Aviation Safety Investigation Report 199603545

Boeing Co
B747

29 October 1996

Readers are advised that the Australian Transport Safety Bureau investigates for the sole purpose of enhancing transport safety. Consequently, Bureau reports are confined to matters of safety significance and may be misleading if used for any other purposes.

Investigations commenced on or before 30 June 2003, including the publication of reports as a result of those investigations, are authorised by the Executive Director of the Bureau in accordance with Part 2A of the Air Navigation Act 1920.

Investigations commenced after 1 July 2003, including the publication of reports as a result of those investigations, are authorised by the Executive Director of the Bureau in accordance with the Transport Safety Investigation Act 2003 (TSI Act). Reports released under the TSI Act are not admissible as evidence in any civil or criminal proceedings.

NOTE: All air safety occurrences reported to the ATSB are categorised and recorded. For a detailed explanation on Category definitions please refer to the ATSB website at www.atsb.gov.au.

Aviation Safety Investigation Report

199603545

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: 199603545 **Occurrence Type:** Incident
Location: Alice Springs, VOR
State: NT **Inv Category:** 4
Date: Tuesday 29 October 1996
Time: 0300 hours **Time Zone** EST
Highest Injury Level: None

Aircraft Manufacturer: Boeing Co
Aircraft Model: 747-400
Aircraft Registration: 9V-SMQ **Serial Number:**
Type of Operation: Air Transport High Capacity International
Damage to Aircraft: Nil
Departure Point: Singapore, Singapore
Departure Time:
Destination: Sydney NSW

Approved for Release: Monday, May 5, 1997

FACTUAL INFORMATION

An international B747 was enroute from Singapore to Melbourne over northwestern Australia at flight level (FL) 350. The B747 was under the control of a Brisbane sector controller using procedural control. The Brisbane controller was a team leader and he had commenced work at 2300 EST. He conducted a performance check on another controller until 0200 at which time the other controller left the console for a break. The team leader continued operating the position for approximately another two hours. The team leader felt well except for a minor cold condition which had developed that afternoon.

Generally, the work at the sector, on the evening shift, could be divided into approximately three periods. The first period was from 2300 until 0100 and this was the time when departure and position reports for aircraft intending to transit the sector were mainly received from northern air traffic control centres. The period from 0100 until 0200 was when the boundary positions were received. The last period from 0200 to 0400 was when the aircraft actually entered the sector and the crews contacted the sector controller. On the day of the incident the last period had finished at approximately 0300.

The B747 had been cleared to operate at FL350 and the crew had requested a preferred level of FL370 after 0320. The crew of the B747 reported their position at Curtin at FL350 and with an estimate for PAVKO of 0336. The team leader co-ordinated the position report with a Melbourne sector controller. PAVKO was the point at which control of the aircraft would be transferred from Brisbane to Melbourne air traffic control. The team leader intended to approve the crew of the B747 to climb to the higher level and to co-ordinate the level as FL 370 with the Melbourne controller. However, the team leader co-ordinated the level as FL350. The Melbourne controller incorrectly readback the level as FL370. Neither controller noticed the incorrect readback of the level. The Melbourne sector flight progress strip for the B747 indicated the aircraft was at FL350.

The team leader asked the crew of the B747 if they would be requesting climb to FL370. The crew replied that they would shortly like to climb to the higher level. The team leader instructed the crew of the B747 to climb to FL370 with a requirement to reach that level by PAVKO. The crew reported to the team leader when the aircraft left FL350 on climb to FL370. Normally, an aircraft's change of level is co-ordinated with the next air traffic control agency. The team leader, however, thought he had previously co-ordinated the higher level with the Melbourne sector controller and consequently did not conduct any further co-ordination.

The team leader instructed the crew of the B747 to contact the Melbourne sector controller at PAVKO. When the aircraft reached PAVKO the crew of the B747 reported their position and level of FL370 to the Melboune sector controller. The Melbourne sector controller had expected the aircraft to report at FL350. There had been an error in co-ordination.

ANALYSIS

The team leader may have relaxed after completing the busiest part of the shift. Additionally, the timing of the incident, the time spent at the position overall, the possible higher level of awareness required for the check and his minor cold, probably combined to the extent that his ability to concentrate adequately on the task was impaired to some degree.

The Melbourne controller may have had an expectation of the B747 being at FL370 due to previous experience and the fact that it is a standard level for aircraft flying a south-easterly route.

The relationship between the body's circadian rhythm and performance is well known. In this incident, the fact that both controllers were working during the early morning and were also approximately halfway through their shifts would probably account for their lack of concentration and the consequent mishandling of the co-ordination.

The team leaders mind-set relating to his intention to approve the crew of the B747 to climb to FL370 would have pre-disposed him to hearing what he expected to hear from the Melbourne controller. This is despite the fact that the team leader co-ordinated the correct level at the time.

SIGNIFICANT FACTORS

1. The team leader had been continuously operating the position for approximately four hours.

2. The incident occurred at a time of the day when errors in human performance are more likely.