

International Civil Aviation Organization



**AUTOMATIC DEPENDENT SURVEILLANCE –
BROADCAST SEMINAR AND ELEVENTH MEETING
OF AUTOMATIC DEPENDENT SURVEILLANCE –
BROADCAST (ADS-B) STUDY AND
IMPLEMENTATION TASK FORCE (ADS-B SITF/11)**



Jeju, Republic of Korea, 24-27 April 2012

**Agenda Item 5: Report and updates by the leading member of the Task Force on
Tasks assigned**

ADS-B SITF TASK No 13 - AMENDMENTS TO THE AUSTRALIAN ADS-B RULE

(Presented by Australia)

SUMMARY

This WP informs the meeting of recent amendments to the Australian ADS-B rule (included in Civil Aviation Orders applicable to both Australian and foreign registered aircraft) for flight in Australian airspace at/above FL290. The changes were made in response to Conclusions taken at the ADS-B SITF/10 Meeting and relate to:

- i) the date for forward fit of SA Aware in the GNSS avionics used for aircraft position source for ADS-B. (Task No 13 in the ADS-B Subject/Task List); and
- ii) the conditions under which an aircraft may undertake flight in Australia with unserviceable ADS-B equipment. (Conclusion 2 of the Regulatory Authority Ad Hoc Working Group at ADS-B SITF/10).

1. INTRODUCTION

1.1 Conclusion 10/6 taken at the ICAO APAC ADS-B SITF/10 Meeting in Singapore related to a requirement to extend the date for the forward fitment in new aircraft of the SA Aware feature in GNSS equipment providing the position source data for ADS-B OUT transmission. The Conclusion was that the aircraft forward fit requirement in the Australian Civil Aviation Orders (CAO) Nos. 20.18, 82.1, 82.3, 82.5 for SA Aware GNSS receivers providing position source data for ADS-B be extended from 28 June 2012 to 12 December 2013.

1.2 Also at the same ADS-B SITF/10 Meeting, under Agenda Item 7 the Report of the “Regulatory Authority Ad Hoc Working Group” makes the following statement:

Conclusion 2: That ANSPs providing an ATC service in mandatory ADS-B airspace apply similar policy and procedures to those existing policy and procedures applicable to aircraft having non-serviceable ATC transponders in Class A airspace. For any aircraft non-ADS-B equipped or transmitting non-complying ADS-B information that present at the airspace boundary, acceptance of entry would be dependent on State/ICAO guidelines and controller discretion/workload.

1.3 This WP informs the Meeting on the action taken by the Civil Aviation Safety Authority (CASA) to amend the Australian ADS-B rules in keeping with the above two Conclusions of the ICAO APAC ADS-B SITF/10 Meeting.

2. DISCUSSION

2.1 Extension of the date for forward fitment of GNSS SA Aware feature – newly manufactured aircraft

2.1.1 Industry consultation on the proposal was undertaken in September 2011 by the normal CASA practice of the publication of a Notice of Proposed Rulemaking (NPRM No. 1103AS) inviting industry comment. Three respondents (a major GNSS equipment manufacturer, an international airline operator and the association representing international airlines) submitted comments about the date proposed in the NPRM (12 December 2013) for forward fitment of the GNSS SA Aware feature.

2.1.2 Each of the respondents argued for CASA to set a later date of around 2016. Their concerns were:

- a) The earliest time that one of the three major equipment manufacturers can certify an SA Aware Multi-Mode Receiver (MMR) to replace its existing GNSS navigator product used in many existing and new airline aircraft is December 2015. That date has been driven by investment plans to meet ADS-B OUT rules of Europe and USA. A target date for Australia of December 2016 would harmonise plans with Europe and USA and be more aligned with industry equipage standardisation as a significant number of airlines will be impacted by any requirement prior to December 2015;
- b) Fleet equipment standardisation would be impacted if airlines are forced to equip with alternative manufacturers’ equipment. There may also be contractual implications for those airlines that have already placed new aircraft and equipment orders with aircraft manufacturers;
- c) Corresponding European and USA dates for similar equipage are set well beyond the Australian date of 12 December 2013; and
- d) Although the 10th Meeting of the ICAO APAC ADS-B SITF agreed on 12 December 2013 compliance date, respondents noted that the need for SA Aware as a means of reducing potential GNSS continuity loss has since been offset by Airservices Australia adopting the recent ICAO SASP recommendations for lower GNSS integrity protection limits in the use of ADS-B by ATC.

2.1.3 The arguments made by respondents were accepted by CASA and it was decided to set a date of 8 December 2016. In making that decision, CASA was aware that the safety impact of not having SA Aware has been offset to a large extent by a recently approved lowering of the level of the aircraft transmitted position integrity (Navigation Uncertainty Category) parameter acceptable in the ADS-B ground system for display of ADS-B targets to ATC, in Airservices Australia's ADS-B system.

2.2 **Flight with unserviceable ADS-B equipment**

2.2.1 Industry consultation on the proposed additions to the ADS-B rule to allow for flight with unserviceable ADS-B equipment was undertaken in the same NPRM (No 1103AS) that proposed the change to the date for SA Aware.

2.2.2 The outcome was that the Australian ADS-B rule was amended to now provide for aircraft having unserviceable ADS-B equipment to undertake flight under certain conditions to position the aircraft for equipment repairs. It allows ADS-B equipment to be unserviceable for a flight if:

- a) the equipment is listed in the aircraft operator's Minimum Equipment List as a Permissible Unserviceability (PUS) for the flight; or
- b) flight with unserviceable equipment has been approved by CASA and both of the following applies:
 - i) the flight takes place within 3 days of the discovery of the unserviceability; and
 - ii) ATC clears the flight before it commences.

3. **ACTION BY THE MEETING**

3.1 The meeting is invited to note that Australia has amended Australian Civil Aviation Orders to address two Conclusions taken at the ADS-B SITF/10 Meeting held in Singapore last year:

- a) ADS-B SITF Task No 13 in relation to the date for forward fitment in newly manufactured aircraft of SA Aware in GNSS receivers used for ADS-B position source; and
- b) the Conclusion by the Regulatory Authorities Working Group in relation to providing for conditional flight with unserviceable ADS-B equipment.

3.2 The meeting is invited to endorse the action taken in response to the above and close Task No 13.
