ITF: <ul style="list-style-type: none"> <li>- GBAS and SBAS implementation guidance documents;</li> <li>- Workshop/Meeting for APAC airspace users and regulators; and</li> <li>- Discussion and deliberation on technical issues in relation to GBAS/SBAS Safety Assessment and Performance Demonstration.</li> </ul>	Expected impact:	<input type="checkbox"/> Political / Global <input type="checkbox"/> Inter-regional <input type="checkbox"/> Economic <input type="checkbox"/> Environmental <input checked="" type="checkbox"/> Ops/Technical
Why: To complete tasks, such as guidance reference for GBAS/SBAS Implementation, under the TORs of Asia/Pacific GBAS/SBAS Implementation Task Force	Follow-up:	<input checked="" type="checkbox"/> Required from States
When: 1-Sep-23	Status:	Adopted by CNS SG
Who: <input checked="" type="checkbox"/> CNS Sub group <input checked="" type="checkbox"/> APAC States <input checked="" type="checkbox"/> ICAO APAC RO <input type="checkbox"/> ICAO HQ <input type="checkbox"/> Other:		

<b>Conclusion CNS SG/27/11</b> ( <i>SURICG/8/2 (Mode S and DAPs WG/6/2)</i> ): <b>Mode S DAPs IGD Edition 5.0</b>		
What: The Mode S DAPs Implementation and Operation Guidance Document Edition 5.0 provided in <b>Appendix I</b> of the Report is adopted	Expected impact:	<input type="checkbox"/> Political / Global <input type="checkbox"/> Inter-regional <input type="checkbox"/> Economic <input type="checkbox"/> Environmental <input checked="" type="checkbox"/> Ops/Technical
Why: Inclusion of new/supplementary content discussed in Mode S and DAPs WG/6.	Follow-up:	<input type="checkbox"/> Required from States
When: 1-Sep-23	Status:	Adopted by Subgroup

List of Conclusion/Decisions adopted by CNS SG/27

Who: <input checked="" type="checkbox"/> Sub groups <input checked="" type="checkbox"/> APAC States <input checked="" type="checkbox"/> ICAO APAC RO <input type="checkbox"/> ICAO HQ <input type="checkbox"/> Other: -
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Decision CNS SG/27/12 (SURICG/8/4): Revised ToR of Surveillance Implementation Coordination Group (SURICG)		
What: That, the Revised Terms of Reference of the Surveillance Implementation Coordination Group (SURICG) provided in <b>Appendix J</b> to this paper be adopted.		Expected impact: <input type="checkbox"/> Political /Global <input type="checkbox"/> Inter-regional <input type="checkbox"/> Economic <input type="checkbox"/> Environmental <input checked="" type="checkbox"/> Ops/Technical
Why: The ToR from dissolved Mode S and DAPs WG was reviewed and necessary updates were identified.	Follow-up: <input type="checkbox"/> Required from States	
When: 1-Sep-2023	Status: Adopted by Subgroup	
Who: <input checked="" type="checkbox"/> Sub groups <input type="checkbox"/> APAC States <input type="checkbox"/> ICAO APAC RO <input type="checkbox"/> ICAO HQ <input type="checkbox"/> APANPIRG <input checked="" type="checkbox"/> Other: SURICG		

Conclusion CNS SG/27/13 - Regional Guidance Document for Addressing Human Factor Issues of ATSEP	
What: a) ICAO APAC Guidance Document for Addressing Human Factor Issues of ATSEP provided in <b>Appendix M</b> is adopted.	Expected impact: <input type="checkbox"/> Political / Global <input type="checkbox"/> Inter-regional <input type="checkbox"/> Economic <input type="checkbox"/> Environmental <input checked="" type="checkbox"/> Ops/Technical
Why: The Guidance document is prepared for the improvisation of existing human resource management process towards ATSEP for addressing the factors adding stress and fatigue, improve their job performance and for achieving organizational resilience and cost benefits.	Follow-up: <input type="checkbox"/> Required from States
When: 1-Sep-23	Status: Adopted by Subgroup
Who: <input checked="" type="checkbox"/> Sub groups <input type="checkbox"/> APAC States <input type="checkbox"/> ICAO APAC RO <input type="checkbox"/> ICAO HQ <input type="checkbox"/> Other: XXXX	

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A List of Conclusions adopted by APANPIRG/34 Meeting related to CNS

Conclusion APANPIRG/34/9 (CNS SG/27/04 (SWIM/TF/07/04)) – Asia/Pacific Regional FIXM version 4.2 Extension		
What: The FIXM version 4.2 Extension provided in <b>Appendix A to Agenda Item 3.4</b> be: a) adopted as the Asia/Pacific FIXM version 4.2 Extension; b) uploaded to the ICAO Asia/Pacific Regional Office website for immediate use by Asia/Pacific Administrations, where the capability to do so exists, for cross-border ATFM information exchange and to support ATFM/A-CDM integration; and c) presented to the FIXM CCB for review and publication on the FIXM official website.		Expected impact: <input type="checkbox"/> Political / Global <input checked="" type="checkbox"/> Inter-regional <input type="checkbox"/> Economic <input type="checkbox"/> Environmental <input checked="" type="checkbox"/> Ops/Technical
Why: To provide the information exchange model necessary to support cross-border ATFM and ATFM/A-CDM integration in the Asia/Pacific Region, in order to support the implementation of performance objectives of the Asia/Pacific Regional Framework for Collaborative ATFM	Follow-up: <input type="checkbox"/> Required from States	
When: 13-Dec-23	Status: Adopted by PIRG	
Who: <input checked="" type="checkbox"/> Sub groups <input checked="" type="checkbox"/> APAC States <input checked="" type="checkbox"/> ICAO APAC RO <input type="checkbox"/> ICAO HQ <input checked="" type="checkbox"/> Other: SWIM TF, ATFM SG		

Conclusion APANPIRG/34/10 (CNS SG/27/09) - Revised Navigation Strategy - APAC		
What: Draft Revised Navigation Strategy-APAC in view of the latest development in GNSS navigation provided in <b>Appendix B to Agenda Item 3.4</b> be adopted.		Expected impact: <input checked="" type="checkbox"/> Political / Global <input type="checkbox"/> Inter-regional <input type="checkbox"/> Economic <input type="checkbox"/> Environmental <input checked="" type="checkbox"/> Ops/Technical
Why: To update the revised Navigation Strategy-APAC	Follow-up: <input type="checkbox"/> Required from States	
When: 13-Dec-23	Status: Adopted by PIRG	
Who: <input checked="" type="checkbox"/> Sub groups <input type="checkbox"/> APAC States <input type="checkbox"/> ICAO APAC RO <input type="checkbox"/> ICAO HQ <input type="checkbox"/> Other: -		

<p><b>Conclusion APANPIRG/34/11 (CNS SG/27/10 (SURICG/8/1 (Mode S and DAPs WG/6/1))): General Strategy on Assignment of and Migration to SI Code in the APAC Region</b></p>
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CRV OG/12  
Attachment B to WP/02

A List of Conclusions adopted by APANPIRG/34 Meeting related to CNS

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What: The General Strategy on Assignment of and Migration to SI Code in the APAC Region provided in <b>Appendix C to Agenda Item 3.4</b> be adopted.		Expected impact: <input type="checkbox"/> Political / Global <input checked="" type="checkbox"/> Inter-regional <input type="checkbox"/> Economic <input type="checkbox"/> Environmental <input checked="" type="checkbox"/> Ops/Technical
Why: To synchronize the APAC region on the general principles applied for assignment of and migration to SI codes.	Follow-up: <input type="checkbox"/> Required from States	
When: 13-Dec-23	Status: Adopted by PIRG	
Who: <input checked="" type="checkbox"/> Sub groups <input checked="" type="checkbox"/> APAC States <input checked="" type="checkbox"/> ICAO APAC RO <input type="checkbox"/> ICAO HQ <input type="checkbox"/> Other: -		

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### NOTES ON THE PRESENTATION OF THE PROPOSED AMENDMENT

1. The text of the amendment is arranged to show deleted text with a line through it and new text highlighted with grey shading, as shown below:

a) <del>Text to be deleted is shown with a line through it.</del>	text to be deleted in
b) New text to be inserted is highlighted with grey shading.	new text to be inserted in
c) <del>Text to be deleted is shown with a line through it</del> followed by the replacement text which is highlighted with grey shading.	new text to replace existing text

### REVISED TERMS OF REFERENCE FOR AERONAUTICAL COMMUNICATION SERVICES IMPLEMENTATION CO-ORDINATION GROUP (ACSICG)

The Objectives of the APAC ACSICG are to:

- 1) Complete implementation of Asia and Pacific **Regions** (APAC) Aeronautical Telecommunication Network (ATN) and voice/data service to support the evolving ICAO operational requirements for the dynamic exchange and management of aeronautical information.
- 2) Ensure continuous and coherent development of the aeronautical communication services and infrastructure of the Asia/Pacific Regional Air Navigation Plan (APAC ANP) in a manner that is harmonized with adjacent regions, consistent with ICAO SARPs, the Global Air Navigation Plan and the Global Aviation Safety Plan.
- 3) Facilitate the implementation, enhancements, operation and maintenance of aeronautical communication services and infrastructure identified in the Aviation System Block Upgrades (ASBU) elements and Asia/Pacific Seamless Air Navigation Service (ANS) Plan (APSAP) elements using the project management principles where appropriate.
- 4) Review, identify and address major issues in technical, operational, safety and regulatory aspects to facilitate the implementation or provision of safe, secure, efficient and orderly aeronautical communication services to enhance systems robustness, resilience, interoperability and cybersecurity.
- 5) Encourage collaboration among ANSPs and keep abreast of the latest developments in aeronautical communication services and infrastructure to cope with forthcoming development and implementation so as to reduce operating costs and enable quick implementation of new requirements to cope with new challenges.

#### **Deliverables to meet the Objectives:**

- 1) To submit progress report to the ICAO APAC CNS Sub-group while keeping ATM Sub-group, MET Sub-group informed of addressing the APAC ACSICG deliverables (listed in 2 to 7 below);



2) To support the ICAO in making specific recommendations and developing guidance materials, such as general/specific regional requirements, which aim at facilitating the implementation or provision of safe, secure and performance based aeronautical communication services by the use of existing and/or new procedures, facilities and technologies;

3) To review outcome of the AN-Conf., DGCA Conference, APANPIRG and its contributory bodies, ~~CNS Sub-group, ATM Sub-group, MET Sub-group, RASMAG, FIT Asia, SWIM TF and ATMAS TF~~ related to aeronautical communication services and infrastructure, revise and update a tasks list and action items for the ACSICG;

4) To facilitate and coordinate the implementations of aeronautical communication services and infrastructures within the Asia/Pacific Regions to support existing and evolving aeronautical applications, including

- inter-facility communications,
- datalink implementations,
- air/ground communications
- ground/ground communications
- etc.

5) To Monitor the progress of aeronautical communication service and infrastructure implementation and provide regular updates ~~to stakeholders~~.

6) To provide guidance on the implementation of aeronautical communication services in accordance with relevant standards and regulations, facilitate sharing of information and recommend the best industry practice to Asia/Pacific States and aviation stakeholders on the progress of the development, standardization, and implementation of ICAO provisions relating to aeronautical communication services and infrastructures.

7) To encourage research and development, trials and demonstrations of applications and technologies, and, as necessary, steer for the sharing of this information and expertise between States/Administrations through organizing educational seminars and symposia to educate States/Administrations and airspace users;

8) To formulate draft Conclusions and Decisions relating to matters in the field of aeronautical communication services that come within the scope of the APANPIRG work plan;

9) To develop Asia/Pacific regional input and suggestions relating to the implementations and global standardization of aeronautical communication services and infrastructures to be submitted through the CNS Sub-group for APANPIRG consideration and endorsements, in support of ICAO technical panels' developments and implementations of ICAO SARPs; and

10) To collaborate with relevant international organizations (such as EUROCONTROL) for harmonisation of aeronautical communication services and infrastructures requirements.

#### **Timeframe for Deliverables:**

For deliverable items, the guidance materials and progress reports would be developed, updated/enhanced on an on-going basis and be made available as appropriate subject to review by the ACSICG. The life time of the ACSICG would be subject to review against the implementation and operation of all identified aeronautical communication services.

#### **Meeting:**

*The APAC ACSICG shall convene annually, to review progress and address any issues that arise during implementation, at least one face-to-face meeting per year, which is supplemented by teleconference meetings (e.g. MS Teams, ZOOM or WebEx) as appropriate.*

**Membership:**

*All APAC member States/Administrations providing air navigation services in the Asia and Pacific Regions. APAC members should nominate Subject Matter Experts from Civil Aviation Authorities, ANSPs, and other organizations with strong background in engineering and operation in relation to aeronautical communication services and infrastructures requirements to participate into the ACSICG. The ACSICG would also invite representatives of International Organizations recognized by the ICAO Council and Industry partners as required by the group which represent important civil aviation interests to participate in its work in a consultative capacity.*

**Reporting**

*The Group will present its report to APANPIRG through the CNS Sub-group.*