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NATIONAL TRANSPORTATION SAFETY BOARD  
WASHINGTON, D.C.

Log 1469

ISSUED: July 20, 1982

Forwarded to:

Honorable J. Lynn Helms  
Administrator  
Federal Aviation Administration  
Washington, D.C. 20591

SAFETY RECOMMENDATION(S)

A-82-58 through -60

About 0847 e.d.t. on September 23, 1981, a Ronson Aviation Bell 206B helicopter and a Seminole Air Charter Piper PA-34 airplane collided in flight over the Meadowlands Sports Complex in East Rutherford, New Jersey, about 2 nmi south of the Teterboro, New Jersey, Airport. There were scattered clouds at about 6,000 feet and the visibility was 30 miles at the time. The airplane had departed Syracuse, New York, on an instrument flight rules flight plan to Teterboro, and was on a left base leg to runway 1 following an instrument landing system (ILS) approach to runway 6. The helicopter was operating under visual flight rules inbound to Teterboro from Woodbridge, New Jersey, for a landing on the ramp area adjacent to the south end of runway 1. The two aircraft collided at about 650 feet. The helicopter fell into a parking lot, and both persons aboard were killed. The airplane, with about 8 feet of its left wing and its right engine missing, made a gear-up landing in a marsh about seven-tenths of a mile east of the collision point. The pilot was seriously injured and the passenger received minor injuries. 1/

The communication transcripts show that at 0843:45, the Teterboro local controller received a telephone call, concerning an administrative problem, which lasted until 0845:44. During those 2 minutes there were eight separate transmissions by five different aircraft, including the initial contacts by both the helicopter and the airplane involved in the accident. Neither of these two aircraft stated their position in the initial contact.

The helicopter first contacted the Teterboro tower at 0844:57 and was told to "stand by." The next contact was at 0846:27 when the helicopter reported "coming up on the sports complex . . . ." The tower controller answered this with a request for a report ". . . about a mile south, I don't have you in sight." The airplane first called the Teterboro tower at 0845:22. After the controller terminated the telephone conversation at 0845:44, the frequency became congested for about 90 seconds with transmissions and acknowledgments that were missed during the telephone conversation. At 0845:56 the controller acknowledged the airplane, requested the pilot report at the outer marker, and advised that the approach would be a left base leg to land on runway 1. A radar data plot made during the investigation showed that at that time the airplane was at the outer

1 / For more detailed information read Aircraft Accident Report--"Ronson Aviation Bell 206B, N27670, and Seminole Air Charter Piper PA-34-200T, N8110R, Midair Collision, East Rutherford, New Jersey, September 23, 1981" (NTSB-AAR-82-6).

marker. The copilot later stated that he did not report over the outer marker because of congestion on the radio frequency. The next transmission to the tower was at 0847:08 when the pilot reported "inside the marker, left base for 1." The tower replied, "in sight, continue, traffic departing." There were no more communications from either aircraft before they collided at 0847:34.

In the absence of a report at or near the outer marker, the controller no doubt believed that the airplane was farther out on the ILS than was actually the case. Thus, when the helicopter reported "coming up on the sports complex," which is about 3 miles south of the tower and 2 miles south of the runway 1 threshold, the controller believed that the helicopter was nearer the airport than the airplane and would cross the base leg for runway 1 well ahead of the airplane. When the pilot of another aircraft reported his position as "8 miles out" southwest of the airport, the controller advised that he remain "well clear" of the ILS course because of traffic inbound on the ILS. Although at that time the accident airplane had already passed the outer marker, the fact that the controller issued this advisory showed that he believed that the airplane had not yet reached the marker.

When the helicopter reported "coming up on the sports complex," it was about 1.6 miles south of the stadium, or about 3.6 miles south of the approach end of runway 1 and nearly 5 miles from the control tower at an altitude of about 700 feet. The phrase "coming up on. . ." is sufficiently vague that it can be interpreted to mean anything from 1/4 mile to 3 miles, and while it meant one thing to the helicopter pilot, it meant something much different to the controller. He stated that he considers the phrase "coming up on" to mean about 1/4 mile away from a point when used by helicopter pilots. The Safety Board believes that when reports of this nature are received, it is incumbent on controllers to report a more specific position. The Board also believes that the Federal Aviation Administration should emphasize to all pilots the importance and necessity of accurate position reporting. Because of the controller's interpretation of "coming up on," it is likely that he perceived the helicopter to be nearly a mile nearer the airport than was actually the case. Although the controller never observed the helicopter, and so advised its crew, he believed the airplane was still outside the outer marker, and he interpreted the helicopter's reported position to be nearly over the stadium. He then concluded that there was no conflict and no need to issue a traffic advisory to either aircraft.

In 1977, four helicopter arrival and departure routes were established to reduce noise complaints around the Teterboro airport. They were developed jointly by the Teterboro tower staff, the airport manager, and several helicopter operators who were regular users of the airport. These routes were defined initially in a Teterboro Tower Letter to Airmen 77-1 issued in 1977. A new Letter to Airmen 81-2, redefining these routes, was issued April 1, 1981, and became effective April 15, 1981. Letters to Airmen are advisory only, not mandatory. This letter stated that helicopter operators were expected to identify the route they were following and maintain any safe altitude 1,000 feet msl or below.

Although the accident helicopter was not precisely following the inbound route "Whiskey" from the southwest as defined by Letter to Airmen 81-2, it was less than 1/2 mile east of the track. The Safety Board does not consider this to be a factor in the accident since even if the helicopter had been on the track, there would have existed a potential conflict between the two aircraft. The route for helicopters inbound from the south and southeast, designated "Sierra," completely avoids the traffic flow for runway 1. The Safety Board believes that if this route had been emphasized in the Letter to Airmen as the route for all helicopters inbound from the southwest through southeast, the potential for conflicts such as occurred in this accident would have been minimized.

The investigation revealed that although the BRITE radar display had been in the Teterboro tower over 1 1/2 years, no personnel were certified in its use, but it was referred to occasionally. Although it was available and turned on at the time of the accident, it was not being used by the controller. The Safety Board concludes that if the controller had been certified to use the BRITE display and had used it to rapidly update himself on the traffic situation following the distraction of the telephone call, he might have perceived the developing conflict and issued an appropriate advisory.


Therefore, the National Transportation Safety Board recommends that the Federal Aviation Administration:

Through pilot training and examination programs, emphasize to pilots the importance of accurate position reporting in communications with air traffic control facilities. (Class II, Priority Action) (A-82-58)

Revise the helicopter routes contained in the Teterboro Letter to Airmen 81-2 to provide improved separation and thereby minimize the potential for conflicts between helicopters and fixed-wing aircraft traffic. (Class II, Priority Action) (A-82-59)

Provide all pertinent personnel working traffic at BRITE-equipped, nonradar control towers with the proper training and certification regarding the use of that equipment. (Class II, Priority Action) (A-82-60)

BURNETT, Chairman, GOLDMAN, Vice Chairman, McADAMS and BURSLEY, Members, concurred in these recommendations.

  
By: Jim Burnett  
Chairman