



**Twenty First Meeting of the  
Informal South Pacific ATS Co-ordinating Group (ISPACG/21)**

Auckland, New Zealand, 6-8 March 2007

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Agenda Item 4: Review progress on Open Action Items  
AI 17-1b

**Transfer of 50NM separation between multiple ATSUs**

(Presented by Airservices Australia)

**SUMMARY**

This working paper identifies some of the issues associated with the transfer of two aircraft between which a 50NM separation standard is being applied from an ADS-C environment to a voice surveillance environment and vice versa.

**1. INTRODUCTION**

1.1 In airspace where AIDC has been implemented, local procedures have been developed that permit the transfer of two non-vertically separated aircraft that are longitudinally separated by 50NM or greater without the need for voice coordination.

1.2 These procedures are currently limited to aircraft reporting by Automatic Dependent Surveillance – Contract (ADS-C), where it is possible for the receiving ATSU to independently establish and continue to monitor the distance between the aircraft.

1.3 Procedures to enable the continued application of the same longitudinal distance separation minima (e.g. 50NM) as the aircraft transfers between different operating environments (e.g. ADS-C and non-ADS-C) need to be developed. This will reduce unnecessary level changes by the aircraft and permit the increased operation of aircraft at their preferred altitude.

1.4 The pending implementation of RNP in the Port Moresby Flight Information Region (FIR) would allow any such procedures to be utilised for the group of aircraft that operate between Australia/New Zealand and South East Asian ports..

**2. DISCUSSION**

2.1 There are two distinct scenarios that need to be considered: aircraft transiting from a voice surveillance environment to an ADS-C environment and vice versa. These two scenarios have been described below, as well as possible procedures to process these flights. The purpose of these

“suggested procedures” is as a starting point to promote further discussion, rather than as a proposal for them to be adopted as “final procedures”.

**Scenario 1:**

Aircraft transferring from an ADS-C environment to a voice surveillance environment  
(*e.g. KZAK/YBBB to AYPM*)

**Suggested procedure**

- Routine voice coordination is conducted between YBBB/KZAK and AYPM. Coordination to AYPM for the following aircraft shall include the last calculated (or measured) distance between the two aircraft
- On first contact, Moresby confirms the distance between the aircraft by voice distance reports.

**Example**

“Estimate ANZ99 DUKUB 2315 F340”

“Estimate ANZ97 DUKUB 2323 F340, 56NM behind ANZ99”

**Scenario 2:**

Aircraft transferring from a voice surveillance environment to an ADS-C environment  
(*e.g. AYPM to KZAK/YBBB*)

**Suggested procedure**

- Routine voice coordination is conducted between AYPM and YBBB/KZAK. Coordination to YBBB/KZAK for the following aircraft shall include the last calculated distance between the two aircraft
- Prior to the FIR boundary, YBBB/KZAK establish ADS contracts, to permit the continued monitoring of the longitudinal separation between the aircraft.

**Example**

“Estimate ACI880 ADBON 2315 F350”

“Estimate ANZ98 ADBON 2323 F350, 62NM behind ACI880”

**3. ISSUES TO BE RESOLVED**

3.1 There are a number of issues that need to be discussed, especially with regard to Scenario 2. Unresolved issues have been listed below.

- When providing coordination, does Moresby need to indicate to the receiving ATSU the distance between the aircraft (or the fact that a distance standard is being applied?) Does Moresby require this distance information when receiving coordination?
- To establish ADS contracts, the final ATSU requires an AFN logon from the aircraft. What is the “trigger” for this logon?
  - Does Moresby instruct the aircraft to logon to the next unit, or does the previous unit Address Forward (FN\_CAD) the aircraft to the subsequent unit? If the latter, when does this occur? (Note that consideration needs to be given to the requirements in the FANS Operations Manual concerning Address Forwarding beyond the next ATSU).
  - If the aircraft is Address Forwarded, is a CPDLC Next Data Authority message transmitted as well?
- How does Moresby know that the aircraft meets the requirements for the use of ADS-C to monitor a distance standard?

- Is it reasonable for Moresby to assume that if the previous unit (e.g. YBBB) was using ADS-C to monitor a distance separation standard, then the aircraft meets the requirements for the next unit (e.g. KZAK) to apply the same separation minima? What if the aircraft entered Moresby airspace at vertically separated levels, then requested the same level within Moresby airspace?
- Should Moresby check for data link equipage prior to initiating the use of a longitudinal distance standard? (Note current B743 ADS-C interoperability issues)
- By what time or distance before entering the receiving unit's airspace must ADS contracts have been established with the aircraft?
- By what time or distance before entering the receiving unit's airspace must a CPDLC Connection have been established with the aircraft?

### **3. ACTION BY THE MEETING**

#### 3.1 The meeting is invited to:

- a) Note the pending implementation of RNP airspace within the Port Moresby FIR;
- b) Discuss the draft proposed procedures for the transfer of 50RNAV in order to develop procedures that can be implemented and used operationally