



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

Auckland, New Zealand, 6-8 March 2007

Agenda Item xx:

A380 Polar Flights Experience

(Presented by AIRBUS)

SUMMARY

The A380 has been operated over both Poles where datalink and voice communication capacities were used. This paper reports this experience.

1. INTRODUCTION

1.1 As part of the A380 certification, a functional and reliability campaign took this aircraft all around the world, notably via both poles during the 4th and last mission of the campaign. This was taken as an opportunity to collect experience on datalink and voice communication systems use in remote areas.

1.2 The aircraft flew to Johannesburg, then to Sydney via the South Pole, to Vancouver and back to Toulouse via the North Pole.

2. DISCUSSION

2.1 The A380 FANS interoperability with various ground systems had already been assessed through laboratory testing and previous campaigns in the Far East, Oceania and Americas and this mission further confirmed this fact.

A special attention was paid to HF DL availability throughout those flights, as it was intended to be used to sustain FANS operations out of SATCOM coverage. HF DL was noticed available everywhere except over the Antarctic region where the expected Johannesburg-Melbourne FANS transfer could not be done over Datalink. This is supposed to be due to the lack of HF ground stations around the Antarctic to provide continuous coverage over there.

Over the Arctic however, HF DL remained available all along the polar flight allowing ADS position reporting to Edmonton via CADS up to the North Pole, then a connection and subsequent CPDLC messaging /ADS reporting with Reykjavick just after passing the North Pole.

2.2 SATCOM was reported available

- Down to 83°15S southbound and above 83°40S Northbound

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- Up to 83°39N northbound and below 83°N southbound.

2.3

Even though Airbus was not registered for the Edmonton SATCOM trial, operational ATC communications were done by SATCOM voice with the Arctic radio operator, rather than by HF voice due to poor HF propagation, while CPDLC trials were being carried out with Navcanada Edmonton test center.

3. ACTION BY THE MEETING

3.1 The meeting is invited to:

- a) The good HFDL availability over the Arctic region, allowing FANS operations over the North pole
- b) SATCOM coverage up to 83° South and North providing a valuable alternate communication media to HF voice.