International Civil Aviation Organization

The Second Meeting of the APANPIRG ATM Sub-Group (ATM /SG/2)

Hong Kong, China, 4-8 August 2014

Agenda Item 4: ATM Systems (Modernisation, Seamless ATM, CNS, ATFM)

LAO PDR AIR NAVIGATION SYSTEMS UPDATE

(Presented by Lao PDR)

SUMMARY

This paper presents an update on the air navigation improvements in Lao PDR. The paper also highlights the implementation status of the new CNS/ATM systems.

1. INTRODUCTION

1.1   Department of Civil Aviation of Lao PDR is entrusted with the responsibility of providing Air Navigational Services within the Vientiane FIR. In order to meet the strategic plan requirement, Lao PDR has developed its plan in line with Global Air Navigation Plan developed by ICAO.

1.2   Recognizing the demand on aviation industry for the economic growth, the Government of Lao PDR has initially approved new CNS/ATM Systems development plan with the objective to achieve airspace capacity enhancement, reduced arrival and departure delay, and efficient management of aircraft operations.

2. DISCUSSION

Current Situation

Communications

2.1   There are 4 VHF Remote-Control Air/Ground installations in the Vientiane FIR, located at Vientiane, Xieng Khouang, Savannakhet and Paksong, providing upper airspace VHF coverage.

2.2   AFTN, as for the AFTN, a VSAT line is used between the Vientiane ACC, Bangkok, Hanoi and Ho Chi Minh ACC as international connection line and a public line is used for domestic communication network.

Navigation

2.3   There are 5 VOR/DME and 12 NDB within the Vientiane FIR. 3 ILS installations are located at Vientiane, Luang Phabang and Pakse airports.

Surveillance

2.4   3 radar (MSSR) sites in Vientiane, Xieng Khouang and Savannakhet provide en-route surveillance, covering nearly the entire high altitude airspace in the Vientiane FIR. The Vientiane radar system, also provides PSR for the approach radar control service. **Figure 1** illustrates ATC surveillance coverage at F160.
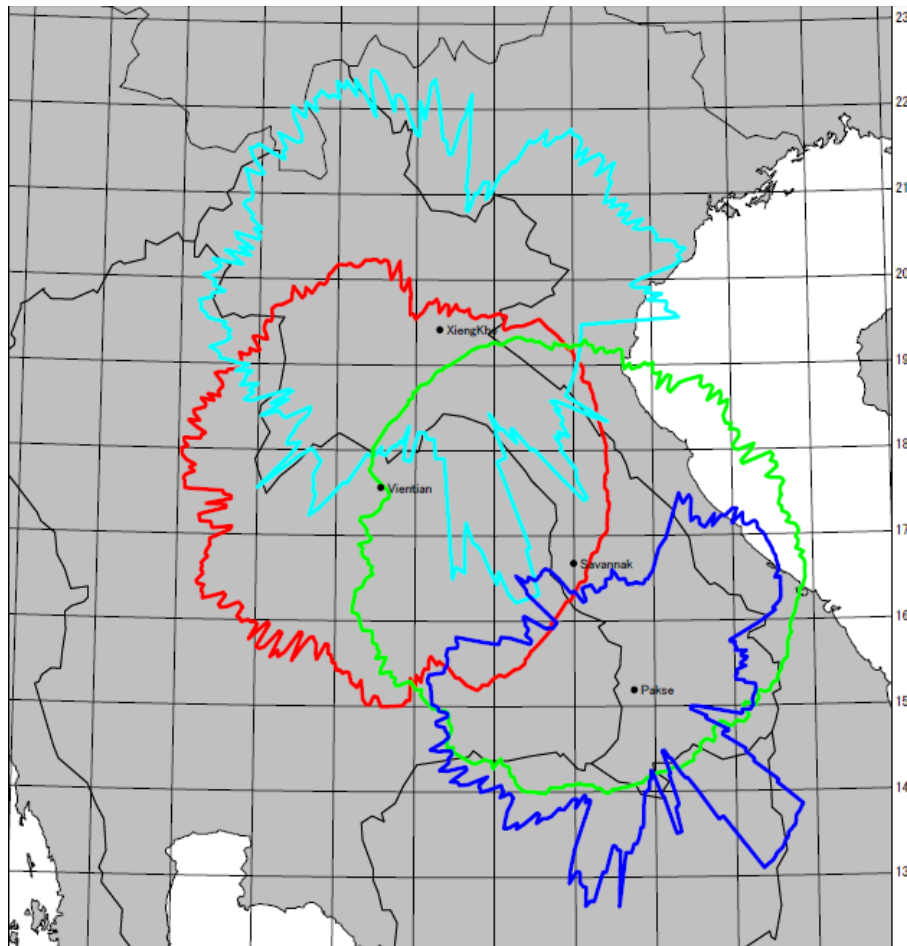
Figure 1: Vientiane FIR SSR Coverage at F160

Air Traffic Management:

2.5   The Vientiane FIR is divided into two en-route ATC sectors. En-route ATC is provided from the Vientiane Area Control Center. Tower and approach radar services are provided at Vientiane. Aerodrome control and procedural approach services are provided by the ATC towers at Luang Prabang, Pakse, and Savannakhet, with radar monitoring provided by Vientiane ACC. FIS is provided in ICAO Class F airspace at 7 domestic airports, with planning commenced to upgrade to ATC services at these airports (ICAO Class C airspace).

2.6   The most congested routes in the Vientiane FIR are international ATS routes A1, A202, B346/B218 and R474. There is no plan for introduction of ATFM at present. Lao PDR is planning for implementation of Seamless ATM Plan performance objectives.

CNS/ATM Systems Improvement

New ATC Center in Vientiane

2.7   To support present and future traffic growth, a new ACC commenced operations on 10 June 2014, using the new EUROCAT-C (TOPSKY) automated ATM system to improve airspace capacity enhancement and efficient management of aircraft operations. The new ATM system is AIDC capable, and includes the integrated processing and display of ADS-B data.

Navigation

2.8   A new Instrument Landing System (ILS) has been installed in Pakse airport. Flight inspection is scheduled for August 2014, and commissioning is expected by November 2014.

Surveillance

2.9   In order to support airspace capacity improvements and safety of traffic operation within Vientiane FIR, as well as uni-directional routes, a new radar site has been installed in Paksong, Champasak province (Southern Lao PDR). Flight inspection is scheduled for August 2014, along with the Pakse ILS.

2.10   ADS-B has been installed in Vientiane, and a new ground-station will be installed in Luang Phabang airport in northern Lao PDR.

AMHS Implementation Progress

2.11   The international link between Vientiane and Bangkok is already set up with TCP/IP and is fully operational. Therefore, international AMHS tests may now be scheduled.

2.12   The TCP/IP link between DCA building and Lao Air Traffic Management building in Vientiane is fully operational.

2.13   AMHS deployment requires TCP/IP links between Vientiane and the remote sites at Savannakhet, Luang Prabang, Pakse provincial airports, and international links with Thailand and Vietnam. Deployment to the domestic sites is scheduled for the period 2014-2016.

2.14   AMHS client training for End-Users and operators is completed.

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 matters as appropriate.

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