



INTERNATIONAL CIVIL AVIATION ORGANIZATION
AFI PLANNING AND IMPLEMENTATION REGIONAL GROUP
SEVENTEENTH MEETING (APIRG/17)
(Burkina Faso, 2 to 6 August 2010)

Agenda Item-3.3: Communications, Navigation and Surveillance (CNS)

IMPLEMENTATION OF SURVEILLANCE TOOLS

(Presented by the DRC)

Summary

The DRC has set up an implementation plan for surveillance tools in Kinshasa FIR. The first phase of this implementation relates to the installation of 5 ADS-B stations for the surveillance of 2 sets of RNAV routes UM731/998 and UM214/215; as well as the Kinshasa TMA. Phase 2 relates to the installation of the additional ADS-B stations and PSR/SSR radar stations.

Reference : Doc003

Objectives : This note is related to strategic objectives A (Safety) and D (efficiency)

1. Introduction.

The DRC is finalizing the deployment of the VHF coverage for the upper airspace and the required NAVAIDS as per the AFI plan. Currently, the DRC has set up a program in 2 phases. The first one consists of the acquisition of an ATM system and 5 ADS-B stations. Phase 2 relates to the 11 additional VSAT stations and the radar stations.

2. Discussion

2.1 The Kinshasa FIR is crossed from North to South by 4 RNAV routes used by almost the entire traffic from Europe to South Africa and vice versa. For safety sake in these routes, an installation of 5 ADS-B stations in Kinshasa, Mbandaka, Kikwit, Lubumbashi and Buta is foreseen.

These stations will enable the following:

- For Lubumbashi: to visualize the equipped aircraft at the entry of Kinshasa FIR (especially on the UM214 and UM215) and also to visualize the traffic in Approach.
- For BUT: to visualize the equipped aircraft on the crowded routes (UM214 and UM215) for the traffic evolving in the area of BUT and Kisangani.

- For Mbandaka and Kikwit: to visualize the equipped aircraft on the crowded routes (UM731 and UM998 in particular)
- Kinshasa: to visualize the equipped traffics on UM731 and UM998 routes and in Kinshasa TMA. Kinshasa will also have an automated system for processing and displaying flight data to ensure traffic management in the entire upper airspace of Kinshasa FIR.

2.2 Phase 2 of the program will consist in supplementing the 11 additional ADS-B stations, a coverage of secondary radar for the terminal airspaces of the Kinshasa, Kisangani and Lubumbashi airports. Primary surveillance radars are foreseen for Kinshasa and Lubumbashi in order to compensate for the lack of transponders in numerous regional aircraft. Long range primary surveillance radar is foreseen to cover the East part of the FIR around Kindu in order to detect the aircraft whose transponders are not operational.

Three radiogoniometer systems will ensure assistance and guidance of aircraft in emergency in the mountainous sector at the North-East of the FIR. Finally, the DRC will have automated systems for processing and displaying flight data in Kisangani and Lubumbashi for the purpose of managing the traffic in the terminal zones of these two airports. This will help to ensure the management of flight information sector under their responsibility for automatic coordination with the automated system of Kinshasa ACC/FIC (Phase 1) which supervises the upper airspace of the country.

2. Action by the meeting

The meeting is invited to take note of the information contained herein.