



International Civil Aviation Organization

CAR/SAM REGIONAL PLANNING IMPLEMENTATION GROUP (GREPECAS)

**Fifth Meeting of the CNS Committee of the GREPECAS ATM/CNS Subgroup  
(CNS/COMM/5)**

Lima, Peru, 13 to 17 November 2006

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**Agenda Item 3:           Surveillance systems developments**

**FANS DEVELOPMENT IN CAR/SAM REGION**

(Presented by SITA)

**SUMMARY**

This information paper presents current status for FANS services implementation in the CAR/SAM regions from a SITA perspective.

**References:**

- GREPECAS/13 Report, Santiago, Chile, nov/2005
- ATM/CNS/SG4 Final Report, Mexico, 2005
- SAT13/Conclusions
- SAT FIT 1/ Final Report

**1.           Introduction**

1.1           On 22 February 2005, the Air Navigation Commission approved the Statement of Basic Operational Requirements and Planning Criteria (BORPC) which is applicable to all the ICAO. It refers to Surveillance aspects as per item 7.2 as follows:

*“Surveillance should be provided as an integral part of air traffic control where practicable and desirable or necessary in the interest of safety, efficiency and economy of operations, in particular for those areas where traffic density and/or the multiplicity or complexity of ATS routes creates constraints. Primary and/or secondary surveillance radar systems may be used to fulfill this requirement. Subject to availability and cost effectiveness and provided that the required level of safety is maintained, ADS and ADS-B may be used in airspace where surveillance by radar is impracticable or cannot be justified.”*

1.2           The FANS 1/A ADS/CPDLC applications use the Aircraft Communication Addressing and Reporting System (ACARS) in accordance with the Airlines Electronic Engineering Committee “622” specification and have now been installed in most wide body civil aircraft and some military aircraft.

## 2. Recent FANS 1/A references for CAR/SAM

2.1 The **Decision 13/55** from ATM/CNS/SG4 included a task on FANS 1/A Interoperability Study be included in the work programme of the ATM/CNS Subgroup with the purpose of ensuring the regional interoperability of FANS 1 A.

2.2 Both **Conclusions 13/20** and **13/21**, from SAT13, addressed Final Report of First FANS 1/A Interoperability Team held in last April, in Las Palmas as shown in following:

- **CONCLUSION SAT13/20: IMPLEMENTATION OF ADS/CPDLC PLANS BY SAT STATES**

THAT SAT STATES AND ORGANIZATIONS BE ENCOURAGED TO COMPLY WITH THEIR ADS/CPDLC IMPLEMENTATION PLANS IN A TIMELY MANNER.

- **CONCLUSION SAT13/21: NEED FOR A CONSOLIDATED DATABASE FOR FANS1/A EQUIPPED AIRCRAFT**

THAT A CONSOLIDATED DATABASE BE CREATED TO IDENTIFY FANS1/A EQUIPPED AIRCRAFT OPERATING IN THE SOUTH ATLANTIC.

2.3 The SAT FANS 1/A Interoperability Team (SAT/FIT) has been established to oversee FANS 1/A system performance monitoring to ensure that the system continues to meet safety and interoperability requirements and that operations and procedures are working as specified.

2.4 The FIT main objectives are to:

- a) Monitor and harmonize ADS/CPDLC trials being carried out by SAT States and adjacent States;
- b) Review identified problem reports and determine appropriate resolution;
- c) Develop interim operational procedures to mitigate the effects of problems until such time as they are resolved;
- d) Monitor the progress of problem resolution;
- e) Prepare summaries of problems encountered and their operational implications;
- f) Assess system performance based on information in CRA periodic reports; and
- g) Co-ordinate system testing.

### **3. Update on FANS 1/A developments for CAR/SAM**

#### **3.1 SAT Region**

3.1.1 Currently there are 2 ATS Providers carrying out ADS/CPDLC trials in this airspace: DECEA (Atlantico ACC) and AENA (Canarias). SITA is the selected data link service provider for all South America States that are carrying on FANS 1/A trials in that air space. Both trials are closely monitored by SITA and these are some of the more recent available statistics:

#### **3.2 Canarias (AENA)**

Main user airlines: Air France (48,38%), Lufthansa (22,50%), TAM (15,74%)  
FANS Traffic by media: Satellite (54,72%), VHF (25,72%)  
Application share: ADS (82,29%), CPDLC (10,56%) and AFN (7,15%)

#### **3.3 ACC Atlantico (DECEA)**

Main user airlines: Lufthansa (33,16%), TAM (25,70%), and SAA (21,91%).  
Other users: Lufthansa, Alitalia, Air France, Swiss Air and KLM.  
FANS Traffic by media: Satellite (75,63 %), VHF (6,74%), Internetworking (17,62 %)  
Application share: ADS (71,95%), CPDLC (23,79%) and AFN (4,26%)

3.3.1 In September the AIRCOM FANS Service availability average for both ATS Providers systems was 99,96%.

#### **3.4 Chile Trials**

3.4.1 In July/2006, SITA has installed an ADS/CPDLC workstation for trial purposes in DGAC Chile premises. For the moment, DGAC Chile, SITA and LAN are carrying out the operational flight tests mainly in the routes over the Pacific region.

### **4. Conclusion**

4.1 ATS data link services like FANS 1/A is already a reality in the CAR/SAM region. The pushing factors to build this new context are the increasing equipped fleet combined with ATS providers need to move forward on CNS/ATM transition in order to gain experience, improve data link awareness and safety.

4.2 SITA is available to provide any further information as well prepared to support regional ATS Providers concrete plans to develop FANS 1/A/CADS/CFRS trials, demonstrations and operational deployment.