

**Twenty Seventh Meeting of the
Informal South Pacific ATS Co-ordinating Group
(ISPACG/27)**

**Auckland, New Zealand
27 February – 01 March 2013**

Agenda Item 5.1 – Seamless Airspace Chart

Australian ADS-B Update

Presented by Airservices Australia

SUMMARY

This paper provides an update on Australian ADS-B activities since ISPACG/26

1. INTRODUCTION

- 1.1 ADS-B has been in operational use in Australia since December 2009. As has been discussed in previous meetings (ISPACG/25 WP02), ADS-B is used in Australia for the provision of ATS surveillance services. In a similar way to how many ATS Units utilise radar information, ADS-B is used in Australia to provide:
- 5NM separation between identified aircraft;
 - Short term conflict warnings with respect to other ADS-B equipped aircraft;
 - Route and altitude conformance monitoring;
 - Radar-like assistance to ADS-B equipped aircraft in emergencies;
 - Traffic advisory services between ADS-B equipped aircraft;
 - Increased situational awareness for non-routine occurrences (e.g. diversions).
- 1.2 As well as the ADS-B sites located on the Australian mainland, there is an ADS-B site situated on LHI and, under a data sharing agreement, data from 4 Indonesian ADS-B sites (to the north of Australia) is also displayed to Australian ATC (ISPACG/. The ADS-B data from the Indonesian sites is used to reduce the possibility of coordination errors across the FIR boundary.
- 1.3 Currently the majority of international aircraft currently operating within Australian airspace are ADS-B equipped.
- 1.4 New ADS-B related information to be presented to the meeting includes:
- ICAO 2012 FPL and its effect on flight planning ADS-B equipage
 - ADS-B filtering
 - ADS-B mandate(s)

2. DISCUSSION

2.1 ICAO 2012 FPL

2.1.1 The ICAO 2012 FPL was implemented in November 2012, bringing with it the capability for operators to specifically flight plan ADS-B equipage. Carriage of approved (1090 HMZ) ADS-B equipment is indicated by the insertion of a “B1” and/or “B2” in Field 10b of the ICAO FPL. Most operators are currently annotating this information correctly.

2.2 ADS-B filtering (“black list” vs “white list”)

2.2.1 When ADS-B was first implemented into Australia, operators were required to apply for ADS-B approval from CASA, confirming that the airborne ADS-B equipment met the required specifications and that flight crews were appropriately trained. Approved airframes were then entered into an ADS-B “white list”. If ADS-B emissions were received from an airframe that was not on the white list the ADS-B data was filtered, and not displayed to ATC.

2.2.2 In 2012 the use of a white list (for approved operators) was changed to a black list, containing airframes that were known to either contain non-approved ADS-B equipment or equipment that had been identified as being faulty. The transition from white list to black list was phased in over the period between June and September 2012.

2.2.3 Where possible, operators of aircraft that have been added to the black list are contacted directly and advised of either the fault or the non-compliant avionics. A number of aircraft originally blacklisted have taken action to become compliant (in some cases by configuring the NUCp/NIC to zero) and have subsequently been removed from the blacklist.

2.3 ADS-B Mandate

2.3.1 As discussed at previous meetings (ISPACG/23, WP/18 refers), an Australian ADS-B mandate comes into effect on 12 Dec 2013. This mandate makes fitment and operation of approved ADS-B avionics equipment mandatory for all Australian aircraft, foreign aircraft in Australian territory engaged in Regular Public Transport (RPT), charter or aerial work operations and foreign private aircraft in Australian territory at or above FL290 (unless CASA has authorized otherwise).

2.3.2 Australian territory refers to the airspace above and within the lateral limits of the territorial sea, which is the belt of water not exceeding 12 nautical miles in width measured from the territorial sea baseline. An image of this airspace along the east coast of Australia is shown below (purple-shaded airspace).



Figure 1. Australian territorial airspace

2.4 Additional ADS-B Mandates 2014-2017

2.4.1 On 16 August 2012, the Director of Aviation Safety, CASA made instruments for a phased requirement for all IFR aircraft to be equipped for ADS-B by 2 February 2017. This applies to all Australian aircraft and will enhance Airservices' capability to provide safe and efficient air traffic management services.

2.4.2 2014 – IFR Forward fit

2.4.2.1 Any aircraft that is first registered on or after 6 February 2014 and is operated under the IFR must carry serviceable ADS-B transmitting equipment that complies with the CASA Civil Aviation Order (CAOs) 20.18 and Civil Aviation Order (CAO) 20.18 Amendment Instrument 2012 (No. 1).

2.4.3 2016 – IFR for Western Australia

2.4.3.1 On and after 4 February 2016, an aircraft that is operated under the IFR in Class A, B, C or E airspace within the arc of a circle that starts 500 NM true north from Perth aerodrome and finishes 500 NM true east from Perth Airport must carry serviceable ADS-B transmitting equipment that complies with Civil Aviation Order 20.18 and Civil Aviation Order (CAO) 20.18 Amendment Instrument 2012 (No. 1).

2.4.4 2017 – All IFR aircraft

2.4.4.1 On and after 2 February 2017, any aircraft that is first registered before 6 February 2014 and is operated under the IFR must carry serviceable ADS-B transmitting equipment that complies with Civil Aviation Order 20.18 and Civil Aviation Order (CAO) 20.18 Amendment Instrument 2012 (No. 1).

2.4.4.2 The CAO amendment F2012L01739 was registered on the Federal Register of Legislative Instruments on 22 August 2012 and came into effect on 23rd August 2012.

3. ACTION BY THE MEETING

3.1 The meeting is invited to:

- a) Note the information in this paper, especially information concerning the ADS-B mandate.

4. ADDITIONAL INFORMATION

4.1 Links to information referred to in this working paper

[ADS-B mandate](#)

[Other ADS-B mandates](#)

[Civil Aviation Order \(CAOs\) 20.18](#)

[Civil Aviation Order \(CAO\) 20.18 Amendment Instrument 2012 \(No. 1\)](#)

[Diagram of Australian territorial airspace](#)

[ISPACG/23 WP18](#)

[ISPACG/25 WP02](#)