



International Civil Aviation Organization

**THE THIRD MEETING OF ADS-B STUDY AND
IMPLEMENTATION TASK FORCE (ADS-B TF/3)**

Bangkok, Thailand, 23 – 25 March 2005.

Agenda Item 3: Review the progress made by ADS-B related ICAO panels

b) SAS Panel ADS-B activity

**SEPARATION AND AIRSPACE SAFETY PANEL (SASP)
SUMMARY OF RECENT ACTIVITY IN RELATION TO ADS-B**

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(Presented by Secretariat)**

SUMMARY

This paper presents a summary of the recent activities of the ICAO Separation and Airspace Safety Panel (SASP) in relation to ADS-B issues.

1. INTRODUCTION

1.1 The Sixth Working Group of the Whole Meeting of the Separation and Airspace Safety Panel (SASP) was held in Washington D.C. from 1 to 12 November 2004. During the meeting, the SASP Project Team 13 (ADS-B) met separately to progress ADS – B issues before providing input to the plenary sessions.

2. DISCUSSION

ADS-B Accuracy

2.1 Project Team 13 reported that the USA had established an ADS-B separation standards group that was providing the analysis to be used as the basis for the approval of a 3NM minimum. The group was developing a technical standard that would be validated using a radar reference system and comparative assessment methodology. Their analysis so far had confirmed that ADS-B was as good or better than the reference radar. In the case of terminal SSR, cross track accuracy for ADS-B at 40NM range was 18 to 60 times more accurate and, in the case of en-route SSR, cross track accuracy at 200 NM range for ADS-B was 90 to 300 times more accurate.

PANS-ATM Amendment

2.2 Project Team 13 considered the proposed amendment to PANS-ATM (Doc 4444), in particular Chapter 8 (proposed to be renamed from Radar Services to Surveillance Services), presented by the ICAO Headquarters Secretariat, noting that the material included the work of other ICAO panels and technical groups intent on progressing ADS-B. The reworded Chapter 8 comprised radar and ADS-B provisions merged into one chapter, rather than the additional new ADS-B chapter that had initially been

foreseen by SASP. The proposed amendment had already been reviewed in detail by the Secretariat and the Operational Data Link Panel (OPLINKP).

2.3 In regard to the concept of a single chapter which detailed radar and ADS-B service requirements as stand alone parts within the same chapter, in comparison to separate radar and ADS-B chapters, significant discussion had taken place in regard to the positives and negatives of each format. Ultimately the meeting had agreed that the proposal for a combined chapter should be progressed and, with some amendment, the project team had supported the Secretariat proposal, noting the need for SASP to complete their work in this regard and provide proposals to the Secretariat by January 2005. It was the intention of the Secretariat to progress this work with a view to meeting the November 2007 PANS-ATM amendment date. In this regard, it was expected that the proposed PANS-ATM amendment should be ready for final consideration by the ANC during late 2006.

Comparative Assessment

2.5 Project Team 13 reviewed the draft documentation that comprised the comparative assessment between the radar reference system (SSR only) and ADS-B, in accordance with the provisions of the *Manual on Airspace Planning Methodology for the Determination of Separation Minima* (Doc 9689) comparative assessment methodology. This material comprises the technical comparison that would be used to authorize the use of a 5 NM standard and would include, as an appendix, information regarding the hazards and mitigating options that had been identified by some States during implementation. SASP is expecting to commence work shortly on expanding the assessment to include a 3 NM minimum. The meeting recognized that the conduct of suitable implementation safety assessments were the responsibility of States and therefore the SASP safety analysis should be confined to technical issues rather than implementation specific elements.

2.6 The meeting agreed that SASP intent was to develop a technical comparison for establishing the safety in an ADS-B sense of a current safe (radar) minimum. The 5NM minimum had been published as a long standing minimum and the SASP work was to assess whether it was technically possible to implement that existing minimum using a technology that was as good or better than radar, thereby replacing one technology for another in any given implementation of 5NM separation.

2.7 As such, ***the meeting was of the view that the technical comparison indicated that ADS-B was equal to or better than radar in a technical sense and that it could be used to provide a 5NM separation.*** However, the meeting noted that there was still work to be completed with regard to supporting documentation and final proposals and that these would be advanced prior to and during the next meeting.

2.8 The next (Seventh) Working Group of the Whole Meeting of the Separation and Airspace Safety Panel has been scheduled for May 2005, in Montreal.

3. ACTION BY THE MEETING

3.1 The meeting is invited to note the recent activities of the Separation and Airspace Safety Panel (SASP) in relation to ADS-B issues.
