



CNS/SG/2 - WP/

**AFI PLANNING AND IMPLEMENTATION REGIONAL GROUP
COMMUNICATIONS, NAVIGATION AND SURVEILLANCE SUB-GROUP SECOND MEETING
CNS/SG/2**

INTERNATIONAL CIVIL AVIATION ORGANIZATION

(Dakar, Senegal , 22-25 May 2007)

(Presented by ASECNA)

SUMMARY

The present Working Paper gives a progress report on the implementation of the Aeronautical Surveillance Plan in ASECNA area. For the three main components of the Surveillance Systems SSR and ADS-C/CPDLC, are basically implemented giving a good opportunity for a collaborative Surveillance data exchanges in AFI area. These systems complexity and cost may require an appropriate special organisation of ANSP to deal usefully with the Providers.

Agenda Item6: **Surveillance** *ASECNA Surveillance Plan*

1. Introduction

In the CNS/ATM components implementation framework ASECNA planned since year 2000 to purchase SSR and ADS-C/CPDLC equipments and systems in her main centres : Ivato, N'djamena, Niamey, Dakar, Abidjan and Brazzaville.

The main objective is to overcome the lack of air navigation surveillance in these FIRs and therefore to increase air navigation safety in the area.

In this context, the effective implementation of the Surveillance systems, couldn't be done without a co-operative/proactive approach with the airline users and a deep evaluation of the technical, operational and financial aspects of the project.

The yearly technical ASECNA/IATA panels allowed to take into account the real requirements of the users.

2. Discussion

□ **Implementation of Secondary Surveillance radars in ASECNA FIRs**

The implementation of the SSR systems in ASECNA centres is one the components of an integrated CNS/ATM Plan achievement.

The first centre to be equipped is N'djamena in the "Reacen" integrated project for the modernization of the whole Regional Control Centre.

The second phase is related to Niamey, Dakar, Abidjan and the third to Brazzaville.

N'Djamena is fully operating since 10th May 2007.

SSR are installed and are on trials in Niamey, Abidjan and Dakar.

Their full operational phase is planned to begin after a complete training for Air traffic Controllers and maintenance teams.

Brazzaville SSSR equipments are in the purchasing step; the purchasing agreement is signed with the tender.

These Radars are designed Monopulse with a S Mode Option for the data link.

❑ **Implementation of ADS-C/CPDLC in ASECNA FIRs**

Far in the past (1996) ASECNA has been making ADS-C trials with an ACARS data link system based on a Personnel Computer (ADS-C PC). These trials were conducted with former Air Afrique airline. By year 2004 a full ADS-C/CPDLC was purchased and installed in Antananarivo FIR.

The integrated Surveillance Plan for ASECNA include ADS-C/CPDLC system for N'Djamena, Niamey, Dakar, Abidjan (already installed).

An ATS AIRCOM Service Agreement with SITA is at its end steps and will provide ACARS data link for ADS-C/CPDLC in these centres likely before the end of this year.

Because of the critical aspect of the data link to be performed by ACARS it was advisable for ASECNA:

- to deal with the Aircom service provider in order to set service performance level;
- to seek for an alternate technical solution using the opportunities provided by AFISNET capability (AFS and AMS).

3. CONCLUSION

SSR and ADS-C/CPDLC implementation provides real opportunities for ANSP to share surveillance radar or ADS-C/CPDLC datas to enhance air navigation safety particularly at FIR boundaries , pending the availability and the integrity of communication facilities.

Due to surveillance equipments and software complexity and cost, it should be advisable for AFI ANSP:

- to look for the best way for a regional cooperative relationships towards the vendors, through for example an Association /Sub group of the AFI ANSP Surveillance Systems Customers;
- to enhance the programs for operational and maintenance teams exchanges.

The meeting is invited to:

- note the in formations given above
- discuss, amend and endorse ASECNA proposals regarding Surveillance datas exchanges, AFI ANSP Surveillance Systems Customers Association and the enhancement of operational and technical team exchange