International Civil Aviation Organization

THE EIGHTH MEETING OF AERONAUTICAL TELECOMMUNICATION NETWORK (ATN) IMPLEMENTATION CO-ORDINATION GROUP OF APANPIRG (ATNICG/8)

Jakarta, Indonesia, 18 - 21 March 2013

Ministry Of Transportation
Republic of Indonesia

Agenda Item 3: Review States' ATN/AMHS Implementation Status, Transition and Operational Issues

NEW AMHS INSTALLATION AT NEW ATCC BUILDING HONG KONG INTERNATIONAL AIRPORT

(Presented by Hong Kong, China)

SUMMARY

This Information Paper presents the new AMHS system installation and link test arrangement with neighbouring communication centres after completion of the new CAD Buildings located in vicinity of the Hong Kong International Airport.

This paper relates to:

Strategic Objectives:
A – Safety

Global Plan Initiatives:
GPI 22 – Communication Infrastructure

1. INTRODUCTION

1.1 Hong Kong, China had accepted the AMHS-HK system in main and fallback configuration since July 2009 and the system had been put into operational use with Macao Communications Centre in December 2009. Since then, it has been operating in a stable, reliable and efficient manner in parallel with the legacy AFTN switching system.

1.2 In parallel, approval and funding had been obtained in 2007 by Hong Kong Civil Aviation Department to replace all the existing ATC systems. The new ATC replacement systems, composed of more than 20 main systems including AMHS, will be housed in the new CAD Buildings.

1.3 This paper gives an overview of the new AMHS installation and link test arrangement with neighboring communication centres at the new CAD Buildings located in vicinity of the Hong Kong International Airport.

2. New ATC Building and New ATC System Replacement Programme

2.1 A new ATC system replacement programme was launched in 2008 at Hong Kong where all the old ATC systems resided at the existing Air Traffic Control Complex (ATCX) and Backup Air Traffic Control Complex (BATCX) located at the midfield of the aerodrome will be replaced by the new systems. The new replacement system will be installed at the new ATCC Building (ATCCB) and Facility Building (FB) situated approximately 3KM SE of the old buildings. **(See Figure A)**

2.2 In this connection, it was decided to extend the existing AMHS system with new AMHS/ATN equipment installed at the new site while the legacy AFTN switching system at ATCX would be decommissioned upon removal. All AFTN message received after cutover to the new site will be feed to the AMHS/AFTN gateway of the new system to maintain existing AFTN connectivity.

2.3 Tender had been awarded in June 2012 to the contractor for the new AMHS installation. Apart from the better system performance and necessary adaption to the new operational environment, it provides similar functionalities and features of the existing one. The design also caters for maximum resiliency and provides easy mechanism to switchover in contingency situations including different mode of system failures and even upon disruption of operational site.

2.4 In addition, the old AMHS system at ATCX will be relocated to the new site as a standalone training and development system after successful cutover.

3. Progress of the new AMHS installation

3.1 New CAD buildings project progresses smoothly and they are ready for occupation by staff as well as new ATC systems since end 2012.

3.2 With regard the new AMHS system, factory acceptance test was conducted in November 2012 with satisfactory result. The system is now being installed with the site acceptance test scheduled in May 2013. Interface and interoperability tests with other new ATC systems will be arranged around the same timeframe.

3.3 Upon acceptance of all the major ATC systems, a large scale System Integration Test (SIT) will be organized to ensure the replacement systems as a whole can operate smoothly in fulfilling operational needs in every aspect.

4. Communication Link Test with local and overseas partners

4.1 A communication link test program will be commenced in April 2013 to ensure serviceability of all the new communication links connection to the new AMHS system at the new site. This includes domestic partners such as airlines, government departments and local organisations.

4.2 Similar test would also be arranged for the domestic segment of the international link to neighbouring communications centres. This is essential in that the new leased lines to the new sites can be declared in operational readiness state. As shown in **Figure B** enclosed, two new connections will be feed to main AMHS server at ATCCB and fallback server at FB. Through the switching box at the carrier premise, data from internal line can be feed to either one of the four subscribed lines at the old or new sites.

4.3 To minimize the interoperability and interface risk, same model of OSI/ATN and IPS/ATN routers in the ATCX/BATCX will be deployed in ATCCB/FB so as the limit the scope of the test to local connectivity of leased line only.

4.4 It is planned that the local leased lines will be made available by the network service provider in May/June 2013, neighbouring communications centre will be informed separately in advance for the test to ensure message can be exchanged via these new lines and new AMHS/ATN equipment. Normally the test will last less than 30 minutes.

4.5 Hong Kong, China will coordinate closely with neighbouring communications centres to minimize interruption of service during the line test period.

5. ACTION BY THE MEETING

5.1 The meeting is invited to:

(a) take note of the new AMHS installation at Hong Kong, China; and

(b) provide necessary support on the link test arrangement.

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Figure A – Location of New CAD Buildings (including ATCCB and OB) and Old ATCX/ATCX

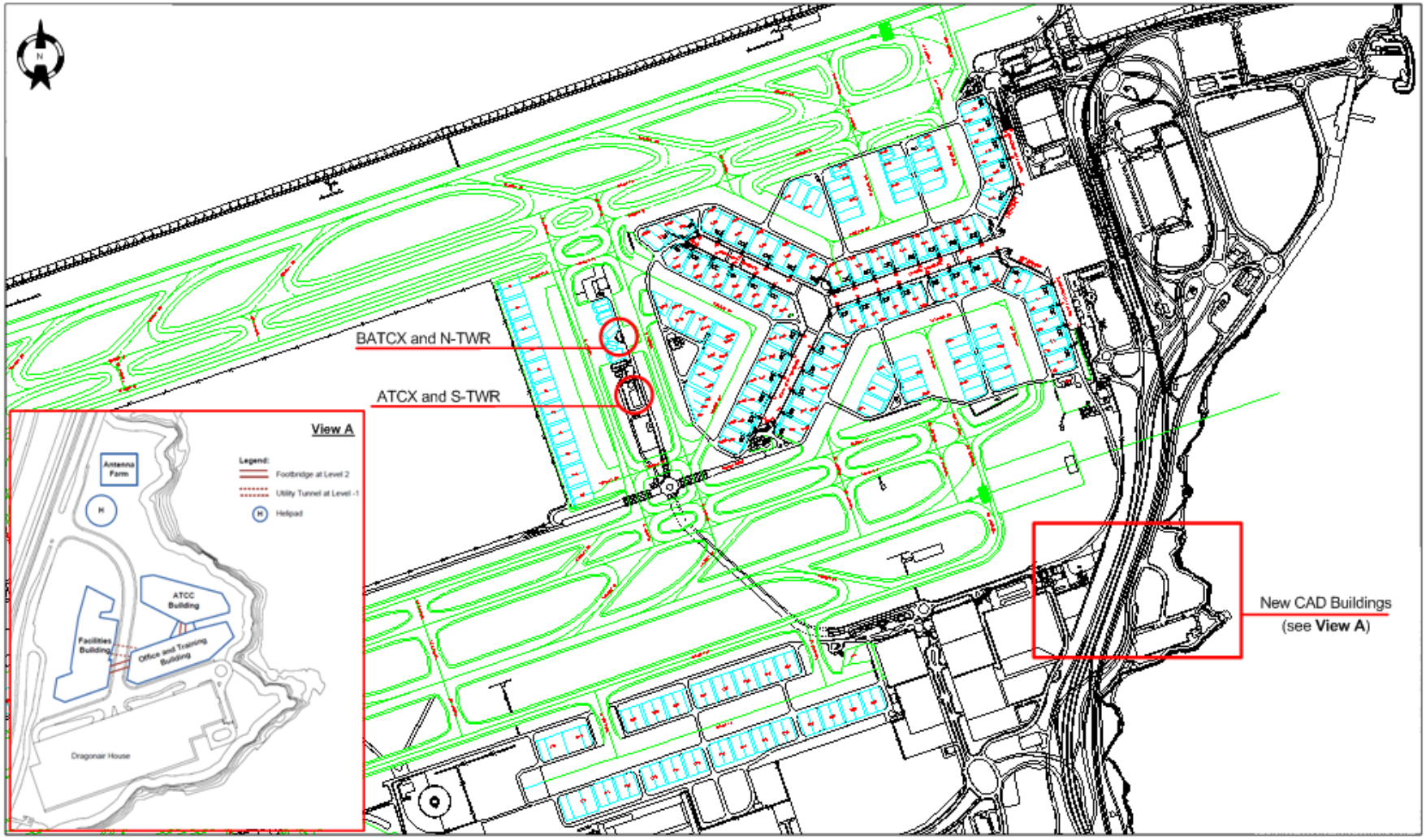

Figure B : New Domestic Routes to ATCCB and OB