

# INTERNATIONAL CIVIL AVIATION ORGANIZATION



## First AFI Regional Workshop on Aeronautical Surveillance

(Dakar, Senegal, 20 – 21 June 2011)

## FINAL REPORT

Prepared by ICAO Secretariat

June 2011

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## 1. Introduction

The second regional workshop on Aeronautical Surveillance was held in the Conference Room of the Agence pour la Sécurité de la Navigation Aérienne en Afrique et à Madagascar (ASECNA) Dakar, Senegal from, 20 to 21 June 2011.

## 2. Objective

The main objective of the workshop was to provide an overview of the Aeronautical Surveillance concept, system level provisions, detailed technical specifications and evolution of air navigation surveillance systems technology as well as relevant updated guidance material driven from the activities of the ICAO Aeronautical Surveillance Panel for surveillance systems (International Standards and Recommended Practices -SARPs), based on the provisions contained in ICAO Annex 10, Aeronautical Telecommunications, Volume IV, Manual on the Secondary Surveillance Radar (SSR) Systems (Doc 9684), and Manual on Mode S Specific (Doc 9688)..

## 3. Attendance

The meeting was attended by 28 participants from twelve (10) Contracting States, two (02) Air Navigation Service Providers (ASECNA acting behalf AFI 17 Contracting States & ATNS) a representative of airlines (IATA) and two Aeronautical Surveillance facilities manufacturers/Vendors, namely Thales and Selex respectively from France and Italy. A list of participants is provided at **Appendix**.

## 4. Officers and Secretariat

**Mr. Francois-Xavier SALAMBANGA**, Regional Officer, Communications, Navigation and Surveillance (CNS) from the ICAO Regional Office for Western and Central Africa (Dakar), acted as Secretary of the AFI Aeronautical Surveillance Implementation Task Force.

## 5. Working language

The meeting was conducted in English and the meeting documentation was issued in this language.

## 6. Opening

The meeting was opened by **Mr. Mam Sait JALLOW**, ICAO Regional Director, WACAF, and Dakar.

## 7. Agenda

The meeting adopted the following agenda:

**Agenda item 1:** Overview of the evolution of the Aeronautical Surveillance systems

**Agenda item 2:** Summary of relevant activities of ICAO Aeronautical Surveillance Panel (developments and provisions)

**Agenda item 3:** Overview of Primary and Secondary Surveillance Radars

**Agenda item 4:** Overview of ADS- Contract

**Agenda item 5:** Basic ADS-B Concept and applications

**Agenda item 6:** Fundamentals of Multilateration Systems

**Agenda item 7:** Aeronautical Surveillance data distribution and exchange

**Agenda item 8:** Trials and Implementations in

- ICAO AFI Regions
- Other ICAO Region

**Agenda item 9:** Comparison of Surveillance Technologies

**Agenda item 10:** Roadmap for Aeronautical Surveillance from Users' Perspective

**Agenda item 11:** Any other business

## 8. Summary of Recommendations

The following recommendations were formulated by AFI/AS/ Workshop meeting:

Number	Title
<b>Agenda Item 1</b>	<b>Overview of the evolution of the Aeronautical Surveillance systems</b>
<b>Recommendation 2/01</b>	<b>Separation criteria to design Surveillance facilities</b> That, considering the role of surveillance facilities functionalities to complement Performance Base Navigation, AFI States ensure that all the relevant operational requirement for the future ATM system are taken into consideration when planning designing and implementing surveillance systems.
<b>Agenda Item 2</b>	<b>Summary of relevant activities of ICAO Aeronautical Surveillance Panel (developments and provisions)</b>
<b>Recommendation 2/02</b>	<b>Participation to the Global Air Navigation Technology Forum (GANTF)</b> That, AFI States/Organizations should endeavor to participate and /or contribute to the GANTF in September 2011 and develop relevant submissions to be presented to the 12 <sup>th</sup> Air Navigation Conference.
<b>Agenda Item 3</b>	<b>Overview of Primary and Secondary Surveillance Radars</b>
<b>Recommendation 2/03</b>	<b>Harmonization of Modes S Secondary Implementation in AFI Region</b> That in accordance with interoperability requirements States/Organisation consider the harmonization of the implementation of Mode S Secondary Surveillance Radars in AFI Region.
<b>Agenda Item 4</b>	<b>Overview of ADS- Contract</b>
<b>Recommendation 2/04</b>	<b>Need of a performance survey on ADS-C operation</b> That, based on the pace of implementation of ADS-C within the AFI Region States/organizations should assess the required service performance level and report to ICAO regional Offices
<b>Agenda Item 5</b>	<b>Basic ADS-B Concept and applications</b>
<b>Agenda Item 6</b>	<b>Fundamentals of Multilateration Systems</b>
<b>Agenda Item 7</b>	<b>Aeronautical Surveillance data distribution and exchange</b>
<b>Recommendation 2/05</b>	<b>Interconnection between Surveillance systems</b> That AFI States/Organizations, develop and harmonize scheme for aeronautical surveillance data distribution and exchange interconnection and interoperability within AFI region and between AFI and other ICAO neighbouring Regions.

Number	Title
<b>Agenda Item 8</b>	<b>Trials and Implementations in ICAO AFI &amp; ICAO other Regions</b>
<b>Recommendation 2/06</b>	<b>Trials between Aeronautical Surveillance Systems</b> That in order to ensure interoperability and interconnection of surveillance systems States /Organization should conduct trials based on MoU and share the results for the update of AFI Surveillance Plan.
<b>Agenda Item 9</b>	<b>Comparison of Surveillance Technologies</b>
<b>Agenda Item 10</b>	<b>Roadmap for Aeronautical Surveillance from users perspective</b>
<b>Recommendation 2/07</b>	<b>User consultation</b> That, State s/Organizations should reinforce the consultation with the users prior to implementing new surveillance solution taking due cognizance of the AFI Surveillance implementation Plan.
<b>Agenda Item 11</b>	<b>Any other business</b>
<b>Recommendation 2/08</b>	<b>Cost Benefit Analysis</b> That, a detailed CBA should form part of any surveillance solution decision making process

**APPENDIX**  
**Regional Workshop on Aeronautical Surveillance Systems**  
**(Dakar, Senegal, 20-21 June 2011)**

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