



## INTERNATIONAL CIVIL AVIATION ORGANIZATION

### WESTERN AND CENTRAL AFRICAN OFFICE

#### SIXTEENTH MEETING OF AFISNET SATELLITE MANAGEMENT COMMITTEE (SNMC/16)

(Dakar, Senegal, 17-19 December 2007)

#### Agenda Item 9: Any other business

#### Update on Surveillance-Related developments in ICAO (Presented by the Secretariat)

#### 1. Introduction

1.1 This paper provides an update on the surveillance-related work carried out by the Aeronautical Surveillance Panel (ASP) and Separation and Airspace Safety Panel (SASP).

#### 2. Update on ASP activities

2.1 Amendment 82 to Annex 10 which is to become applicable on 22 November 2007, introduced universal access transceiver (UAT) (for automatic dependent surveillance — broadcast (ADS-B) ) and a new set of 1090 MHz extended squitter messages (called Version 1, based on RTCA DO 260A) that enable air-ground as well as air-air applications of ADS-B;

2.2 . Technical details and Mode S/extended squitter register definitions that were shown in an Appendix of Annex 10, Volume III, have been relocated to a new technical manual (Doc 9871 - *Technical Provisions for Mode S Services and Extended Squitter*) that is scheduled for publication in the near future. Similarly, technical details for UAT are to be published in the form of a manual (Doc 9861 - *UAT Manual*) ; and

2.3 . The ASP is currently developing the following material for finalization at ASP/1 meeting which is scheduled for 24 to 28 November 2008:

- a) draft high-level SARPs for multilateration systems (MLAT);
- b) new provisions on required surveillance performance (RSP) and airborne surveillance applications;
- c) report on RF pollution study relating to 1030/1090 MHz in light of increased traffic and new systems (e.g. MLAT);
- d) consolidation of guidance material on surveillance in a new aeronautical surveillance manual; and
- e) update to existing ICAO provisions on surveillance and collision avoidance systems in light of operational experience.

### **3. Update on SASP activities**

3.1 Development of 3 nm separation minima for ADS-B systems. A number of States are planning extensive implementations of ADS-B for the provision of an air traffic control (ATC) service. While 5 nm minimum has already been defined, it is likely that future implementations will require a 3 nm minimum.

3.2 5 nm/3 nm separation minima for MLAT systems. A number of States are planning extensive implementations of MLAT for the provision of an ATC service. One of the dangers is that if system performance characteristics and separation minima are not defined for MLAT, there will be a proliferation of national standards. Given an identified need from several states to have these standards available, the SASP is seeking to enable this mode of ATC surveillance as soon as possible.

3.3 In Trail Climb. The panel is working on procedures to allow ADS-B equipped aircraft to carry out in-trail climb procedures in oceanic airspace when oceanic separation does not exist. For example, an aircraft 15 miles behind and below another aircraft would be allowed to climb through the altitude of the preceding aircraft to an altitude above the preceding aircraft provided very tight restrictions are met. This task is not necessarily related to surveillance but it does use ADS-B systems on board aircraft to monitor the position of other aircraft. It is envisioned that separation responsibilities will remain on the ground.

#### **4. Action by the meeting**

4.1 The meeting is invited to note the information provided in this paper.

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