

**58th CONFERENCE OF
DIRECTORS GENERAL OF CIVIL AVIATION
ASIA AND PACIFIC REGIONS**

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AGENDA ITEM 4: AIR NAVIGATION

**CRV IMPLEMENTATION IN
ASIA/PACIFIC REGION**

(Presented by International Civil Aviation Organization (ICAO))

SUMMARY

This paper provides information about the progress on Action Item 54/20 resulting from the 54th Asia/Pacific DGCA Conference in August 2017, by which the DGCA Conference urged all Asia-Pacific States to implement the CRV project by 2020. It also shares the latest status of CRV Implementation in the Asia/Pacific Region and requests Member States to implement CRV as soon as practicable, preferably before December 2023.

CRV IMPLEMENTATION IN ASIA/PACIFIC REGION

1. INTRODUCTION

1.1 In 2013, the Asia-Pacific Region decided to advance CNS/ATM infrastructure by assigning the Common aeRonautical Virtual Private Network (VPN) (CRV) Task Force (CRV TF) of Asia/Pacific Air Navigation Planning and Implementation Regional Group (APANPIRG) to study the most efficient way to implement a cross-border cost-effective telecommunications network for Asia-Pacific States/Administrations.

1.2 After a survey of the telecommunications market and more profound studies, the operation promised to bring several benefits, including one standard unified network with a guaranteed level of service monitored by an APANPIRG body (CRV Operations Group) and a common escalation process designed to meet the aviation performance, safety and security requirements.

1.3 The challenge was for some States, including some Pacific Islands, where terrestrial connectivity is often poor. It was anticipated that CRV services with a guaranteed quality of service (submarine or satellite connectivity) may not be affordable for such States. However, it was ascertained that the network will provide enhanced benefits to all States/Administrations.

1.4 In the framework of the CRV program, coordinated over four years by the CRV Task Force and the ICAO APAC Regional Office, eighteen Pioneer States/Administrations joined hands to fund a joint procurement and select a shared service provider in 2016, relying on the ICAO Technical Cooperation Bureau procurement process in compliance with United Nations provisions.

1.5 After the ICAO Contract Board agreed on an evaluation process and outcome at the end of 2016, PCCW Global Limited was selected as a common service provider for CRV.

1.6 The 54th Asia/Pacific DGCA Conference in August 2017, through Action Item 54/20, urged all Asia-Pacific States to implement the CRV project by 2020 to fix the overall transition time and optimize the cost benefits of all stakeholders.

1.7 This paper provides information about the progress on CRV Implementation in the Asia-Pacific Region after a common service provider was selected in 2017 and requests States/Administrations that have not joined CRV yet to join CRV before December 2023.

2. DISCUSSION

2.1 The CRV is a cross-border, cost-effective telecommunications network for Asia-Pacific States. CRV enables the implementation of the Global Air Navigation Plan (GANP) and Seamless ANS objectives. CRV can enable States to disseminate MET information in IWXXM format, which is required by the ICAO Annex 3 Standards applicable from November 2020. In addition, the CNS SG/23 (2019) meeting confirmed that CRV will be used to support SWIM Implementation in the Asia-Pacific Region.

Progress on CRV Implementation

2.2 ICAO APAC Office issued State Letter Ref.: T 8/2.10 - AP041 /20 (CNS) dated 2 March 2020 on the Subject: *Reminder for implementation of CRV in APAC Region by 2020*. Noting that PCCW Global is the only selected service provider for the CRV network, States/Administrations were urged to initiate a service order with PCCW Global for CRV implementation as early as possible using

the CRV common provisions formulated by CRV Task Force and CRV Operations Group (CRV OG) of APANPIRG.

2.3 Due to the challenges and difficulties faced by States/Administrations during the pandemic situation in 2020, APANPIRG/31 (2020) adopted the Conclusion C31/12 - *Target Year of CRV Implementation in APAC Region* recommended by CNS SG/24 (2020), to postpone the target year of regional implementation of CRV **from 2020 to the end of 2021**.

2.4 A State Letter Ref.: T 8/2.10- AP002/21(CNS), 6 January 2021, Subject: *Postpone the target year of CRV implementation from 2020 to the end of 2021* in the Asia-Pacific Region was sent to Member States to inform about this conclusion. However, these target dates and extensions didn't modify the target date set in the CRV contract, **31 December 2022**. Therefore, all States/Administrations were required to join the CRV program and sign the relevant Service Contract(s) with PCCW Global with the billing start date on or before **31 December 2022**. For authorities joining CRV after 31 December 2022, any additional charges might be imposed by PCCW Global.

2.5 To avoid financial implications to States/Administrations, in case they missed the deadline to join CRV, the ICAO APAC Office enhanced its efforts to motivate and remind Member States to join CRV by December 2022. Different Webinars/workshops and Ad-hoc meetings were organized from time to time to share essential information related to CRV. Additionally, potential solutions for high costs for small ANSPs and Pacific States by joining CRV were deliberated in various CRV OG meetings and CRV OG Ad-hoc expert group meetings. Due to these efforts, one potential solution to join CRV by small ANSPs and Pacific States was identified and agreed upon by CRV OG/8 (2021). A State Letter Ref.: T 8/2.10- AP007/22(CNS), 12 January 2022, Subject: - *To remind the target year of CRV Implementation by 31 December 2022 in APAC Region and CRV Implementation for small Pacific Island and small ANSP in the region using CRV Solution, PCCWG SLA Package D* was issued by ICAO APAC Office reminding deadline to join CRV and solutions agreed by CRV OG/8 for small ANSPs and Pacific Island States.

2.6 In 2022, various requests were received by the ICAO APAC Office to initiate negotiations with PCCW Global to extend the CRV joining date for one more year to avoid additional charges. Based on the progress of CRV Implementation in 2022 and on the request of member states to extend contact for one year due to the pandemic situation, the ICAO APAC Office worked with CRV OG and PCCW Global to extend the target date to join CRV for one more year without any additional charges, which PCCW Global agreed. Consequently, APANPIRG/33 (2022) adopted the Conclusion APANPIRG/33/7 (CNS SG/26/02): *Extension of CRV Contract for one year*. A State Letter Ref.: T 8/2.15 –AP003/23(CNS) dated 4 January 2023 on the subject *Extension of CRV Contract for one year and a reminder for the target year of CRV Implementation by 31 December 2023* in the APAC Region was shared with Member States.

CRV Implementation Status

2.7 Based on the latest updates received from PCCW Global, CRV Implementation Status in Asia-Pacific, as of today, is as follows:

In Operation

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

Installation in progress

French Polynesia, New Caledonia, Pakistan, Vietnam

Not Implemented CRV
Remaining 23 APAC Member States/Administrations

Impact of non-implementation of CRV

2.8 Failing implementation of CRV by all Asia-Pacific Member States can hinder CRV's roll-out. In addition, it would also impact the network operation of those States that have implemented CRV.

2.9 As all Backbone Boundary Intermediate Systems (BBIS) States have implemented CRV, Boundary Intermediate Systems (BIS) States may not be able to interconnect with neighboring States after the transition period from point-to-point interconnection to CRV is done by BIS/BBIS States.

2.10 Currently, all communications between Pacific BBIS states (Australia, Fiji, New Zealand and the United States) to most Pacific BIS islands (e.g., Nauru, Palau, Micronesia, Tahiti, Marshall island) are on voice service using international direct dial (IDD) to transfer traffic between FIRs. IDD is unreliable and costly. Some Pacific states have implemented VoIP, but that service is also untrustworthy. Additionally, most Pacific island states except BBIS states use AFTN terminals with public internet connections. Nonetheless, AIDC is not considered for implementation due to the limited infrastructure.

2.11 It is predicted that if traffic increases in the future, with a lack of reliable voice service and a reliable network, ATC service will not be sustainable enough to maintain a safe level of separation. In addition, service outage restoration is continuing to be a time-consuming process that usually takes days rather than hours. Lastly, all other navigation, surveillance and network monitoring/management cannot be implemented to enhance safety. All these constraints can be resolved after migration to CRV by these States.

2.12 ICAO APAC Office has initiated a discussion for the inclusion of CRV in the regional Air Navigation Plan (e-ANP) in CRV OG; after the potential inclusion of CRV in e-ANP, non-implementation of CRV may result in a deficiency for Member States who have not implemented it.

2.13 ICAO APAC Office is also working with its South American and European counterparts to interconnect all regional networks. After interconnection, seamless information sharing can be achieved by States globally using CRV, resulting into the removal of costly point-to-point international circuits.

2.14 Considering all the abovementioned factors, States/Administrations are recommended to join CRV as soon as possible, preferably before 31 December 2023.

3. ACTION BY THE CONFERENCE

3.1 The Conference is invited to:

- a) note the information contained in the paper;
- b) urge Member States to implement CRV if not done so far; and
- c) urge Pacific states to work with their governing/partner/responsible state to facilitate CRV connectivity.