Aviation Safety Investigation Report 199502779

Boeing Co
B747
Airbus
Airbus

27 August 1995

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The Bureau did not conduct an on scene investigation of this occurrence. The information presented below was obtained from information supplied to the Bureau.

Occurrence Number:	199502779	**Occurrence Type:**	Incident
Location:	Apavo, (IFR)		
State:	Other	**Inv Category:**	3
Date:	Sunday 27 August 1995		
Time:	1225 hours	**Time Zone**	EST
Highest Injury Level:	None		

Aircraft Manufacturer:	Airbus		
Aircraft Model:	A310		
Aircraft Registration:	P2-ANA	**Serial Number:**	
Type of Operation:	Air Transport High Capacity International Passenger Scheduled		
Damage to Aircraft:	Nil		
Departure Point:	Port Moresby PNG		
Departure Time:			
Destination:	Brisbane QLD		

Aircraft Manufacturer:	Boeing Co		
Aircraft Model:	747		
Aircraft Registration:	JA8181	**Serial Number:**	
Type of Operation:	Air Transport High Capacity International Passenger Scheduled		
Damage to Aircraft:	Nil		
Departure Point:	Sydney NSW		
Departure Time:			
Destination:	New Tokyo International Japan		

Approved for Release: Wednesday, July 10, 1996

Circumstances

ANA914 was northbound on route B462 and cruising at FL310. At 0130 UTC, the Brisbane Sector 10 controller coordinated with Moresby Control ANA914 estimating position APAVO at 0221, FL330 (the aircraft was at FL310 and maintained that level throughout the period of the occurrence). The Moresby controller read back FL330. The Sector 10 Flight Progress Strip for ANA914 showed the aircraft's level as FL310. There was no reference to FL330 on the strip. The Sector 10 controller did not include the words non-standard in the coordination, as was required by standard procedures, and the Moresby controller did not query this omission. At approximately 0200, there was a shift change at the Sector 10 control position. There was nothing to indicate to the new controller that anything other than FL310 had been coordinated to Moresby Control.

At 0210, Moresby Control coordinated the departure of ANG3 Port Moresby for Brisbane on route B462 at 0208 on climb to FL370, estimating APAVO at 0252. The controller also said that she would provide separation with ANA914. She had planned to provide this separation by maintaining ANG3 at FL310, a level she understood to be below ANA914. She would then climb ANG3 to the planned level, FL370, after the two aircraft had passed.

Information from the Department of Civil Aviation, Papua New Guinea, indicated that, at 0221, Moresby Control contacted ANA914 advising ANG3 as opposite direction traffic passing beneath ANA914 at an estimated time of 0226, and requesting ANA914 to report sighting and passing the traffic. ANA914 requested Moresby Control to repeat the information. This was done but the response from the ANA914 pilot indicated that the message had not been understood. Two further attempts were made by the controller to convey the information but the response from ANA914 continued to indicate that the message had not been understood.

At 0224, the pilot of ANG3 asked ANA914 his level. ANA914 responded that he was at FL310, had traffic in sight, and was descending. The crew of ANA914 was alerted to the confliction with ANG3 by the aircraft's TCAS equipment. ANG3 was not equipped with TCAS. However, the crew of ANG3 sighted ANA914 passing below their aircraft and estimated the vertical separation to have been less than 500 ft. The required vertical separation standard was 2000 ft.

The aircraft level (FL310) written on the flight progress strip for the aircraft had not been ticked (in accordance with normal procedures) by the Sector 10 controller to indicate that coordination had been completed. No other aircraft in the Sector 10 control area was at FL330. The basis for the controller coordinating FL330 was, therefore, not established. However, he did report what, in his view, were minor but irritating difficulties in operating the telephone link to Port Moresby to initiate the coordination. There was also some evidence of the controller suffering fatigue.

Discussion

The agreement between the air traffic control agencies of Australia and Papua New Guinea allows for non-standard levels to be used only when prior co-ordination between controllers has been carried out. Therefore, the use of FL330 for ANA914 was contrary to this agreement as no prior co-ordination had been initiated. The fact that the phrase non-standard was not used in the co-ordination should have provided an additional cue that an error had been made. Beyond this point, however, in the procedural environment in which the aircraft were operating, the sole remaining element in the safety net was TCAS on ANA914.

The difficulties experienced by the Port Moresby controller in communicating the opposite direction traffic to ANA914 highlight the language and comprehension problems which can arise in the control of international air traffic. TCAS takes on added importance in such situations.

Significant Factors

1. The Sector 10 controller may have experienced some frustration operating the telephone link to Port Moresby.

2. The Sector 10 controller may have been fatigued.

3. The Sector 10 controller coordinated an incorrect level and did not use the prefix non-standard to describe that level.

4. The Port Moresby controller did not query the omission of the prefix non-standard when reading back the coordination.

Safety Action

As a result of the TCAS implications of this occurrence and as similar implications were found to be present in occurrence B9501346, the Bureau considers it is of significant safety value to reproduce interim recommendation IR950117 in this report. IR 950117 was addressed to the Civil Aviation Safety Authority on 6 June 1995.

IR 950117

The Bureau of Air Safety Investigation recommends that the Civil Aviation Authority:

(i) mandate the fitment and use of an Airborne Collision Avoidance System (ACAS) in all aircraft engaged in Regular Public Transport (RPT) operations;

(ii) consider the requirement for the fitment and use of a suitable ACAS in other aircraft engaged in the carriage of passengers for hire or reward;

(iii) review the requirements for the carriage and activation of transponders with the objective of maximising the effectiveness of ACAS;

(iv) mandate the standard of ACAS equipment to be carried in each aircraft classification;

(v) set a timetable for the introduction of ACAS equipment; and

(vi) ensure that air traffic services officers are given adequate and timely education and continuation training in the capabilities and operational impact of ACAS equipment.