



ICAO

*International Civil Aviation Organization***Seventh Meeting of the Common Aeronautical Virtual Private Network Operations Group (CRV OG/7)**

Bangkok, Thailand, 20 – 22 January 2020

**Agenda Item 2:** Review and update the AMHS/ATN Implementation Status table and the APAC CRV Implementation Table

## **REPORT ON THE STATUS OF IMPLEMENTATION OF COMMON AERONAUTICAL VIRTUAL PRIVATE NETWORK (CRV) IN THE PHILIPPINES**

(Presented by Civil Aviation Authority of the Philippines)

### **SUMMARY**

This paper presents updates on the CRV implementation in the Philippines and Network Performance

## **1. INTRODUCTION**

1.1 The Philippines successfully engaged a contract with PCCW Global on 22 March 2018 based on the ICAO Common Engineering Package. The Philippines had placed the Service Order for Package “A” consisting of a dual 2Mbps Multi-Protocol Label Switching (MPLS) connection to CRV network.

1.2 The PCCW Global was able to complete the installation of CRV network on both States on June 30, 2018.

## **2. DISCUSSION**

2.1 The Philippines together with Hong Kong have worked together to speed up the implementation of CRV with an aim to improve the operational efficiency of the existing Inter Area Speech Circuit (IASC) and the ATS Message Handling System (AMHS) services and serving as a showcase for other States/Administrations.

2.2 The voice circuit over CRV network was put into operations first because the existing voice communication between Manila and Hong Kong encounters several challenges such as obsolescence of equipment and unreliable international leased line circuits resulting in disruption of the voice communication service between Manila ACC and Hong Kong ACC.

2.3 On August 14, 2018, the transition to CRV network for the voice circuit of Manila/Hong Kong had commenced and was successful.

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2.4 On January 18, 2019, Manila/Hong Kong, China AMHS over CRV network connectivity test was successfully conducted. The Inter-Operability Test (IOT) started on February 28, 2019 and was completed on March 4, 2019. On March 25, 2019, the Pre-Operational Test (POT) of Manila / Hong Kong AMHS CRV started and was completed on April 23, 2019. The Technical Memorandum of Cooperation (TMC) between Philippines and Hong Kong China was officially signed on April 30, 2019 by both State. On June 3, 2019, the Manila / Hong Kong AMHS CRV was officially commissioned and put into operation. The Manila /Hong Kong AFTN line was officially decommissioned on June 31, 2019.

2.5 On the other hand, the Manila / Taipei bilateral connectivity test over CRV started and was successfully completed on November 2018. The voice connection was first tested and was put into operation on March 2019. On April 22, 2019, the AMHS CRV Inter-Operability Test (IOT) started and was successfully completed on April 30, 2019. Followed by the Pre-Operational Test (POT) on July 29, 2019, it was successfully completed on August 5, 2019. The Philippine / Taipei Technical Memorandum of Cooperation (TMC) was officially signed by both State on September 2, 2019. On September 6, 2019, the Manila / Taipei AMHS connection over CRV was officially commissioned and put into operation.

2.6 The Philippine / USA bilateral agreement to establish the CRV connection was officially agreed by both States on March 6, 2019. Since then coordination between PCCW Global, CAAP and FAA started. On June 2019, connectivity test was conducted with the support of PCCW Global and was successful. After several attempt to establish the Manila / Oakland voice circuit, on September 11, 2019, the voice circuit between Manila and Oakland, USA was successfully established.

2.7 The bilateral connection between Philippines and Singapore to establish the CRV connection was officially agreed and accepted by PCCW Global on June 24, 2019. The target is to establish first the voice circuit connection by the 4<sup>th</sup> Quarter of 2019. On December 24, 2019 the initial cutover of voice circuit over CRV started and was successfully tested. Another successful follow-up test was conducted on December 27, 2019. On December 30, 2019, the Manila/Singapore voice circuit was use for operation and was officially commissioned on January 3, 2020. The old voice circuit will be kept as back up for two (2) months as agreed by both parties and will be officially decommissioned then after. The migration of AMHS data circuit is planned on the 1<sup>st</sup> Quarter of 2020 following the successful migration of the voice circuit over CRV.

2.8 CRV Network Performance in the Philippines for the year 2019 is very satisfactory. Though we experienced network outages on February 7, 2019 and last December 14, 2019, we can say that its performance is way above compare to the old IPLC network that we are using before. Annex "A" shows the reported circuit outages recorded in 2019.

**3. ACTION BY THE MEETING**

3.1 The meeting is invited to:

- a) note the information contained in this paper; and
- b) discuss any relevant matter as appropriate

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## Annex “A”

PERFORMANCE OF CRV CIRCUITS IN THE PHILIPPINES IN 2019						
CIRCUIT NAME	START OF OPERATION	DATE OF OUTAGE	START (UTC)	END (UTC)	OUTAGE DURATION	REASON FOR OUTAGE
MANILA-HONG KONG VOICE Line 1	AUGUST 14,2018	FEB.7,2019	1030	1230	2 HOURS	Please see Note 1 below
MANILA-HONG KONG VOICE Line 2	AUGUST 14,2018	Feb.7-8,2019	71030	80348	17 HRS 18 MINS	Please see Note 2 below
MANILA-HKG VOICE LINE 1 AND 2	AUGUST 14,2018	DEC.14,2019	1430	1703	2 HRS 33 MINS	Awaiting incident report from PCCW Global
MANILA-TAIPEI VOICE LINE 1 AND 2	Mar-19	DEC.14,2019	1430	1840	3 HRS 10MINS	Awaiting incident report from PCCW Global
MANILA-HONG KONG (TX)	JUNE 3, 2019	DEC. 14, 2019	14:23	24:00	10 HRS 34 MINS	Awaiting incident report from PCCW Global
		DEC. 15, 2019	00:00	00:57		
HONG KONG-MANILA (RX)	JUNE 3, 2019	DEC. 14, 2019	14:23	23:57	9 HRS 34 MINS	Awaiting incident report from PCCW Global
MANILA-TAIPEI (TX)	SEPT. 6, 2019	DEC. 14, 2019	14:23	18:40:00	4 HRS 17 MINS	Awaiting incident report from PCCW Global
TAIPEI-MANILA (RX)	SEPT. 6, 2019	DEC. 14, 2019	14:23	18:40:00	4 HRS 17 MINS	Awaiting incident report from PCCW Global
NOTE 1:						
Mega-I, PCCWG’s x-connect provider mishandled the circuit while trouble shooting the packet loss issue on one of the PCCWG’s IP Trunks. Mega-I placed a hardware bi-directional loopback on the circuit without getting PCCWG’s consent. That resulted in the end to end call outage on PAY(PCG) IP007263. The loopback was removed and PAY(PCG) IP007263 service resumed at 12:12GMT on 7 th Feb 2019.						
NOTE 2:						
PCCWG Tier 3 engineer performed trouble shooting and line-by-line script verification, confirmed that it was a configuration issue at Philippine’s CE router. Philippine’s CE router was under testing for CRV Philippines and Taiwan set up. Script modification was performed during the test. After the test, engineer did not manage to fall back to production value onto the router. Script restoration was taken place immediately. PAY(PCG) IP007264 service resumed at 03:48GMT on 8 th Feb, 2019						