



International Civil Aviation Organization

**THE NINETEENTH MEETING OF THE COMMUNICATIONS /
NAVIGATION AND SURVEILLANCE SUB-GROUP (CNS SG/19) OF
APANPIRG**

Bangkok, Thailand, 20 -24 July 2015

Agenda Item 6: Surveillance

ADS-B COLLABORATION IN THE SOUTH CHINA SEA

(Presented by Singapore)

SUMMARY

This paper presents the collaborative efforts of States to achieve a seamless ADS-B surveillance coverage over a portion of the South China Sea area with the aim of improving safety, capacity and efficiency.

1. Introduction

1.1 The ADS-B SITF and the SEA/BOB ADS-B WG encourage ADS-B collaboration among States. Recognizing the benefits of ADS-B collaboration, Singapore is working with neighboring States on such ADS-B collaboration to cover surveillance and Direct Controller Pilot Communication (DCPC) gaps in the South China Sea.

2. Initial Phase

2.1 The initial phase involved collaboration between Indonesia, Vietnam and Singapore.

The purpose of the collaboration is to provide surveillance and DCPC coverage over a portion of the South China Sea area including two main ATS routes L642 and M771. The agreement between Indonesia and Singapore was signed in Dec 2010 while the agreement between Singapore and Vietnam was signed in Nov 2011. Under the collaboration:

- a) Singapore would share its ADS-B data from Singapore with Indonesia;
- b) Indonesia would share its ADS-B data from Matak and Natuna with Singapore;
- c) Indonesia would provide access of the VHF radio facilities at Matak and Natuna to Singapore for air traffic services (ATS);
- d) Viet Nam would share its ADS-B data from Con Son with Singapore;
- e) Viet Nam would provide access of the VHF radio facilities at Con Son to Singapore for ATS.

2.2 Prior to the collaboration project, parts of the routes L642, M771, M753, N892, L644 and N891 were not under surveillance and DCPC coverage and procedural separation has to be applied. The implementation of the collaboration project extended surveillance and DCPC coverage, thus allowing full surveillance and DCPC coverage on these routes. See **Figure 1**.

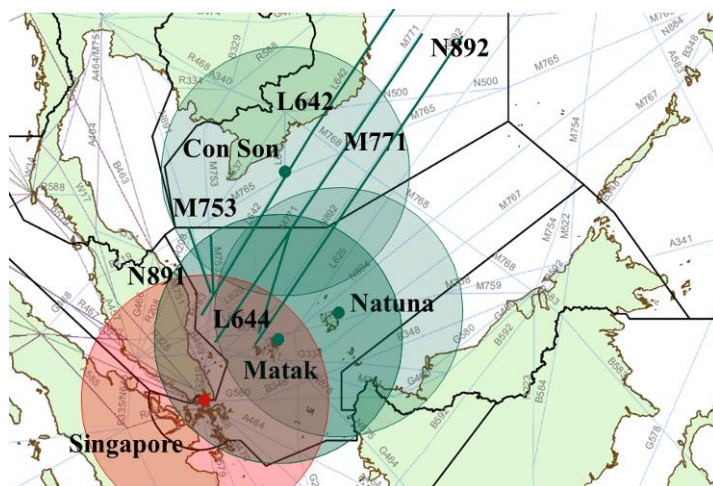


Fig 1: Initial Phase of ADS-B collaboration project over the South China Sea

2.3 Radar-like separation could now be applied. Singapore and Viet Nam have agreed on a progressive phased approach to reduce longitudinal separation to allow airspace users to reap the optimum benefits of ADS-B on the respective ATS routes. The following phased approach to reduce longitudinal separation, for aircraft that are suitably equipped, has been adopted;

- a) From previous 50 NM to 40 NM on 12 December 2013;
- b) 30 NM commenced on 24 July 2014; and
- c) 20 NM planned for end of 2015.

3. Subsequent Phases

3.1 Singapore is exploring with Brunei, the Philippines and Viet Nam on ways to cover the remaining surveillance gaps in the South China Sea.

3.2 Thus far, high level memoranda of cooperation were signed between Singapore and the Philippines and between Singapore and Brunei on 11 February 2014 and 27 November 2014 respectively, agreeing in-principle on ADS-B collaboration. Viet Nam has also in-principle agreed to provide additional ADS-B data to Singapore to cover surveillance gaps.

4. Action by the meeting

4.1 The meeting is invited to:

- a) note the progress of collaboration between States involved in working towards enhancing safety, capacity and efficiency of ATS in the South China Sea area; and
- b) encourage greater ADS-B collaboration among APAC States.
