INTERNATIONAL CIVIL AVIATION ORGANIZATION
Fourth Meeting of the APIRG Communication, Navigation and Surveillance Sub-Group (CNS/SG/4)

(Dakar, Senegal, 24 to 29 July 2011)

Agenda Item 7: Review of the status of implementation of the current aeronautical Surveillance Plan

(Note presented by ASECNA)

Summary

This note addresses the implementation status of Surveillance Means in ASECNA Region and some ongoing actions related to the AFI strategy.

1. Introduction

In the framework of the improvement of the safety, the efficiency and the regularity of air navigation services provided to the users, ASECNA undertook since 1998, the implementation of surveillance means in its six (6) FIRs which are: Antananarivo, Brazzaville, Dakar, N'Djamena and Niamey. Surveillance means have been also deployed in Abidjan which manages by delegation a part of airspace assigned to Dakar FIR.

This implementation was based on APIRG/13 recommendations and resolution n°2002-CM 40-11 of ASECNA board Committee held in June 14, 2002 in Bangui which recommended the implementation of the surveillance plan taking support on the surveillance sensors and completed by the systems of automation and traffic visualization.

2. Discussions

2.1 Benefits obtained from the implementation

- Reduction of incidents in some ASECNA airspace;
- Improvement of safety level of flights;
- Improvement of efficiency of the air traffic management at the centers level;
- Improvement of alert services;

The implementation of this plan allowed a first service level of surveillance in the airspace thanks to five (5) SSR equipping the ATS Centers of Abidjan, Brazzaville, Dakar, N'Djamena and Niamey for the needs of the en-route control completed by the ADS-C coverage on the whole FIRs included Antananarivo FIR.

Above results have been obtained thanks to selection of EUROCAT-X system as Hardware and Software support for the implementation, integrating the following functionalities: FDPS, FPASD, RDP and ADS/CPDLC. The system of Antananarivo processes only the FPL and ADS-C data.

2.2 Evolution of ASECNA current platforms

From 2001 to 2009, the software has known significant upgrade related to the evolution of operational needs. This is reflected today by the coexistence in the five (5) centers of three (3) different releases of EUROCAT-X Software as indicated in the table in appendix. This diversity of release induces difficult of maintenance and those implemented before 2008 didn't include RVSM functionality as required since 2008.

In order to overcome all these deficiencies, facilitate our maintenance procedures, and take into account the ATM changes, ASECNA decided to harmonize and modernize the EUROCAT-X systems implemented to its centers as follow:

- harmonization of the operational configuration and hardware modernization of the sites of Antananarivo and N'Djamena at the same level with the other centers by integrating all relevant functionalities including the RVSM;
- Capability to process the new flight plan format expected in November 2012 and the evolution of SITA connection link format in order to replace the X25 by IP format as announced by SITA;
- Implementation of AIDC connection link in X25 format for automatic ground to ground ATC coordination;
- Implementation of the MSTS MEDICIS tool processing raw data from multi radar, ADS-B and WAM sensors and in the interest of data sharing with the adjacent centers;
- Perform the safety assessment studies and process related to the new ATM changes
- Implementation of the Exercise Editor (EED) tool for the ATC center Simulators;
- Upgrade of the EAMAC simulator;
- Implementation of reference platform at ASECNA Headquarters for total control of the complete maintenance of all the systems deployed;
- Training of controllers and maintenance teams.

2.3 Ongoing action in the framework of AFI strategy

In the framework of the AFI strategy and considering the conclusions and decisions formulated by the second meeting of AFI ASI/TF, ASECNA has started to undertake the following actions:

- categorization of terminal areas (TMA) and aerodromes under its responsibility, based on traffic density and pattern complexity;
- extend the provision of ADS-C service at the level of the whole ASECNA centers
- implement the CPDLC in the continental and oceanic airspace as required by IATA
- ensure data sharing with neighbouring centers ;
- Implement the automated system of processing and visualization of air traffic situations at the whole ASECNA centers;
- Implement, in the whole ATC centers, the ADS and/or MLATsensors for visualization of air traffic situations.
- collection of statistics of aircraft types capable of ADS-C/CPDLC in its 6 FIRs;
- develop the assessment scheme of ADS-C/CPDLC services implemented in its centers;
- develop a scheme for aeronautical data distribution and exchange in order to ensure interconnection and interoperability of surveillance systems with its neighbouring.

3. Conclusion

The meeting is invited:

- To take note of the information above and encourage the effort of ASECNA regarding the improvement of surveillance services in its FIRs
- Recommend the implementation of exchange of surveillance data between the neighbouring centres to improve and reinforce the surveillance services;
- Recommend the implementation of a system of monitoring of ADS-C

Appendix

The EUROCAT-X Systems have been implemented as follow:

N°	Site	Version Software	Server	Executive Controller Screen	Planning Controller Screen	SAT
1	**Antananarivo**	Unix 4.0E ver.1	PSW 500	1K*1K (CRT)	1K*1K (CRT)	January 2001
2	**N'Djamena**	Unix 4.0E ver.2	DS10	1K*1K (Sony)	1K*1K (CRT)	June 2005
3	**Dakar (phase 2)**	V3.15 / Linux	PC	2K*2K (NTT)	1K*1K (LCD)	May 2008
4	**Niamey**	V3.15 / Linux	PC	2K*2K (NTT)	1K*1K (LCD)	December 2005
5	**EAMAC**	V3.15 / Linux	PC	2K*2K (NTT)	1K*1K (LCD)	May 2005
6	**Brazzaville**	V3.15 / Linux	PC	2K*2K (NTT)	1K*1K (LCD)	December 2008
7	**Abidjan**	V3.15 / Linux	PC	2K*2K (NTT)	1K*1K (LCD)	July 2009