



International Civil Aviation Organization

**Third Meeting of the ICAO Asia/Pacific Seamless ATM Planning Group
(APSAPG/3)**

Chennai, India, 21-25 January 2013

Agenda Item 4: Asia/Pacific Seamless ATM Status and Strategies

REGIONAL ATS SURVEILLANCE AND COMMUNICATIONS COVERAGE GAPS

(Presented by Hong Kong, China and Thailand)

SUMMARY

To support the seamless ATM initiative, it is necessary to identify coverage gaps of ATS surveillance and communications along Major Traffic Flow (MTF) and intra-regional short-haul routes with busy traffic. This paper presents signal coverage gaps on ATS surveillance and communications along these short-haul regional routes in the APAC Regions. Concerned States/Administrations are encouraged to review their CNS strategy and propose plans to address coverage gaps in accordance with ASBU module B0-84 “Initial capability for ground surveillance” and ASBU module B0-40 “Improved Safety and Efficiency through the Initial Application of Data Link En-route”, which are considered as critical ASBU upgrades for seamless ATM.

This paper relates to –

Strategic Objectives:

- A: *Safety – Enhance global civil aviation safety*
- C: *Environmental Protection and Sustainable Development of Air Transport – Foster harmonized and economically viable development of international civil aviation that does not unduly harm the environment*

Global Plan Initiatives:

- GPI-1 Flexible use of airspace
- GPI-2 Reduced vertical separation minima
- GPI-4 Alignment of upper airspace classifications
- GPI-5 RNAV and RNP (Performance-based navigation)
- GPI-7 Dynamic and flexible ATS route management
- GPI-8 Collaborative airspace design and management
- GPI-11 RNP and RNAV SIDs and STARS
- GPI-16 Decision support systems and alerting systems
- GPI-17 Data link applications
- GPI-18 Aeronautical information
- GPI-21 Navigation systems
- GPI-22 Communication infrastructure

1. INTRODUCTION

1.1 During previous APSAPG meetings, Thailand and Hong Kong presented working papers and flimsy outlining preliminary analysis on coverage of ATS surveillance and communications within the APAC Regions. The Meeting considered the working papers contained useful information to support studies on Major Traffic Flow (MTF) and Regional Routes with busy traffic with a view to identifying current status and improvements of seamless ATM capabilities in terms of ATS surveillance and communications.

1.2 To go one step further, the APSAPG in its 2nd Meeting urged States to contribute more effort and provide the necessary information on signal coverage of ATS surveillance and communications, rather than their exact geographical coordinates. As Hong Kong, China has been actively participating into the ADS-B Working Group and Task Force Meetings with regular update on implementation status of surveillance including ADS-B and radar, the Meeting tasked Hong Kong, China and Thailand to conduct a more comprehensive analysis to identify coverage gaps for ATS surveillance and communications within the APAC Regions.

2. DISCUSSION

2.1 In this working paper, initial focus was put on coverage gaps of ATS surveillance and VHF communications over the 16 selected intra-regional short-haul routes with busy traffic within the APAC Regions. These selected intra-regional short-haul routes were based on WP/04 “MTF and Sample Regional Route Study” presented by the ICAO Secretariat during the APSAPG/2 Meeting.

2.2 Information on ATS surveillance and communications is acquired from (a) States’ AIP (b) working papers published by States/ICAO in various ICAO meetings/seminars (c) States’ response to ICAO Questionnaire provided by the ICAO Secretariat (d) CNS FASID Table published on the ICAO web-site (e) CNS/ATM Implementation Matrix endorsed by APANPIRG/23 (f) ICAO Frequency List No. 3 provided by the ICAO Secretariat.

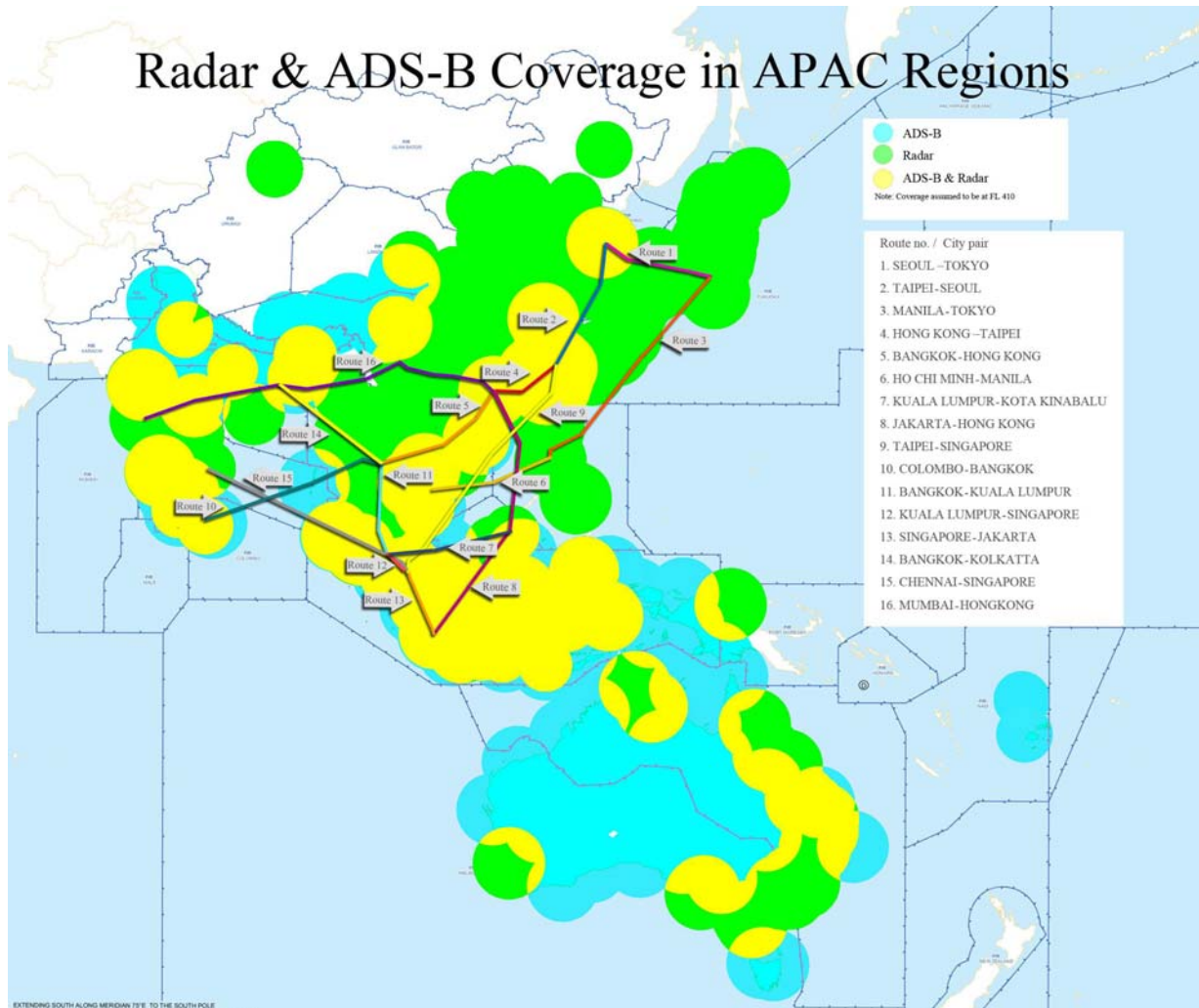
2.3 Surveillance (Secondary Surveillance Radar: SSR and ADS-B) and VHF communications coverage over the 16 intra-regional short-haul routes are shown in **Appendix 1 and 2** respectively. Preliminary analysis indicates that there are ATS surveillance and communications gaps along five routes, namely Route 3 (Manila – Tokyo), Route 6 (Ho Chi Minh – Manila), Route 8 (Hong Kong – Jakarta), Route 10 (Colombo – Bangkok) and Route 15 (Chennai – Singapore). In accordance with ASBU module B0-84 “Initial capability for ground surveillance” (ASBU Priority 1) and ASBU module B0-40 “Improved Safety and Efficiency through the Initial Application of Data Link En-Route” (ASBU Priority 1), these gaps need to be addressed with the highest priority through critical ASBU upgrades.

2.4 However, despite searching through various sources mentioned in paragraph 2.2, some information on ATS surveillance and communications still cannot be acquired. The absence of essential information, in particular locations of some facilities, limits accuracy of the analysis.

3. ACTION BY THE MEETING

3.1 The meeting is invited to:

- a) make use of the signal coverage information to support work of the APSAPG; and
- b) request the ICAO Regional Office to conduct a survey to acquire more comprehensive information from States/Administrations regarding ATS surveillance and communications coverage while addressing data sensitivity issues so as to enable a more accurate coverage gap analysis.



VHF Communications Coverage in APAC Regions

