International Civil Aviation Organization

FOURTEENTH MEETING OF THE COMMUNICATIONS/NAVIGATION/SURVEILLANCE AND METEOROLOGY SUB-GROUP OF APANPIRG (CNS/MET SG/14)

Jakarta, Indonesia, 19 – 22 July 2010

Agenda Item 6: **Surveillance**

2) Review Strategy for the Surveillance Systems

REVIEW SURVEILLANCE STRATEGY FOR ASIA/PACIFIC REGION

(Presented by Secretariat)

SUMMARY

The regional Surveillance Strategy for Asia/Pacific Regions was adopted by APANPIRG/19 under Conclusion 19/39. (Appendix R to the report). This paper presents the strategy for review.

This paper relates to

Strategic Objectives:
A: Safety – Enhance global civil aviation safety
D. Efficiency – Enhance the efficiency of aviation operations

Global Plan Initiatives:
GPI-7 Dynamic and flexible ATS route management
GPI-9 Situational awareness
GPI-17 Implementation of data link applications
GPI-22 Communication network infrastructure

1. Introduction

1.1 The regional Surveillance Strategy for Asia and Pacific Regions developed by the Twelfth Meeting of CNS/MET Sub group was adopted by APANPIRG/19 under Conclusion 18/39.

1.2 The adopted Strategy is provided in the Attachment to this paper for review by this meeting.

2. Discussion

2.1 The CNS/MET SG/12 meeting established an ad hoc working group and endorsed the amended Surveillance Strategy proposed by the ad hoc working group.

2.2 The APANPIRG/19 meeting adopted the surveillance strategy for Asia and Pacific Regions updated by CNS/MET SG/12.

2.3 The CNS/MET SG/13 meeting held in July 2009 reviewed the surveillance strategy for Asia and Pacific Regions. The meeting did not identify the need to amend the Strategy and therefore no recommendation was made for consideration by APANPIRG/20 meeting.

2.4 The meeting is invited to note that the surveillance strategy was considered as living document which is regularly updated based on the developments. The strategy is also expected to be reviewed by the Ninth meeting of ADS-B Study and Implementation Task Force now has been rescheduled for 18-19 August in Jakarta, Indonesia.

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 changes if it is considered necessary.

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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.

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 interoperability.

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Note 1:

a) *Version 0 ES as specified in Annex 10, Volume IV, Chapter 3, Paragraph3.1.2.8.6 (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.*

Or

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)*