



International Civil Aviation Organization

**AUTOMATIC DEPENDENT SURVEILLANCE –
BROADCAST SEMINAR AND TWELFTH MEETING
OF AUTOMATIC DEPENDENT SURVEILLANCE –
BROADCAST (ADS-B) STUDY AND
IMPLEMENTATION TASK FORCE (ADS-B SITF/12)**



Kolkata, India, 15-18 April 2013

Agenda Item 8: Any other business

REVIEW SURVEILLANCE STRATEGY FOR ASIA/PACIFIC REGION

(Presented by Secretariat)

SUMMARY

The revised regional Surveillance Strategy for Asia/Pacific Regions was adopted by APANPIRG/23 under Conclusion 23/35. (Appendix K to the report on agenda item 3.4). This paper presents the strategy for review.

1. INTRODUCTION

1.1 The regional Surveillance Strategy for Asia and Pacific Regions initially developed by the ADS-B SITF and endorsed by the Twelfth Meeting of CNS/MET Sub-group then adopted by APANPIRG/19 under Conclusion 18/39.

1.2 The current regional Surveillance Strategy adopted by APANPIRG/23 is provided in the **Attachment** to this paper for review by this meeting.

2. DISCUSSION

2.1 APANPIRG/23 held in September 2010 noted revised regional surveillance strategy for Asia and Pacific Regions and adopted the following Conclusion:

Conclusion 23/35 – Surveillance Strategy for the Asia/Pacific Region

That, the revised surveillance strategy for the Asia/Pacific Region provided in Appendix K to the Report on agenda item 3.4 be adopted.

2.2 States were notified about the revised surveillance strategy through *State Letter T8/2.11:AP169/12 CNS on 28 November 2012*. The document has also been posted on the ICAO APAC Webpage.

2.3 The meeting is invited to note that the surveillance strategy was considered as living document which is regularly updated based on the developments.

3. ACTION REQUIRED BY THE MEETING

3.1 The meeting is invited to review the attached Surveillance Strategy for Asia and Pacific Regions and propose any changes if it is considered necessary.

APANPIRG/23
Appendix K to the Report on Agenda Item 3.4

**SURVEILLANCE STRATEGY
FOR THE ASIA/PACIFIC REGION**

Considering that:

1. States are implementing CNS/ATM systems to gain safety, efficiency and environmental benefits, and have endorsed the move toward satellite and data link technologies;
2. The future air traffic environment will require increased use of aircraft-derived surveillance information for the implementation of a seamless automated air traffic flow management system;
3. The 11th Air Navigation Conference endorsed the use of ADS-B as an enabler of the global air traffic management concept and encouraged States to support cost-effective early implementation of ADS-B applications;
4. APANPIRG has decided to use the 1090MHz Extended Squitter data link for ADS-B air-ground and air-air applications in the Asia/Pacific Region, noting that in the longer term an additional link type may be required;
5. SSR and ADS-C will continue to meet many critical surveillance needs for the foreseeable future;
- ~~6. ACAS acts as situational awareness tool and last resort for safety conflict resolution;~~
7. SARPs, PANS and guidance material for the use of ADS-B have been developed;
8. ADS-B avionics and ground systems are available; and
9. Multilateration is a technology that can supplement SSR, ~~and ADS-B~~ and SMR.

THE SURVEILLANCE STRATEGY FOR THE ASIA/PACIFIC REGION IS TO:

1. Minimise the reliance upon pilot position reporting, particularly voice position reporting, for surveillance of aircraft;
2. Maximise the use of ADS-B on major air routes and in terminal areas, giving consideration to the mandatory carriage of ADS-B Out as specified in Note 1 and use of ADS-B for ATC separation service;
3. Reduce the dependence on Primary Radar for area surveillance;
4. Provide maximum contiguous ATS surveillance coverage of air routes using 1090MHz Extended Squitter ADS-B and Mode S SSR based on operational requirements;
5. Make full use of SSR Mode S capabilities where radar surveillance is used and reduce reliance on 4-digit octal codes;
6. Make use of ADS-C where technical constraint or cost benefit analysis does not support the use of ADS-B, SSR or Multilateration;
7. Make use of Multilateration for surface, terminal and area surveillance where appropriate as an alternative or supplement to other surveillance systems;

8. Increase the effectiveness of surveillance and collision avoidance systems through mandatory use of pressure altitude reporting transponders;
9. Improve safety through sharing of ATS surveillance data across FIR boundaries;
10. Ensure provision of communication, navigation, and data management capabilities necessary to make optimal use of surveillance systems;
11. Enhance ATM automation tools and safety nets through the use of aircraft-derived data such as flight identification, trajectories and intentions; and
12. Ensure civil-military cooperation and interoperability.

Note 1:

- a) *Version 0 ES as specified in Annex 10, Volume IV, Chapter 3, Paragraph 3.1.2.8.6 (up to and including Amendment 82 to Annex 10) and Chapter 2 of Technical Provisions for Mode S Services and Extended Squitter (ICAO Doc 9871) (Equivalent to DO260) to be used till at least 2020.*
- b) *Version 1 ES as specified in Chapter 3 of Technical Provisions for Mode S Services and Extended Squitter (ICAO Doc 9871) (Equivalent to DO260A);*
- c) *Version 2 ES (including provisions for new set of 1 090 MHz extended squitter (ES) messages and traffic information service – broadcast (TIS-B) being developed by the Aeronautical Surveillance Panel (ASP) and scheduled to be incorporated in Annex 10 Vol. IV - Surveillance and Collision Avoidance System as part of Amendment 86 with target applicable date in November 2013. (Equivalent to DO260B and EUROCAE ED-102A which were issued in December 2009).*