



## **FIFTH MEETING OF THE ALLPIRG/ADVISORY GROUP**

(Montreal, 23 – 24 March 2006)

**Agenda Item 5.1: Funding for regional safety monitoring agencies for reduced vertical separation minima (RVSM), required navigation performance (RNP) and automatic dependent surveillance – contract/controller-pilot data link communications (ADS-C/CPDLC)**

### **ESTABLISHMENT OF A FANS GLOBAL CENTRAL REPORTING AGENCY**

(Presented by SITA)

#### **SUMMARY**

Aircraft using the FANS-1/A ADS/CPDLC applications communicate via satellites and ground earth stations that provide global coverage and are not dedicated to any specific ICAO region. This working paper presents high level background to the creation of the South Pacific FANS Interoperability Teams (FIT) and associated sub-team – the Central Reporting Agency (CRA) to monitor and manage the performance of the supporting air-ground data communications network. With the expansion of FANS data link usage around the globe it is envisaged that there will be a need for FIT and associated CRA function in each region. As the FANS data link communications in all regions will use the same network whose performance cannot be tailored to the needs of any specific region, this paper recommends that the meeting consider benefits of establishing a single global CRA function.

Action by ALLPIRG/5 is in paragraph 3.

## **1. INTRODUCTION**

1.1 The Air Navigation Service Providers of the South Pacific region, Airservices Australia, Airways Corporation of New Zealand, US FAA, on deciding in the 1990's to make the first implementation the use of the FANS-1/A version of ADS/CPDLC, created the South Pacific region the Informal South Pacific ATS Co-ordinating Group (ISPACG) to manage the process.

1.2 The ISPACG members established a “FANS Interoperability Team” (FIT) that was responsible for addressing technical and operational issues and overall coordination of the implementation of the technology.

1.3 However, the FIT realised that a daily on-going support was required to address the implementation and resolve problems reports that were identified as the implementation progressed. The FIT created a “Central Reporting Agency” (CRA) that was tasked with the daily monitoring, coordination, testing and problem research.

1.4 Since its creation, the South Pacific CRA function has been carried out by the Boeing company and has primarily been funded by one State.

1.5 The purpose of the FIT is generally classified as:

- **Problem identification and resolution**
  - Reviewing de-identified problem reports
  - Recommending interim operational procedures until problems resolved
  - Summaries of problems encountered
- **System Performance**
  - Recommending system performance requirements
  - Assessing performance based on monthly status reports
  - Configuration for end-to-end system elements
- **Achieving Benefits**
  - Plans for long term procedural enhancements
  - Coordinating implementation of enhanced operational procedures

1.6 The purpose of the CRA is generally classified as:

- Manage data confidentiality agreement with all FIT members who provide Problem Reports
- Develop and administer problem report process
- De-identify all reports
- Process all reports (track problems to closure)
- Request audit data from data link service providers
- Identify trends
- Administer and monitor informal, end-to-end configuration process
- Process, analyse, and record monthly status reports from ATSUs.
- Coordinate new procedures

## 2. FANS ADS/CPDLC EXPANSION

2.1 Aircraft equipage with FANS-1/A data link applications is continuously expanding as Boeing and AIRBUS now install the system in all newly delivered long haul aircraft, leading the number of equipped aircraft to exceed 1200 and making it very attractive for Air Navigation Service providers to implement the use of data link in all procedural airspace as an alternative to HF voice.

2.2 Air Navigation Service providers managing airspace other than the South Pacific (e.g. South China Sea, Bay of Bengal, Middle East, South Atlantic, North Atlantic and Africa), are now implementing FANS data link systems that should improve the services they provide to airspace users.

2.3 The Air Navigation Service providers in each region that has initiated FANS data link implementation have looked to the example of the South Pacific and planned to establish a FIT and associated CRA function.

2.4 Whilst there needs to be a FIT dedicated to each region due to the specific regional operational issues, recent satellite data link performance issues caused in part by increases in data link traffic have shown that since all FANS users across different ICAO regions depend on a common global satellite data link network, the traffic generated by users in one region impacts on the network performance delivered to users other regions making it impossible to manage or plan the performance of the satellite communications network on a regional basis.

2.5 This dependence on global satellite data link network is making it clear that regional CRA functions cannot independently manage the use of a global network and that having many different CRA functions would probably delay identification and resolution of performance issues.

2.6 This experience leads to the conclusion that the management of a global satellite data link network which cannot be tailored to meet the needs of specific ICAO regions or sub-regions calls for a global CRA function that would serve all regional FITs given the foreseen functions of the CRA as described above.

2.7 The primary advantages of a global CRA function are:

- promotion of consistent approaches to FANS implementation across all ICAO regions
- increased awareness and information sharing between the regional FITs

## 3. ACTION BY ALLPIRG

3.1 The ALLPIRG/5 Meeting is invited to:

- a) consider the benefits of adopting the concept of establishing a global CRA function to support the regional FANS Interoperability Teams across all ICAO regions; and, if agreed,
- b) consider the potential means of cost-sharing the global CRA function between air navigation service providers using the services in different regions.