



ICAO

International Civil Aviation Organization

**THE FIFTEENTH MEETING OF THE COMMON
AERONAUTICAL VIRTUAL PRIVATE
NETWORK OPERATIONS GROUP (CRV OG/15)**

Mumbai, India, 15-19 June 2026

- Agenda Item 3:** CRV OG Reference documents
- CRV OG Operations Manual
 - Outcomes of Ad-hoc expert Strategy, Design, Transition and Operations Groups

APAC SUB-REGIONAL MAINTENANCE WINDOW FOR CRV NETWORK

(Presented by India)

SUMMARY

This paper presents a proposed APAC Sub-Regional Maintenance Window for the CRV Network to be adopted in the CRV Operational Manual.

1. INTRODUCTION

1.1 The proposed APAC Sub-Regional Maintenance Window for the CRV Network has been framed to improve regional coordination between the CRV Service Provider (PCCWG) and Member States to enhance and encourage continuity of regional ATS communication services during planned and emergency maintenance activities of the CRV network carried out by the Service Provider.

2. DISCUSSION

2.1 In the CRV OG/13 meeting, Sri Lanka informed that they had experienced two major service interruptions affecting CRV service availability under the subscribed Package and recorded approximately 99.32 hours of service unavailability. During fault restoration and coordination with Service Provider PCCW Global, several challenges related to fault response, communication, and maintenance coordination were identified. The incidents highlighted the need for clearly coordinated maintenance windows between States and Service Provider PCCW Global to minimize operational impact and avoid disruptions to Air Traffic Services.

2.2 The CRV OG/13 Meeting also noted that the CRV OG Operations Manual contains maintenance notification procedures; however, further harmonization and operational guidance for CRV Services in the APAC Region may be beneficial.

2.3 The CRVOG/13 Meeting discussed operational challenges encountered during fault resolution, including delayed ticket responses and unclear maintenance coordination responsibilities. The Meeting highlighted the importance of timely communication and coordinated planning of maintenance activities through mutually agreed maintenance windows considering ATS traffic, operational requirements, technical support availability, and minimization of service disruption.

2.4 It was agreed in the CRV OG/13 meeting that the concept of standardized sub-regional maintenance windows within the APAC Region may be formulated and further study is required due to different operational environments among APAC States. The matter was proposed for further examination by the CRV OG Ad-hoc Expert Group, including harmonized maintenance procedures, notification timelines and recommended maintenance window.

2.5 Being one of the key members of the Strategy Group, India was assigned the task of preparing the initial draft for the APAC Sub-Regional Maintenance Window for the CRV Network, which may be adopted as a standard practice to be followed by the CRV Service Provider and Member States.

2.6 India prepared the initial draft of the APAC Sub-regional maintenance window for the CRV network and presented it to the CRV OG Ad-hoc Expert Group during the online meeting held in January 2026. The draft was reviewed, and it was agreed to circulate the document to Member States for comments and preferred maintenance window timings.

2.7 Feedback and suggestions received from Member States were incorporated into the revised draft, and further discussed during the CRV OG Ad-hoc Expert Group in May 2026. The revised draft was reviewed and invited for additional comments from Member States. As discussed in the meeting, feedback from PCCW Global was also invited for the same.

2.8 Based on the comments received from Member States and PCCWG, the draft APAC sub-regional maintenance window document for the CRV network was discussed and endorsed by the CRV OG Ad-hoc Expert Group.

2.9 The final APAC sub-regional maintenance window document is being presented at the CRVOG/15 Meeting for adoption into the CRV Operations Manual. The proposed “APAC Sub-Regional Maintenance Window for the CRV Network” is provided in Appendix I to this Working Paper.

2.10 The Meeting is invited to review and adopt the proposed “APAC Sub-Regional Maintenance Window for the CRV Network” as a standard practice document to be followed by CRV Service Provider and Member States.

Draft Conclusion CRV OG/15/xx Sub-Regional Maintenance Window for CRV Network.			
What: The CRV OG adopts the proposed Sub-Regional Maintenance Window for the CRV Network for the APAC Region and further inclusion into the CRV OG Operations Manual		Expected impact: ☐ Political / Global ☐ Inter-regional ☐ Economic ☐ Environmental ☒ Ops/Technical	
Why: Enhance and encourage continuity of regional ATS communication services during planned and emergency maintenance activities of the CRV network carried out by the Service Provider.		Follow-up: ☐ Required from States	
When: 19-June-26		Status: Draft to be adopted by Subgroup	
Who: XXXX		☒ Sub groups ☐ APAC States ☐ ICAO APAC RO ☐ ICAO HQ ☐ Other:	

3. ACTION BY THE MEETING

3.1 The Meeting is invited to:

- a) note the information contained in this paper;
- b) review APAC Sub-Regional Maintenance Window for the CRV Network;
- c) adopt proposed draft Conclusion;
- d) discuss any relevant matter as appropriate

APAC Sub-Regional Maintenance Window for CRV Network

1. Purpose:

The purpose of this document/policy is to define standardized maintenance windows for the CRV Network within the APAC region to be implemented at a sub-regional level, in order to ensure the following:

- Network stability and availability of the CRV Network,
- Minimize disruption on AFTN/AMHS operation and associated ATS Communication Services for supporting consistent operational execution of CRV Network.
- Support coordinated and expected execution of maintenance activities of CRV Network across APAC Member States.
- Improve regional coordination between Member States, CRV Service Provider and their associated telecommunication vendor.
- To promote continuity of regional ATS communication services during planned or emergency maintenance activities of the CRV network.

2. Scope:

This maintenance window document/policy applies to:

- All planned/scheduled maintenance & preventive maintenance activities carried by the CRV service provider and their associated telecommunication vendors in Member States that may disrupt the CRV Network operation within the APAC region.
- CRV service provider and associated telecommunications vendors supporting CRV network infrastructure in the concerned Member State.
- Technology refreshment activities, including the replacement/upgradation of NID equipment and installation of software patches or firmware upgradation by the service provider.
- Configuration changes, Circuit migration activities and implementation of cyber security related activities.
- All Member States connected to the CRV Network within the APAC region.

Note: This policy does not restrict emergency maintenance activities required to restore CRV Network operation and mitigation of critical faults in network.

3. Objectives:

Description	Requirement
To Minimize AFTN/AMHS and associated ATS Communication Services disruptions.	Maintenance activity shall be scheduled during periods of lowest expected traffic.
Align maintenance activities within regional off-peak usage hours.	APAC maintenance windows shall be defined by sub-region.
Establish predictable and repeatable maintenance schedules.	Maintenance windows shall follow fixed, recurring & planned schedules.
Improve coordination with the service provider and Member States in APAC region.	Any maintenance activity requires prior coordination & notification by CRV service provider & Member States.
Support compliance with change management and SLA commitments.	Emergency or exceptional changes may occur outside defined windows

4. APAC Sub-Regions:

The APAC region shall be divided into the following sub-regions for maintenance activity scheduling purposes:

Sub-Region	Countries / Territories
East Asia	China, Hong Kong China, Macao China, Japan, South Korea, and Mongolia.
Southeast Asia (SEA)	Singapore, Malaysia, Thailand, Indonesia, Philippines, Vietnam, Cambodia, Laos, Myanmar (Burma),
South Asia	India, Sri Lanka, Bangladesh, Nepal, Bhutan, Pakistan, Afghanistan, Maldives
USA and Pacific Member States/Islands	USA, Australia, New Zealand, Papua New Guinea, Fiji, French Polynesia, New Caledonia, Solomon Islands, Melanesia, Micronesia, Polynesia, like Kiribati, Samoa, Tonga, Vanuatu, Marshall Islands, Palau, Tuvalu, Nauru, Cook Islands, and Niue, etc.
Note: Maintenance notice email relevant to the CRV circuit shall be forwarded to the concerned CRV National/Local Focal Points of Member States.	

5. Standard Maintenance Window:

Sub-Region	Countries / Territories	Preferred Maintenance Window Time
East Asia	China	
	HongKong-China	
	Macau-China	
	Japan	Any day between [3am-7am Local Time] /[18:00-22:00 (UTC)].
	South Korea	
	Mongolia	
Southeast Asia (SEA)	Singapore	[Day to be fixed] [Time to Be Fixed] (Local Time/UTC)
	Malaysia	
	Thailand	
	Indonesia	
	Philippines	
	Vietnam	
	Cambodia	
	Laos	
	Myanmar (Burma),	
South Asia	India	[Any weekdays] [11:30 am-3:30pm (Local Time)]/[6am-10am (UTC)]
	Sri Lanka	
	Bangladesh	Yet to Join CRV Network
	Nepal	
	Bhutan	
	Pakistan	
	Afghanistan	
	Maldives	Yet to Join CRV Network

USA & Pacific Member States/island	USA	Atlanta: [Any day] [11pm – 3am] (Local Time)/ [3am-7am (UTC)], Salt Lake City: [Any day] [1am – 5am] (Local Time)/ [7am-11am (UTC)], Oakland: [Any day] [10am – 2pm] (Local Time)/ [5pm-9pm (UTC)],
	Australia	[Any day] [12:00am – 4am] (Local Time)/ [1400pm-1800pm (UTC)],
	New Zealand	
	Papua New Guinea (PNG)	[Any day] [09:00 pm-11:00 pm (Local Time)]/ [11:00 am-13:00 pm (UTC)]
	Fiji	
	French Polynesia	
	New Caledonia	
	Vanuatu	[Any day] [00:00 am-04:00 am (Local Time)]/ [13:00 pm-17:00 pm (UTC)]
	Cook Islands	[Any day] [00:00 am-04:00 am (Local Time)]/ [10:00 pm-14:00 pm (UTC)]
	Solomon Islands, Melanesia, Micronesia, Polynesia, like Kiribati, Samoa, Tonga, Marshall Islands, Palau, Tuvalu, Nauru, and Niue, etc.	Yet to Join CRV Network
<i>Note: If Preferred Maintenance Windows time of Member State is not defined here, same may be adjusted in line with the operational requirements and mutual agreement with participating States & CRV Service Provider during any planned maintenance.</i>		

6. Maintenance Classifications:

Planned Maintenance	Emergency Maintenance
• Must be executed within the defined maintenance window • Subject to standard change approval processes • Coordinated with affected states in advance. • Include risk assessment and impact analysis.	• May be executed outside the defined maintenance window. • Requires immediate notification to affected states. • Requires immediate escalation and post-implementation review (PIR)
Note: 1. All planned maintenance activities impacting CRV Network Operations in the APAC Region shall be mutually agreed by Member states and CRV service provider unless emergency condition applies. 2. Planned maintenance shall not be scheduled on the following occasions: • During Financial month-end or year-end, major regional holidays of states and declared blackout periods. • Avoid peak operational periods of Air Traffics Services. • Avoid simultaneous maintenance of primary and backup CRV circuits. • Avoid AIRAC Cycle periods.	

7. Impact and Duration:

- Maximum allowable service disruption per circuit: ≤ 4 hours, unless explicitly approved by the affected Member State.
- The maintenance activity shall be carried out in such a way that it does not interfere with normal operation, performance, or user experience, whenever technically feasible.
- The maintenance activity causes no downtime, no service interruption and no dropped connections to the Member State, whenever it is technically and commercially feasible.
- Any unexpected outage or degradation of CRV Services shall be immediately escalated and communicated to affected Member States.

8. Notification and Communication:

Maintenance Type	Minimum Notification	Communication Must Include the following
Standard Planned	10 calendar days	• Scope and affected services • Expected impact and duration • Start and end time of maintenance activity (UTC and local time) • Rollback plan • Corporate Helpdesk Number • Support and escalation matrix [Refer CRV customer support service plan and escalation management]
High-Risk / Major	14-21 calendar days	
Emergency*	As soon as possible	
Note: A Reminder Notification shall also be communicated by CRV Service Provider 24 HRS prior to any planned/scheduled maintenance.		

***Notification for emergency maintenance activity shall include the following information;**

Emergency Incident Update	Technical Details
Incident update must be communicated by the service provider in the following format: Type : Unplanned outage Reference ticket : XXXXXX Service : CRV Services Location : XXXXX Affected States : XXXXX Impact to service : Low/Moderate/High First notification issued at: XXXXXX Start Time : DD-MM-YYYY Time in UTC/Local Time Current Status :	Details must include the following information: 1. Reason for Outage, 2. Actions Taken, 3. Next Step, 4. Corporate Helpdesk Number, 5. Support and escalation matrix

Estimated Time to restore:	
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9. Responsibilities:

Service Providers & telecommunications vendors supporting the CRV network infrastructure of Member States	User Member States
• Comply with defined maintenance windows and execute maintenance in accordance with this policy. • Provide timely notifications and post-maintenance reports, • Ensure and provide sufficient technical coordination during maintenance activity, • Maintain escalation support availability during maintenance activity	• Review and approve maintenance window, • Govern emergency maintenance escalation, • Support regional coordination with affected Member States. • Sufficient participation must be ensuring in incident escalation and restoration of services during maintenance

10. Statements:

- All planned maintenance activities impacting CRV Network Operations in the APAC Region shall be executed within the defined sub-regional maintenance windows unless an approved exception by participating Member States or an emergency condition applies.
- While CRV Service Provider strives to align maintenance activities with the defined CRV sub-regional windows, scheduling must holistically cater to the operational requirements and maintenance windows of all Member States. CRV Service Provider is endeavoring to minimize any potential impact on CRV operations through proactive coordination.
- Any non-Compliance with this policy shall be documented and reviewed by stakeholders.

- Maintenance Window Policy shall be reviewed annually or deemed necessary at any stage.
- The CRV Service Provider shall maintain records of all planned and emergency maintenance activities for operational review purposes.
- Any amendment to this policy shall be coordinated among all the Member States and the CRV Service provider.

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