



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

FEASIBILITY OF UTILISING EXISTING SATELLITE LINK BETWEEN CHINA AND NEPAL WHILE IMPLEMENTING CRV

(Presented by Nepal)

SUMMARY

This paper discusses the possibility of implementing CRV between Nepal and China on existing satellite link architecture.

1. INTRODUCTION

1.1 Nepal is connected to two BBIS states, India and China for aeronautical ground-ground communications, particularly for AMHS and AFTN services.

1.2 Currently, the existing AMHS connection between Mumbai (India) and Nepal (Kathmandu) is a native X.25 connection end to end operating over a 64Kbps international leased line connection.

1.3 The existing AFTN connection between Beijing (China) and Kathmandu (Nepal) remains a serial connection via a recently upgraded (2015) VSAT link using China Sat-10 (C-band) with a bandwidth of 110 Kbps. The link provided data connectivity between Beijing and Kathmandu as well as voice connectivity between Lhasa and Kathmandu.

1.4 Nepal intends to join the CRV on a staged basis, with AMHS data connectivity as the first priority.

2. DISCUSSION

2.1 China in its IP/03 presented at Aeronautical Communication Service Implementation Co-ordination Group of APANPIRG (ACSICG/6) in 2019 has explained its C-Band TES Satellite network connectivity to adjoining States like Vietnam, Mongolia, DPR Korea, Mongolia, and Macau China. Whereas some of these links are to be upgraded, those that have been recently upgraded include Myanmar in 2017 (BW 110 Kbps), Nepal in 2015 (BW 110Kbps) and Vietnam in 2019 (BW 330Kbps).

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2.2 In the paper, China has suggested using the terrestrial line as the primary link with satellite lines as emergency link, given the past experience of very reliable communications.

2.3 The CRV envisaged by ICAO CNS/ATM concept via two backbones, including that of MPLS based on satellite link.

2.4 Interestingly, even France in its WP06 in CRVOG5 Meeting has pleaded why it preferably considered the VSAT solution for CRV according to its safety case.

2.5 In light of the above, Nepal would like to humbly submit to this Meeting, if the suggestion from China can be incorporated by the contractor in the CRV architecture to be implemented for Nepal.

2.6 Perhaps other States listed in 2.1 above might wish to investigate this possibility that would not only mean building on an existing infrastructure that has stood the test of time but also reduce costs.

3. ACTION BY THE MEETING

3.1 The meeting is invited to:

- a) Investigate the possibility of implementing one of CRV back bones on existing V-SAT links; and
- b) discuss any relevant matter as appropriate.
