International Civil Aviation Organization

Twenty Seventh Meeting of the Communications/ Navigation and Surveillance Sub-group (CNS SG/27) of APANPIRG

Bangkok, Thailand, 28 August 2023 - 01 September 2023

Agenda Item 3: Aeronautical Fixed Service (AFS)

3.1 Review Report of the Tenth Meeting of the Aeronautical Communications Services Implementation Coordination Group (ACSICG/10) including:

- Report of the Eleventh Meetings of Common aeRonautical VPN Operations Group (CRV OG/11);

CURRENT STATUS OF CRV IMPLEMENTATION IN INDIA

(Presented by Airports Authority of India (AAI))

SUMMARY

This Working paper provides the latest progress of AMHS/CRV implementation within India. The paper suggests to take up the matter of extending the existing CRV network to MID region to facilitate smooth connectivity and exchange of Aeronautical/meteorological and other traffic from APAC region.

1. INTRODUCTION

1.1 In order to support one of the objectives of Global Air Navigation Plan (GANP) for Seamless Air Navigation Services (ANS), the Common aeRonautical Virtual private network (CRV) has been established by ICAO APAC region states through a common service provider as a cross-border cost-effective telecommunications network. This paper presents the progress made by India for implementation of AMHS/CRV Network enabling further enhancement of flight safety in Indian FIRs.

1.2 India is having an AMHS system in place since 2008 and was using IPLC's for exchange of cross-border telecommunication.

1.3 India signed the service contract for provision of CRV Network with PCCW Global on 15th March, 2022.

1.4 In accordance with the relevant Service Contract, India had subscribed to the CRV Connection Package-B_+, which includes 1 Mbps of bandwidth to support Voice and Data connection with adjacent states.

1.5 The actual delivery of CRV Services commenced from 15th Dec, 2022 onwards.

2. DISCUSSION

2.1 India is having an AMHS system at Mumbai connected to various BBIS and BIS states for exchanging AFTN/AMHS/ADS-B data and Voice as mentioned in below table:

S. No	India AMHS Site	AMHS Connection with States	VOICE/DATA
1	Mumbai	**Karachi*,** Beijing, Singapore, Bangkok, Colombo, Kathmandu, Dhaka & Paro, (APAC Region)	DATA/Voice*
2	Mumbai	Muscat (Middle East Regions)	DATA/Voice
3	Mumbai	Nairobi (Eastern and Southern African (ESAF) Region	DATA

2.2 The CRV Network in India has been established with the following states for replacing International Private Leased Circuit (IPLC) circuits and current status of migration on CRV Network with adjacent states are as follows:

Sr. No	CRV Network with States	Bandwidth	Data	Voice	Implemented
1	**Mumbai -Bangkok**	**64KBPS**	**Data**		**Q1 of 2023**
2	**Mumbai-Paro**	**64 KBPS**	**Data**		
3	**Mumbai-Singapore**	**64KBPS**	**Data**		
4	**Mumbai-Kathmandu**	**64KBPS**	**Data**		
5	**Mumbai-Beijing**	**64KBPS**	**Data**		**Q2 of 2023**

2.3 Further, the CRV Network is expected to be extended to other states/cities as brought in the table below in **Q4 of 2023** replacing International Private Leased Circuit (IPLC) circuits:

In Pipeline-2023

Sr. No	CRV Network with States	Bandwidth	Data	Voice	To be Implemented
1	**Mumbai -Karachi**	**64KBPS**	**Data**		**In Q4 of 2023**
2	**Mumbai-Karachi**	**112 KBPS**		**Voice**	
3	**Ahmedabad (Mumbai)*-Karachi**	**112 KBPS**		**Voice**	
4	**Delhi (Mumbai)-Karachi**	**112 KBPS**		**Voice**	
5	**Chennai (Mumbai)*-Kualalumpur**	**112 KBPS**		**Voice**	**In Q4 of 2023**
6	**Mumbai-Colombo**	**64KBPS**	**Data**		**In Q4 of 2023**

Note: Voice circuits from Ahemdabad, Delhi and Chennai will be routed to Mumbai through AAI's Internal FTI Network for connecting respective states.

2.4 India is also in the process of replacement of the existing AMHS for which the work has been awarded and project is in progress. The new AMHS will have a DC at Mumbai and a Disaster Recovery site at Delhi. Accordingly, India will plan to have another CRV redundant node at Delhi after new AMHS and the disaster recovery site at Delhi is up and running.

2.5 **Additional Requirement to extend the CRV to MID region:**

2.5.1 India (Mumbai) is having AMHS connection requirements with Muscat (OMAN) in Middle East Region and Nairobi in Eastern and Southern African (ESAF) Region for exchanging AFTN/AMHS data and Voice etc. Also, Singapore is having AMHS connection requirements with Bahrain and similarly Pakistan is having AMHS/AFTN connection requirements with Kuwait.

2.5.2 There is a requirement of engaging with other regions especially MID region for extending the existing CRV network to MID region to facilitate smooth connectivity and exchange of Aeronautical/meteorological and other traffic by replacing the IPLC circuits. This will be mutually beneficial both to APAC and MID states as three connections India-Oman, Singapore- Bahrain and Pakistan- Kuwait can be brought on CRV. Further, once MID region adopts CRV, they shall also enjoy all the basic benefits of the networking environment.

2.5.3 In year 2018-19, ICAO Mid Region office was urged to join CRV Network to enable the exchange of AFTN/AMHS/OPMET Data information in IWXXM format with states in APAC regions for Seamless Air Navigation Services (ANS) for safety of flight operation in the MID and APAC/PACIFIC Regions. However, not much progress could be made.

2.5.4 Bahrain, Oman and Kuwait in the MID region are the entry/exit points with ASIA/PACIFIC Region. CRV connectivity with these states may be very useful for Seamless Air Navigation Services (ANS).

2.5.5 India is keen to establish CRV connection with Muscat (OMAN).

2.5.6 Through this paper, the meeting and the ICAO Secretariat APAC Office is requested for taking up the matter with MID region and inviting them to join CRV for the obvious benefits. This will facilitate the setting up of networking environment within MID region, provide smooth connectivity with APAC region and obviate the requirements of IPLC.

3. ACTION BY THE MEETING

3.1 The meeting is invited to:

a) Note the information contained in this paper;

b) To take up the matter with ICAO MID Region for inviting the MID region states to join CRV.

c) Discuss any relevant matters as appropriate.

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