

**Aviation Safety Investigation Report
199803930**

**Bell Helicopter Co
Bell 212
Boeing Co
B747**

21 September 1998

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Occurrence Number: 199803930 **Occurrence Type:** Incident
Location: Brisbane, Aerodrome
State: QLD **Inv Category:** 4
Date: Monday 21 September 1998
Time: 1115 hours **Time Zone:** EST
Highest Injury Level: None

Aircraft Manufacturer: Boeing Co
Aircraft Model: 747
Aircraft Registration: ZK-SUI **Serial Number:**

Type of Operation: Air Transport High Capacity International Passenger Scheduled
Damage to Aircraft: Nil
Departure Point: Auckland NZ
Departure Time:
Destination: Brisbane Qld

Aircraft Manufacturer: Bell Helicopter Co
Aircraft Model: 212
Aircraft Registration: RESCUE 500 **Serial Number:**

Type of Operation: Air Transport High Capacity International Passenger Scheduled
High Capacity International Passenger Scheduled
Damage to Aircraft: Nil
Departure Point: Koorringal Qld
Departure Time:
Destination: Royal Brisbane Hospital Qld

Approved for Release: Thursday, December 17, 1998

FACTUAL INFORMATION

The crew of a Bell 212 helicopter, operating under instrument flight rules (IFR), contacted the controller and requested a clearance from Koorngal to the Royal Brisbane Hospital at 2,000 ft. The Bell 212 was required to transit airspace under the jurisdiction of the approach south controller. As the radar advisory service frequency was assigned to the approach north position, that controller coordinated a clearance for the Bell 212 with approach south. Approach south initially instructed the approach north controller to track the Bell 212 via overhead Brisbane aerodrome and for it to transfer to the aerodrome control frequency. Approach north advised approach south that the Bell 212 was an aeromedical evacuation flight and consequently approach south agreed for the helicopter to track direct to the Royal Brisbane Hospital. Approach south advised approach north that an arriving Boeing 747 (B747), also operating under IFR, was being sequenced for runway 01 and would be manoeuvred clear of the Bell 212 if necessary. There was no further coordination between approach north and approach south with respect to the two aircraft.

The direct track from Koorngal to the hospital passed approximately 2 NM south of the threshold to runway 01. Approach north advised the aerodrome controller of the details of the Bell 212 in accordance with Local Operating Instructions. The aerodrome controller was not asked to provide separation between the Bell 212 and the B747.

As the Bell 212 was about to cross the runway 01 extended centreline, approach north observed, on the radar display, the B747 turning onto a 5 NM final, about 6 NM from the Bell 212. Approach north instructed the crew of the Bell 212 to report sighting the B747 but did not receive a reply. Approach north then asked the aerodrome controller to separate the Bell 212 and the B747. As this coordination was being conducted, the crew of the Bell 212 advised approach north that they could see a heavy jet in their 12 o'clock position and requested approval to turn left and pass behind that aircraft. Approach north approved the request. There was no infringement of separation standards.

The approach south controller was undertaking his ninth consecutive shift without a rostered day free of duty. He advised that he felt slightly fatigued and, although he did not believe at the time that it unduly affected his performance, it was possible that fatigue may have had some effect.

Traffic levels were moderate and approach south was aware of the potential conflict between arriving aircraft and the transiting Bell 212. However, based on his initial requirement for the Bell 212 to be handed over to the aerodrome controller, he had a mindset that separation would be provided by the aerodrome controller. Approach north did not initially request assistance from the aerodrome controller to separate the two aircraft because the approach south controller had indicated that he would manoeuvre the B747 clear of the Bell 212 if necessary. The aerodrome controller was not asked to provide separation between the Bell 212 and B747 until very late, by which time the Bell 212 crew had sighted the B747 and had assumed responsibility to maintain their own separation from that aircraft.

The investigation revealed that clear, concise and precise coordination was not conducted between the two approach controllers. In particular, standard procedures were not followed with respect to the assignment and acceptance of responsibility for the provision of separation between the Bell 212 and the B747. The investigation did not determine why standard coordination procedures were not followed.

ANALYSIS

As the approach south controller was feeling slightly fatigued, he may not have been well placed to assess the effects of fatigue on his own performance. As such, although he did not believe that fatigue unduly affected his performance, it is possible that fatigue was a factor in this incident.

As a result of the the coordination conducted between approach north and approach south shortly after the Bell 212 departed Koorringal, there was no apparent reason for approach north to conduct further coordination with approach south. However, had approach north provided a relay of radar identification or formal radar hand-off to approach south, it may have acted as a prompt for approach south as to the developing conflict and may have lead to approach south taking more positive control of the situation.

The use of non-standard and incomplete coordination procedures lead to a lack of understanding from all the controllers involved in the incident as to the assignment of responsibility for separation between the two aircraft. Separation between the Bell 212 and the B747 was achieved through conflict resolution, rather than through traffic planning and conflict avoidance to assure separation. As a result, the Bell 212 crew sighted and accepted responsibility for their own separation from the B747 as the two aircraft approached the minimum horizontal radar separation standard required.

SIGNIFICANT FACTORS

1. The use of non-standard coordination procedures lead to misunderstanding between the two approach controllers as to who was responsible for the provision of separation between the aircraft.
2. The approach south controller did not accept the Bell 212 on his radio frequency.
3. No controller took positive control of the situation. Consequently, separation assurance techniques between the aircraft were not applied.
4. The crew of the Bell 212 sighted the B747 prior to infringement of the required separation standard.

