International Civil Aviation Organization

The Second Meeting of the Asia/Pacific Air Traffic Management Automation System Task Force (APAC ATMAS TF/2)

Video Tele-Conference, 14 - 16 September 2021

Agenda Item 2: Review of Outcomes of Relevant Meetings

REVIEW OF RELEVANT MEETINGS

(Presented by the Secretariat)

SUMMARY

This paper presents the reviewed relevant outcomes of the First Meeting of Air Traffic Management Automation System Task Force of APANPIRG (ATMAS TF/1), from the Twenty Fourth Meeting of the Communications, Navigation and Surveillance Sub-group (CNS SG/24) of APANPIRG and the Thirty First Meeting of the Asia/Pacific Air Navigation Planning and Implementation Regional Group (APANPIRG/31).

1. INTRODUCTION

1.1 The Seminar on Air Traffic Management Automation System and the First Meeting of the Asia/Pacific Air Traffic Management Automation System Task Force (ATMAS TF/1) were held from 27 to 30 October 2020. The Meeting was attended by 179 participants from 18 States/Administrations, 4 International Organizations and industry partners. ATMAS TF/1 meeting report, working papers, information papers, and other resources can be accessed by following link:

https://www.icao.int/APAC/Meetings/Pages/2020-ATMAS-TF1.aspx

1.2 The Twenty Fourth Meeting of the Communications, Navigation and Surveillance Sub-group (CNS SG/24) of APANPIRG was held from 30 November to 4 December 2020 via video teleconference. The meeting was attended by 176 participants from 26 States/Administrations and 5 International Organizations namely CANSO, EUROCONTROL, IATA, IFATCA and IFATSEA, plus 26 participants from industry partners. CNS SG/24 meeting report, working papers, information papers, and other resources can be accessed by following link:

https://www.icao.int/APAC/Meetings/Pages/2020-CNS-SG24.aspx.

1.3 The Thirty First Meeting of the Asia/Pacific Air Navigation Planning and Implementation Regional Group (APANPIRG/31) was held from 14 to 16 December 2020 via video teleconference. The Meeting was attended by 193 participants from 23 Member States, 2 Special Administrative Regions of China, and 8 International Organizations (AAPA, ACI, CANSO, IATA, ICAO, IFALPA, IFATCA and IFATSEA). APANPIRG/31 meeting report, working papers, information papers, and other resources can be accessed by following link:

https://www.icao.int/APAC/Meetings/Pages/2020-APANPIRG31.aspx.

1.4 The APANPIRG/31 meeting reviewed the outcomes of the CNS SG/24, which included the outcomes from ATMASTF/1, noted with appreciation the work done and achievements by the SG

and the contributory bodies reporting to APANPIRG through the SG, the meeting discussed CNS related matters and took following actions on the report of CNS SG/24 meeting and other papers presented under Agenda Item 3.4 in the Meeting.

1.5 This paper summarized relevant information and updates with the highlight on the reviewed outcomes of ATMAS TF/1 and relevant discussions of other meetings including CNS SG/24 and APANPIRG/31.

2. DISCUSSION

2.1 The actions taken by CNS SG/24 and APANPIRG/31 meetings on related matters are listed as below:

Outcomes of CNS SG/24

2.2 The CNS SG/24 meeting adopted following **8** Conclusions and **5** Decisions:

Reference		Subject
Conclusion CNS SG/24/3 *(ACSICG/7/2 (ATFM/SG/10-3))*	-	Amendment of the AFTN/AMHS-based Interface Control Document (ICD) for ATFM
Conclusion CNS SG/24/4	-	Publishing of the CRV Operations Manual
Decision CNS SG/24/5	-	CRV Landing Page on the ICAO APAC Website
Decision CNS SG/24/*6* *(SRWG/4/1)*	-	Frequency requirements for VHF-COM systems and ILS, VOR, DME and GBAS/VDB facilities
Conclusion CNS SG/24/7 *(SRWG/4/2)*	-	Simulation of VHF COM Frequency requirements for next 10 years
Conclusion CNS SG/24/8 *(SRWG/4/3)*	-	Establishment a list of focal point responsible for the operation of Frequency Finder in States
Decision CNS SG/24/9 *(SRWG/4/4)*	-	Revision of the Term of Reference of the SRWG
Conclusion CNS SG/24/10	-	Flight Inspection Guidance Material (FIGM) for APAC Region
Conclusion CNS SG/24/11	-	Protection of ILS Critical and Sensitive Areas in Three Dimensional
Decision CNS SG/24/12 *(SURICG/5/2)*	-	Dissolution of SEA/BOB ADS-B WG
Conclusion CNS SG/24/14 *(SURICG/5/4(DAPs WG/3/2))*	-	Mode S DAPs IGD 2.0
Conclusion CNS SG/24/15 *(SURICG/5/6)*	-	Revised ADS-B Implementation and Operations Guidance Document (AIGD) Edition13
Decision CNS SG/24/16 *(SURICG/5/1)*	-	Establishment of Study Group under SURICG on Sharing of Surveillance Data in SWIM

2.3 The contents of above Conclusions adopted by the CNS SG/24 are provided in the **Attachment A** to this paper.

Outcomes of APANPIRG/31

2.4 Based on the outcome of discussions on various agenda items, the CNS SG/24 meeting developed 4 Draft Conclusions for consideration by APANPIRG/31 Meeting, which were further adopted by APANPIRG/31. The conclusions adopted by APANPIRG/31 are as follows:

Reference		Subject
APAPPIRG C 31/12 *(Draft Conclusion CNS SG/24/1)*	-	Target Year of CRV Implementation in APAC Region
APANPIRG C 31/13 *(Draft Conclusion CNS SG/24/2 (ACSICG/7/1))*	-	Revised Regional Strategies on AMS and Datalink
APANPIRG C 31/14 *(Draft Conclusion CNS SG/24/13 (SURICG/5/3(DAPs WG/3/1))*)	-	Mode S Forward Fit Equipage in APAC Region
APANPIRG C 31/15 *(Draft Conclusion CNS SG/24/17)*	-	Addressing Human Factor Issues of ATSEP

2.5 All APANPIRG/31 Conclusions related to CNS are included in **Attachment B** to this paper.

Seminar on Air Traffic Management Automation System and First Meeting of ATM Automation Systems Task Force (ATMAS TF/1)

Seminar Presentations

2.6 The Seminar on Air Traffic Management Automation System and the First Meeting of the Asia/Pacific Air Traffic Management Automation System Task Force (ATMAS TF/1) were held from 27 to 30 October 2020.

Election of APAC ATMAS TF Chairpersons

2.7 Ms. Xie Yu Lan, Deputy Director General of North China Regional Air Traffic Management Bureau of CAAC, and Mr. Kwek Chin Lin, Chief ATC Specialist (Systems Development) from Civil Aviation Authority of Singapore, who were both unanimously elected as the co-chairs of the ATMAS TF.

Review of the Terms of Reference and Action Items

2.8 Through this working paper, Secretariat presented the Terms of Reference of the Asia/Pacific Air Traffic Management Automation System Task Force for the meeting's review and invited the proposals on the list of action items for this group. Considering the ATM automation system covered a wide spectrum of operational concepts, various technologies, projects implementation, the meeting considered it necessary to kick off the group's future works with a well-defined plan.

Global and regional ATM Automation System updates

2.9 The meeting recalled AN Conf/12 recommendations: Recommendation 1/11 – Automation roadmap. The meeting also noted the Action Item 54/13 of 54th DGCA Conference on ATM system. The meeting noted the editorial change on air traffic automation system between the ICAO GANP

(DOC 9750) edition 5 (published in 2016) and the GANP edition 6 as a portal at: https://www4.icao.int/ganpportal/. The meeting also noted the ICAO provisions relevant to automation.

ATM Automation System in Indonesia

2.10 Indonesia presented on the detailed information of their ATM Systems, including locations, manufacturer, main use or backup and ATS units. Indonesia adopted an phased approach to implement ATM automation system, covering System Plan and Design, System Installation and Commissioning, Systems Operations Management and Maintenance. There are three phases for the Operational Transition: Dry Shadow Phase, Wet Shadow Phase and Cut Over. Contingency Plan was also introduced for Transition Period, Operational period while considering various system configuration and the scope of the failure. The meeting agreed to develop this further with inputs with States as an action item for this task force.

Challenges in Implementation of ATM Automation System

2.11 With the successful commissioning for a new ATM Automation system at Delhi International Airport and Delhi ACC recently, India shared the challenges faced during the implementation in different phases of project, as well as suggestions to address the challenges. There are mainly two phases of project i.e. Pre-Contract stage and Post Contract phase. Well drafted operational and system requirement specifications for ATM Automation system can very well reduce the number of challenges as the level of scope changes in both the stages of project. India highlighted some key activities in the Pre-Contract Phase of the project and Post Contract Phase respectively. The meeting suggested that the information provided in this paper may be considered as inputs to develop a checklist for ATM automation system project management to be added an Appendix for the ATM Automation System Guidance Material.

Maintenance Management and Practice of Air Traffic Management System in Hong Kong, China

2.12 Hong Kong, China presented its maintenance management and practice on ATM Automation System which was fully commissioned in November 2016. The meeting was informed that under the maintenance framework for ATM Automation System, the System Supplier, Maintenance Service Provider (MSP) and Air Navigation Service Provider (ANSP) form a close coordination trio in operating and supporting the maintenance framework. Hong Kong, China summarized the role and responsibility of each party in the trio. The meeting agreed that the relevant contents shared in this paper could be considered for incorporation into the "Recommended Functions and Performances of ATM Automation System" chapter of the ATM Automation System Guidance Material.

Software Management and Technical Support in ATM Automation System

2.13 China has more than 90 sets of ATM Automation System and established the software management and technical support system. It covers all system construction and operation stages, including many actives, such as system requirements analysis, system fault management, software release, test and evaluation, parameter configuration management. The benefits gained are significant, especially involved multi-sites. The ATM automation system software management work in China consists of software requirement management, fault correction management and software version/patch release management in three levels, including national-level, regional-level and field-level. The meeting was also informed that the virtualization and cloud computing will be implemented to realize future-oriented software testing environment.

Different ATM Automation System Implementation in India

2.14 India has installed multiple ATM automation systems of various capabilities across the Indian airports to utilize the large network of surveillance sensors. Since each of the ATM automation system was installed in different stages, the Air Navigation Service Provider (ANSP), Airports authority of India (AAI) operates a combination of Automation systems from various vendors having different

capabilities and with varied experiences. India shared the common features and differences between various Automation System architecture installed.

Application of Flight Data Exchange in ATM Automation System

2.15 In order to adapt to the rapid development of civil aviation in China and improve the safety assurance level of the Air Traffic Management Automation System (ATM AS), the Civil Aviation Administration of China (CAAC) issued the industry standard "Civil Aviation Air Traffic Control Automation System" (MH/T 4029). The third part: Flight Data Exchange (MH/T 4029.3), which defines the protocol, message type and data format for the flight data exchange between the ATM AS and related systems, the standard is mainly used for the ATM AS planning, design, construction, testing and operational use.

Application of Flight Plan Centralized Processing System in ATM Automation System

2.16 Flight plan centralized processing system (FCPS) is a set of intelligent control system independently developed by ATMB, which is responsible for processing National flight plans and telegrams. It was officially put into operation in September 2017. With the construction of National Flight Plan Processing Center, the unified processing of flight plans of 237 airports in China has been completed. The rudiment and new business mode of unified management of national flight plans have been preliminarily established.

Initial Application of CRACP in Flow Management System

2.17 CRACP (Cross-Border ATFM Collaborative Platform) can realize the data docking between China, Japan and ROK air traffic management units using their respective systems to achieve full situational awareness of cross-border flights from 2 hours before EOBT to the transfer point, and implement more accurate and more limited traffic on this basis Management measures. Thereby reducing the length of traditional interval restrictions and the number of affected flights, and improving the quality of operations.

ATFM-ACDM Integration

2.18 India presented a case study of the actual integration of Airport Collaborative Decision Making (ACDM) and Air Traffic Flow Management (ATFM). ATFM-ACDM integration is a process to achieve data exchange between these two systems without the need for any manual intervention.

Challenges in Implementation of DMAN

2.19 Singapore shared experience in the implementation of Departure Manager (DMAN) and introduced A-CDM in Oct 2016 at Singapore Changi Airport. The interdependencies between A-CDM and DMAN is highlighted. The success of DMAN implementation does not solely depend on the system itself. Singapore also shared her plans to integrate the DMAN system with AMAN, and later with an SMAN which will result in greater automation.

Implementation of Enhanced Wake Turbulence Separation and Approach Spacing Tool in Hong Kong China

2.20 Hong Kong, China introduced the new ICAO enhanced Wake Turbulence Separation (eWTS) scheme to be implemented for arrival traffic of Hong Kong International Airport (HKIA) on 5 November 2020. Runway capacity is expected to enhance as result of revised wake turbulence separation and the overall arrival spacing on final approach would be reduced safely under the application of eWTS. In addition, a distance-based Approach Spacing Tool (AST) is being implemented for assisting controllers to handle air traffic under eWTS and improve consistency in delivering arrival traffic to the runway threshold according to the intended runway capacity.

Application of DAPs Data in ATM Automation System

2.21 The meeting was informed that China has promoted the application of Mode S radar in ATM automation system in three stages. In the first stage, Mode S elementary surveillance data has been applied in ATM automation system. DAPs data with specific application scenarios are currently underway in the second stage, and the rest will be further studied in the third stage. At present, China is in the second stage and the specific application, benefits and problems of DAPs data in ATM automation system were concluded.

Application of DAPs in ATM Automation System in Singapore

2.22 Singapore shared their experience in the introduction of DAP. The ATM automation system in Singapore was upgraded in 2018 to display DAPS on the aircraft label. Singapore highlighted the issues (and resolution) and challenges in the implementation such as erroneous 24-bit address and MCP/FCU mismatch showing incorrect values. The meeting was informed that multiple potential level bust had been prevented as the MCP/FCU Selected Altitude mismatch alerts provided controllers an additional layer of defence.

Application of MTCD Functions in ATM Automation System

2.23 CAAC ATMB has deployed Medium Term Conflict Detection (MTCD) function in Beijing and Shanghai ATM Automation System. It is widely commended by controllers, mainly being ascribable to call their attention to keeping aircrafts separation in a certain time advance rather than in a closely short time, and is helpful for airspace safety especially in heavy traffic. The concept of MTCD and the differences between MTCD and STCA, as well as the tuning experience and operational use of MTCD in ATM Automation System was presented to the meeting.

Progressive Implementation of Safety Net Functions in Hong Kong China

2.24 Hong Kong, China has adopted a progressive approach in the implementation of applicable safety net functions in the ATM Automation System, so as to minimize the risks involved in transition to the ATM Automation System, and to best suit the operational needs of air traffic control officers (ATCOs). Following this approach, three safety net functions, namely Short Term Conflict Alert (STCA), Special Use Airspace Intrusion Warning (SUAIW) and Cleared Level Adherence Monitoring (CLAM) have been successfully implemented in November 2016. Another three safety net functions, namely Approach Path Monitoring (APM), Departure Path Monitoring (DPM) and Similar Callsign Advisory (SCA) have been successfully implemented in 2019. Hong Kong, China highlighted that to assess effectiveness of the implemented safety net functions, post implementation review with ATC operations were conducted to obtain feedbacks from front-line ATCOs to identify if there was a need to fine-tune the system parameters.

Cyber Security Control for ATM Automation System

2.25 Considering the system boundary is constantly expanding, the cyber security of ATM automation system becomes a key issue. According to the recommendation of ICAO Doc 9985-ATM Security Manual, and taking the Chinese national classified protection requirements for reference, a simplified cyber security control model for ATM automation system is summarized with the four components including operation environment, technical mechanisms, human resources, and management. The PDRR security model was introduced to the meeting which is recommended to give priority to P(protection) and D(detection)to set up technical mechanisms control for ATM automation system. An optimized network structure of ATM AS and five measures were proposed for reference, and three suggestions were also provided as follow-up actions.

A Proactive and Systematic Approach in Protecting Digitised Air Traffic Services Against Cyber Threats in Hong Kong, China

2.26 Hong Kong, China provided information about its proactive and systematic approach in protecting digitised Air Traffic Services (ATS) against cyber threats in Hong Kong. Hong Kong, China fully supported the ICAO's initiative on aviation cyber security management against cyber threats, and had taken proactive measures in a systematic manner to address an increasing challenge on cyber security for ATS systems. The meeting was informed of the key elements of the provisions of the measures implemented by Hong Kong, China, covering aspects on policy, administration, procedures, drills, systems/technologies, as well as physical security.

Recommended Functions and Performances of ATM Automation System

2.27 The development of a guidance material of implementation of ATM automation system is one of the key deliverables of ATM automation system task force (ATMAS/TF) as per the Terms of Reference. This working paper was jointly prepared by China, Hong Kong China and Singapore to explore the Recommended Functions and Performances of ATM Automation System (**RFAP of ATM AS**) and proposed a draft as edition 0.0 for future formulation and development by the task force, as the guidance material for systems planning, design, testing and implementation of ATM automation system in the Asia and Pacific Regions.

2.28 The meeting supported China to lead this ad hoc group, and consolidated a list of focal point of this ad hoc group to facilitate the various tasks shared by group members. The meeting also suggested the ad hoc group to consider to rearrange the cybersecurity as a separate chapter, explore to use ICAO APAC ADS-B avionics problem reporting database to accommodate this issues about ATM automation system implementation shared by States/Administrations, and study the feasibility to share Chinese solution MH/T 4029.3 to the region or adopted as an appendix to the guidance material for reference in future.

2.29 The meeting was reminded to consider the present draft as provisional status, and further alignment with ICAO provisions, international standards or EUROCONTROL may be required. The meeting also proposed to carefully balance the stability and currency by adopting a well-defined structure with main body with appendices and attachments. The Recommended Functions and Performances of Air Traffic Management Automation System (Edition 0.0) is provide as Appendix A to the Report of ATM AS/TF/1.

Develop initial list of action items for APAC ATMAS TF

2.30 A suggestion was raised in the Meeting to approach ICAO TCB to see feasibility for any viable support to the development of the Guidance Document, and the Secretariat will coordinate with TCB contact and report back to this task force. The meeting discussed various action items and the revised List of Action Items is provided as Appendix B to the Report of ATM AS/TF/1.

3. ACTION BY THE MEETING

3.1 The meeting is invited to:

a) review the outcome of the CNS SG/24 and APANPIRG/31 and take any necessary follow-up actions; and

b) discuss any matters as appropriate.

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List of Conclusion/Decisions adopted by CNS SG/24 on behalf of APANPIRG on Technical Matters

Conclusion CNS SG/24/3(ACSICG/7-2 (ATFM/SG/10-3)) - Amendment of the AFTN/AMHS-based Interface Control Document (ICD) for ATFM	
What: That, the AFTN/AMHS-based Interface Control Document for ATFM Version 2.0 provided in **Appendix E** to this Report be adopted and posted on the ICAO Asia/Pacific Regional Office website to supersede the existing version, for use by Asia/Pacific Administrations in implementing cross-border ATFM communications in accordance with the provisions of the Regional Framework for collaborative ATFM.	Expected impact: ☐ Political / Global ☐ Inter-regional ☐ Economic ☐ Environmental ☒ Ops/Technical
Why: To align with message format provisions of Annex 10 Vol II, and to support implementation by States through amendment to specific provisions.	Follow-up: ☒Required from States
When: 4-Dec-20	Status: Adopted by Subgroup
Who: ☒Sub groups ☒ APAC States ☐ICAO APAC RO ☐ICAO HQ ☒ other: ACSICG/7	

Conclusion CNS SG/24/4 - Publishing of the CRV Operations Manual	
What: That the CRV Operations Manual provided in **Appendix F** to this Report be adopted as first Edition for publishing and use.	Expected impact: ☐Political / Global ☐Inter-regional ☐Economic ☐Environmental ☒ Ops/Technical
Why: Provides the information and directions required for CRV OG performance and CRV operations.	Follow-up: ☒Required from States
When: 4-Dec-20	Status: Adopted by Subgroup
Who: ☒Sub groups ☒APAC States ☒ICAO APAC RO ☐ICAO HQ ☐Other:	

Decision CNS SG/24/5 - CRV landing page on the ICAO APAC website	
What: That ICAO APAC Office is requested to create CRV landing page on ICAO APAC web page to providing information on CRV and guidance on how to join, leave or make changes.	Expected impact: ☐Political / Global ☒ Inter-regional ☐Economic ☐Environmental ☒ Ops/Technical
Why: Provides online access to the information and directions required for the Request Fulfilment Process and procedures to join, leave or make changes the CRV network	Follow-up: ☐Required from States

When: 4-Dec-20	Status: Adopted by Subgroup
Who: ☒Sub groups ☐APAC States ☒ICAO APAC RO ☐ICAO HQ ☐Other:	

Decision CNS SG/24/6(SRWG/4/1) - Frequency requirements for VHF-COM systems and ILS, VOR, DME and GBAS/VDB facilities	
What: That, the SRWG is tasked to develop a rolling frequency assignment plan for VHF-COM and ILS, VOR, DME and GBAS/VDB facilities to meet the operational requirements until [2030], subject to a regular review and updating by the SRWG.	Expected impact: ☐ Political / Global ☐ Inter-regional ☐ Economic ☐ Environmental ☒ Ops/Technical
Why: To secure adequate spectrum for these facilities for the near future.	Follow-up: ☒Required from States
When: 4-Dec-20	Status: Adopted by Sub-group
Who: ☒Sub groups ☒APAC States ☒ICAO APAC RO ☐ICAO HQ ☐Other:	

Conclusion CNS SG/24/7(SRWG/4/2) – Simulation of VHF COM Frequency requirements for next 10 years	
What: To conduct a new round of simulation for VHF COM frequency assignment based on new operational requirements of States to 2030 as necessary.	Expected impact: ☐ Political / Global ☐ Inter-regional ☐ Economic ☐ Environmental ☒ Ops/Technical
Why: To support regional strategy on the use of 8.33KHz channel spacing.	Follow-up: ☒Required from States
When: 4-Dec-20	Status: Adopted by Sub-group
Who: ☒Sub groups ☒APAC States ☒ICAO APAC RO ☐ICAO HQ ☐Other:	

Conclusion CNS SG/24/8(SRWG/4/3) – Establishment a list of focal point responsible for the operation of Frequency Finder in States	
What: That, States in APAC Region are requested to nominate a focal point responsible for operation of the Frequency Finder and coordination for frequencies assignments with ICAO APAC Regional Office in order to reduce operational error and improve quality management for the coordination process.	Expected impact: ☐ Political / Global ☐ Inter-regional ☐ Economic ☐ Environmental ☒ Ops/Technical
Why: To reduce operational error in accessing the tool of Frequency Finder and improve the spectrum management quality by enhancing the administrative process.	Follow-up: ☒Required from States

When: 4-Dec-20	Status: Adopted by Sub-group

Decision CNS SG/24/9 (SRWG/4/4) – Revision of the Term of Reference of the SRWG	
What: That, the revised Terms of Reference provided in **Appendix J** to the Report be adopted.	Expected impact: ☐ Political / Global ☐ Inter-regional ☐ Economic ☐ Environmental ☒ Ops/Technical
Why: Need to refine the scope of related tasks and include the new members.	Follow-up: ☒Required from States
When: 4-Dec-20	Status: Adopted by Sub-group
Who: ☒Sub groups ☒APAC States ☒ICAO APAC RO ☐ICAO HQ ☐Other:	

Note: This revision is to conduct simulation on VHF COM frequency assignment and expand its scope of work to cover Navigation systems with highlight on GBAS implementation.

Conclusion CNS SG/24/10 – Flight Inspection Guidance Material (FIGM) for APAC Region	
What: That, the first edition of the Flight Inspection Guidance Material (FIGM) provided in **Appendix K** to this Report be adopted.	Expected impact: ☐Political / Global ☐Inter-regional ☐ Economic ☐Environmental ☒Ops/Technical
Why: To provide additional guidance on planning, execution and delivery of flight inspection for States/Administrations in APAC Region.	Follow-up: ☒Required from States
When: 4-Dec-20	Status: Adopted by Subgroup
Who: ☒Sub groups ☒APAC States ☒ICAO APAC RO ☐ICAO HQ ☐Other:	

Conclusion CNS SG/24/11- Protection of ILS Critical and Sensitive Areas in Three Dimensional	
What: That, States to: a) take note of the importance in extending protection of ILS Critical and Sensitive Areas (CASA) from two dimensional to three dimensional as stated in ICAO Annex 10 (7th Edition, Amendment 92), Volume I, Attachment C, Paragraph 2.1.9.5; b) be aware that departing aircraft and/or manoeuvring helicopters/aircraft can cause disturbances to ILS signals	Expected impact: ☐ Political / Global ☐ Inter-regional ☐ Economic ☐ Environmental ☒Ops/Technical

received by arriving aircraft under single runway mixed mode operation; c) take measures to mitigate potential impacts caused by disturbances in ILS signals under single runway mixed mode operation; and ICAO to: d) provide guidance materials in establishing three dimensional ILS CASA and their protection.	
Why: In accordance with ICAO Annex 10 (7th Edition, Amendment 92), Volume I, paragraph 2.1.9.5 – "While critical and sensitive areas are evaluated in a two-dimensional (horizontal) context, protection should actually be extended to volumes, as departing aircraft and/or manoeuvring helicopters/aircraft can also cause disturbances to the ILS signals". However, no detailed guidance was given as to how to establish the ILS CA/SA in three dimensional and how to protect them.	Follow-up: ☒Required from States
When: 4-Dec-20	Status: Adopted by Sub-group
Who: ☒ Sub groups ☒ APAC States ☐ICAO APAC RO ☒ICAO HQ ☐Other:	

Decision CNS SG/24/12 (SURICG/5/2) - Dissolution of SEA/BOB ADS-B WG	
What: Noting that most of the tasks outlined in the TOR have been achieved and the completion of residual part of action items will be performed by SURICG, That, the SEA/BOB ADS-B WG be dissolved.	Expected impact: ☐ Political / Global ☐ Inter-regional ☐Economic ☐ Environmental ☒ Ops/Technical
Why: The SEA/BOB ADS-B WG terms of reference have been completed and pending action items will be performed by SURICG.	Follow-up: ☐Required from States
When: 4-Dec-20	Status: Adopted by Sub-group
Who: ☒Sub groups ☐APAC States ☒ICAO APAC RO ☐ICAO HQ ☐APANPIRG ☒Other: SURICG	

Conclusion CNS SG/24/14 (SURICG/5/4(DAPS WG3/2)) - Mode S DAPs IGD 2.0	
What: That, the *Mode S DAPs Implementation and Operation Guidance Document* Edition 2.0 provided in **Appendix N** to this Report be adopted.	Expected impact: ☐ Political / Global ☐ Inter-regional ☐ Economic ☐ Environmental ☒ Ops/Technical
Why: Editorial correction and revision to reflect regional updates in implementation.	Follow-up: ☐Required from States
When: 4-Dec-20	Status: Adopted by Sub-group

Who: ☒Sub groups ☐APAC States ☐ICAO APAC RO ☐ICAO HQ ☐Other:

Conclusion CNS SG/24/15 (SURICG/5/6) - Revised ADS-B Implementation and Operations Guidance Document (AIGD)		
What: That, the revised ADS-B Implementation and Operations Guidance Document (AIGD) provided in **Appendix O** to this Report, which consolidated all change proposals during SURICG/5, be adopted as Version 13.		Expected impact: ☐ Political / Global ☐ Inter-regional ☐ Economic ☐ Environmental ☒ Ops/Technical
Why: Updates and editorial correction	Follow-up: ☐Required from States	
When: 4 Dec 2020	Status: Adopted by Sub-group	
Who: ☒CNS Sub group ☐APAC States ☒ICAO APAC RO ☐ICAO HQ		

Decision CNS SG/24/16 (SURICG/5/1) - Establishment of Study Group under SURICG on Sharing of Surveillance Data in SWIM		
What: Noting the operational needs of this region to enhance surveillance data sharing and new technologies available, That, the Study Group under SURICG on Sharing of Surveillance Data in SWIM (SurSG) with TOR provided in **Appendix P** to the Report, comprising subject matter experts in relevant areas including surveillance and SWIM to be set up to study and recommend solutions on surveillance data sharing to provide surveillance from "departure to destination", be established.		Expected impact: ☐ Political / Global ☐ Inter-regional ☐ Economic ☐ Environmental ☒ Ops/Technical
Why: To enhance surveillance coverage, enhance surveillance data availability by providing additional layers of surveillance services, and support implementation of advanced Air Traffic Management (ATM) tools such as Air Traffic Flow Management (ATFM).	Follow-up: ☒Required from States	
When: 4-Dec-20	Status: Adopted by Sub-group	
Who: ☒Sub Groups ☒APAC States ☐ICAO APAC RO ☐ICAO HQ ☒Other: SURICG		

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A List of Conclusions from CNS SG/24 approved by APANPIRG/31 Meeting

<table>
<tr><td colspan="3">APAPPIRG C 31/12 (Conclusion CNS SG/24/1)- Target Year of CRV Implementation in APAC Region</td></tr>
<tr><td colspan="2">What: That, set and monitor 2021 as the target for CRV implementation for all ANSPs.</td><td>Expected impact:
☐ Political / Global
☐ Inter-regional
☒ Economic
☐ Environmental
☒Ops/Technical</td></tr>
<tr><td>Why: Considering the challenges and difficulties faced by States/Administrations under current pandemic situation and recommended to postpone the target year of regional implementation of CRV from 2020 to end of 2021 and further align with follow up actions on Common Ground/Ground Telecommunication Network stated in the Beijing Declaration.</td><td colspan="2">Follow-up: ☒Required from States</td></tr>
<tr><td>When: 16-Dec-20</td><td colspan="2">Status: To be adopted by PIRG</td></tr>
<tr><td colspan="3">Who: ☒ Sub groups ☒ APAC States ☐ICAO APAC RO ☐ICAO HQ ☐Other:</td></tr>
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<table>
<tr><td colspan="3">APANPIRG C 31/13 (Conclusion CNS SG/24/2(ACSICG/7/1)) - the Revised Regional Strategies on AMS and Datalink</td></tr>
<tr><td colspan="2">What: That, the revised Aeronautical Mobile Service (AMS) Strategy for the Asia/Pacific Region provided in Appendix C and the revised Strategy for Implementation of the Air-Ground Data Link in the Asia/Pac Region provided in Appendix D to the Report be adopted.</td><td>Expected impact:
☐ Political / Global
☐ Inter-regional
☒ Economic
☐ Environmental
☒Ops/Technical</td></tr>
<tr><td>Why: Need to update the regional strategies on AMS and Datalink based on the latest developments</td><td colspan="2">Follow-up: ☒Required from States</td></tr>
<tr><td>When: 16-Dec-20</td><td colspan="2">Status: To be adopted by PIRG</td></tr>
<tr><td colspan="3">Who: ☒ Sub groups ☒ APAC States ☐ICAO APAC RO ☐ICAO HQ ☐Other:</td></tr>
</table>

<table>
<tr><td colspan="3">APANPIRG C 31/14 (Conclusion CNS SG/24/13 (SURICG/5/3(DAPS WG3/1)) - Mode S Forward Fit Equipage in APAC Region</td></tr>
<tr><td colspan="2">What: Regarding fitment of Mode S equipage,

That, States/Administrations in APAC Region be strongly encouraged to mandate that registered aircraft with a maximum certified take-off mass exceeding 5 700 kg or having a maximum cruising true airspeed capability greater than 250 knots, with a date of manufacture on or after 1 January 2022 be equipped with Mode S avionics compliant with Enhanced Surveillance (EHS).</td><td>Expected impact:
☐ Political / Global
☐ Inter-regional
☒ Economic
☐ Environmental
☒ Ops/Technical</td></tr>
<tr><td>Why: Considering that a number of DAPs</td><td colspan="2">Follow-up: ☒Required from States</td></tr>
</table>

applications will require EHS and that it's easy for new aircraft to be equipped with EHS. Retrofitting existing airframes with EHS will need further deliberation under challenging pandemic situation.	
When: 16-Dec-20	Status: To be adopted by PIRG
Who: ☒Sub groups ☒APAC States ☒ICAO APAC RO ☒APANPIRG ☐ICAO HQ ☒Other: SURICG	

APANPIRG C 31/15 (*Conclusion CNS SG/24/17)* **- Addressing Human Factor Issues of ATSEP**	
What: That, a) the States are encouraged to make reference and implement the recommendations made out of the IFATSEA study report *Factors adding stress and fatigue to ATSEP* provided in **Appendix R** to the Report for pro-active measures; b) States are also encouraged to join the small working group for finding the left-out gaps and in preparing the regional ATSEP human factor guidance material.	Expected impact: ☐Political / Global ☐Inter-regional ☒ Economic ☐Environmental ☒ Ops/Technical
Why: to continuously improve the human performance management in practice to better support CNS/ATM system operations.	Follow-up: ☒Required from States
When: 16-Dec-20	Status: Draft to be adopted by PIRG
Who: ☒Sub groups ☒APAC States ☐ICAO APAC RO ☐ICAO HQ ☐Other:	

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