



National Transportation Safety Board

Washington, D.C. 20594

Safety Recommendation

Date: October 20, 2008

In reply refer to: A-08-83 and -84

The Honorable Robert A. Sturgell
Acting Administrator
Federal Aviation Administration
Washington, D.C. 20591

On December 29, 2007, about 1531 central standard time,¹ a Bell 206L1 helicopter, N211EL, operated by Air Logistics, LLC, impacted the water while approaching South Pass Block 38 (SP38), an offshore platform in the Gulf of Mexico, with a commercial pilot and three passengers aboard. All four occupants survived the crash, but one passenger died while awaiting rescue.² The pilot was seriously injured, and the two other passengers received minor injuries. The on-demand air taxi flight was operated under 14 *Code of Federal Regulations* (CFR) Part 135. Instrument meteorological conditions prevailed at the time of the accident.³

Background

About 1430 the pilot picked up the passengers at the Chandeleur 63 platform in the Gulf of Mexico for a 20-minute flight to their base platform at SP38. According to the two surviving passengers, the pilot did not provide a preflight safety briefing before takeoff. While approaching the SP38 platform, the helicopter encountered deteriorating weather. While slowing the helicopter for the landing, the pilot began an inadvertent descent, which was not arrested before the helicopter impacted the water and rolled to an inverted position. Because of the inadvertent descent, the pilot was likely not aware that the helicopter was about to contact the water, and the skid-mounted floats were not activated or deployed before the helicopter entered the water.⁴ After impact, the occupants evacuated the cabin, which was flooding rapidly, and inflated their

¹ All times in this safety recommendation letter are central standard time based on a 24-hour clock.

² The Plaquemines Parish, Louisiana, coroner stated that the cause of death for the deceased passenger was hypothermia secondary to asphyxia from drowning.

³ The description of this ongoing investigation, DFW08FA053, can be found on the National Transportation Safety Board's website at <<http://www.nts.gov/nts/query.asp>>.

⁴ According to the manufacturer of the floats, the maximum airspeed for float inflation is 60 knots indicated airspeed (KIAS). The helicopter's airspeed was below 60 KIAS at the time of the accident, so the floats should have stayed attached to the skids if the pilot had deployed them before the helicopter entered the water.

personal flotation devices (PFDs).⁵ Also, the two external six-person liferafts were not deployed.⁶

Because they were not in a liferaft, the pilot and the passengers were separated and were exposed to the 49° Fahrenheit (F) water temperature.⁷ About 2 hours after the accident, a fisherman heard the two surviving passengers yelling for help and pulled them and the deceased passenger from the water to his boat. The fisherman then radioed the U.S. Coast Guard and relayed the boat's position, the number of persons on board the helicopter, and the name of the helicopter operator. About 4 hours after the accident, the Coast Guard rescued the pilot, who was severely hypothermic.

External Liferaft Identification and Operation

The Bell 206 float assembly consists of six floats (forward, center, and aft) on the left and right skids. A float inflation handle, which is mounted on the pilot-side cyclic, initiates inflation of the floats. Two six-person liferafts with survival equipment are integral to the center floats on both skids. The liferaft inflation system is activated when one of three T-handles is pulled. Two of the T-handles are attached externally to the left and right forward cross tubes (see the figure on the next page), and one T-handle is attached internally to the center console on the pilot's side of the cockpit. Each T-handle activates both liferafts.⁸

During a postaccident interview, the accident pilot provided no indication why he did not deploy the external liferafts using the internal T-handle when the helicopter entered the water, even though he had received training on external liferaft deployments. The pilot stated that, after evacuating the helicopter, he climbed onto its belly and asked the passengers to pull the "red handle" (that is, one of the external T-handles) for the liferafts but that the passengers could not locate either T-handle. One of the surviving passengers stated that he thought the pilot was referring to the red inflation tabs on their PFDs. Both surviving passengers stated that they did not know that the helicopter was equipped with external liferafts with external activation handles.

A placard on the accident helicopter's ceiling above the pilot's seat provided specific instructions for the operation of the T-handle in the cockpit. The instructions stated

⁵ Air Logistics operations specifications required that crewmembers and passengers wear PFDs during flight.

⁶ The Safety Board's examination of the floats and external liferafts found that the shear wires for the T-handles (which are used to activate the liferaft system, as discussed in the next section) were intact and that the floats and liferafts showed no evidence of malfunction.

⁷ In a 2005 marine accident report, the Safety Board noted, "Studies have shown that in the first 2 to 3 minutes of being immersed in water that is less than 59° F, a person may lose the ability to control breathing. . . death from hypothermia may occur after 30 minutes." For more information, see National Transportation Safety Board, *Capsizing of U.S. Small Passenger Vessel Taki-Too, Tillamook Bay Inlet, Oregon, June 14, 2003*, Marine Accident Report NTSB/MAR-05/02 (Washington, DC: NTSB, 2005).

⁸ The manufacturer of the external liferaft system installed on the accident helicopter informed the Safety Board that it is possible to deploy the liferafts even if a helicopter were submerged or on its side or if its floats had not been activated and deployed.



Figure. An external liferaft T-handle on a Bell 206 helicopter forward cross tube

“WARNING” in red letters followed by “to inflate liferafts Pull guard, Push in center detent,^[9] Pull handle on center console RH [right hand] side.” However, there were no external placards on the cross tubes describing the location and operation of the external T-handles.¹⁰

As part of the National Transportation Safety Board’s letter supporting Safety Recommendation A-07-87 to the Federal Aviation Administration (FAA),¹¹ the Safety Board noted that, for four helicopter accidents in the Gulf of Mexico, the occupants survived the impact with the water but were unable to retrieve the liferaft on board the helicopter before evacuating because the liferaft could not be located or there was only limited time available to retrieve it. As a result, some of the occupants did not survive while waiting in the water for rescue. However, the Board’s letter also described three helicopter accidents in the Gulf of Mexico in which the pilots deployed the external liferafts and all of the occupants survived. In one of these accidents,

⁹ The detent is the center button on the T-handle that releases the locking feature (which was designed to prevent an inadvertent T-handle deployment).

¹⁰ The supplemental type certificate for external liferafts contains no provision for placards showing the location of the external T-handles.

¹¹ Safety Recommendation A-07-87 asked the FAA to require that all existing and new turbine-powered helicopters operating in the Gulf of Mexico that are certificated with five or more seats be equipped with externally mounted liferafts that are large enough to accommodate all occupants. On January 11, 2008, the FAA stated that it would meet with helicopter manufacturers, operators, and industry advocacy groups and then determine whether rulemaking was required. The FAA also stated that, in the interim, it planned to issue an Information for Operators (InFO) message to reduce the risks and hazards for helicopters that need to be ditched in the Gulf of Mexico. On July 25, 2008, the Safety Board stated that the InFO had not yet been issued, even though the FAA had planned to do so by March 1, 2008, and that InFOs are advisory only. The Board recognized that the FAA needed to meet with manufacturers, operators, and advocacy groups before initiating rulemaking but stated its belief that FAA would need to require the recommended action because the accident clearly demonstrated the risk to safety without such action. As a result, Safety Recommendation A-07-87 was classified “Open—Acceptable Response.”

the pilot deployed the floats during autorotation and then pulled the T-handle in the cockpit after the helicopter came to rest in the water and the main rotor blades had stopped. The pilot and six passengers then exited the helicopter and climbed into the external liferafts and, once clear of the helicopter, used cell phones to initiate their rescue.

In this accident, if the pilot had deployed the external liferaft using any of the T-handles, then the occupants might not have been directly exposed to the 49° F water temperature for a prolonged time, and the passenger who died would have likely survived. The passengers had access to the external T-handles, but they did not know that the helicopter was equipped with liferafts that could be activated from outside the helicopter. The Safety Board concludes that, if the forward cross tubes on the accident helicopter had been placarded with instructions for locating and activating the external liferaft T-handles, the passengers might have been able to deploy the liferafts when prompted by the pilot.

In June 2008, FAA staff informed the Safety Board that the manufacturer of the float/liferaft system installed on the accident helicopter was designing an external liferaft handle placard for all new floats and was planning to issue a service bulletin to make this placard available to existing helicopters. The FAA staff indicated that it would propose issuing a special airworthiness information bulletin (SAIB) to recommend placard installation. However, SAIBs are not mandatory,¹² and helicopters equipped with external float/liferaft systems from other manufacturers would not be affected by the service bulletin and the SAIB. The circumstances of this accident demonstrate the need for external liferaft handle placards for all Part 135 helicopters with external liferafts.

The Safety Board concludes that external placards for the two external liferaft T-handles, similar to the placard for the T-handle in the cockpit, would assist passengers in finding and activating the external T-handles, especially if the pilot were unable to do so. Therefore, the Safety Board believes that the FAA should require operators of turbine-powered helicopters with externally mounted liferafts to install a placard for each external T-handle that clearly identifies the location of and provides activation instructions for the handle.

Passenger Safety Briefing

Title 14 CFR 135.117, “Briefing of Passengers Before Flight,” subsection (a)(5), states that the pilot-in-command (PIC) is required, before each takeoff, to ensure that all passengers have been orally briefed about the location of survival equipment. The Air Logistics Flight Operations Manual, section 2.1, General Preflight Duties, lists the information that the PIC is responsible for briefing to passengers before each flight, including the location of emergency equipment¹³ and

¹² According to the FAA, an SAIB is “an information tool that alerts, educates, and makes recommendations to the aviation community. SAIBs contain non-regulatory information and guidance that does not meet the criteria for an Airworthiness Directive (AD).”

¹³ According to the manual, this emergency equipment includes seatbelts, exits, lifejackets, and fire extinguishers.

passenger safety briefing cards.¹⁴ However, the manual does not require the PIC to brief the location and use of liferafts.

Title 14 CFR 135.117, subsection (a)(6), states that, if a flight involves extended overwater operation,¹⁵ then the PIC is to ensure that all passengers have been briefed about the use of flotation equipment (including liferafts). The accident flight was not considered to be an extended overwater operation.

On November 23, 1999, the Safety Board issued Safety Recommendation A-99-58,¹⁶ which asked the FAA to require passenger briefings on the use of required flotation equipment for all air taxi and air tour passenger flights that operate over water at an altitude that would not allow them to reach a suitable landing area, including those flights that operate less than 50 miles from the shoreline. On November 21, 2007, the Board noted that the FAA issued a final rule on February 13, 2007, that fully addressed the recommendation for air tour flights but not air taxi flights.¹⁷ According to the FAA, the nature of air taxi flight operations does not support the recommended actions. Because the FAA had not taken, and is not planning to take, any action to address this recommendation with respect to air taxi flights, Safety Recommendation A-99-58 was classified “Closed—Unacceptable Action.” However, the Board notes that the circumstances of this accident demonstrate the need for passenger briefings on all flotation equipment aboard helicopters regardless of the distance from a suitable landing area or the shoreline that the helicopters are operating.

During an interview with the Safety Board, the accident pilot provided no indication why he did not conduct the required preflight safety briefing. If the accident pilot had provided the passengers with this briefing, and if the Air Logistics Flight Operations Manual had specifically required company pilots to include, in this briefing, information about the use of flotation equipment, then the passengers might have had a heightened awareness of the existence of the external liferafts and the method by which the liferafts could be deployed. Although the passenger safety briefing cards contained information about the external liferafts, briefing cards, by themselves, are not sufficient for conveying critical safety information because passengers may not read them or fully understand their content. (The two surviving passengers from this accident stated that they did not review the briefing card.) The Safety Board concludes that

¹⁴ Air Logistics passenger safety briefing cards, which are stowed in a pouch on the cabin sidewall for each passenger seat, show diagrams of the liferaft locations inside and outside the cabin. Specifically, for the internal location, the safety card shows a diagram of an uninflated internal liferaft in its case between the aft-facing passenger seats; for the external configuration, the safety card shows three small diagrams of the T-handles with arrows pointing to their location on the forward cross tubes and one small diagram of an inflated external liferaft. Also, because the passenger safety briefing card showed both internal and external liferaft configurations, the card indicated, “crew will advise which raft system is installed.”

¹⁵ Extended overwater operation for helicopters is defined in 14 CFR 1.1, “Definitions and Abbreviations,” as “the operation over water at a horizontal distance of more than 50 nautical miles from the nearest shoreline, and more than 50 nautical miles from an offshore heliport structure.”

¹⁶ This recommendation was issued as a result of the July 3, 1997, Piper PA-32 accident near Skagway, Alaska, and the June 22, 1994, de Havilland DHC-3 accident near Juneau, Alaska. For information about these accidents, see ANC97FA097 and ANC94FA070, respectively, at the Safety Board’s website.

¹⁷ Air taxi operations are conducted on an on-demand basis and do not meet the flight schedule qualifications of commuter air carriers. Gulf of Mexico helicopter offshore platform flights are considered to be air taxi operations.

preflight safety briefings on all flotation equipment aboard helicopters would help passengers quickly locate and activate the liferafts in an emergency situation. Therefore, the Safety Board believes that the FAA should require all operators of turbine-powered helicopters to include, in pilot preflight safety briefings to passengers before each takeoff, information about the location and activation of all flotation equipment, including internal or external liferafts (depending on which system has been installed on the helicopter).

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

Require operators of turbine-powered helicopters with externally mounted liferafts to install a placard for each external T-handle that clearly identifies the location of and provides activation instructions for the handle. (A-08-83)

Require all operators of turbine-powered helicopters to include, in pilot preflight safety briefings to passengers before each takeoff, information about the location and activation of all flotation equipment, including internal or external liferafts (depending on which system has been installed on the helicopter). (A-08-84)

In response to the recommendations in this letter, please refer to Safety Recommendations A-08-83 and -84. If you would like to submit your response electronically rather than in hard copy, you may send it to the following e-mail address: correspondence@ntsb.gov. If your response includes attachments that exceed 5 megabytes, please e-mail us asking for instructions on how to use our Tumbleweed secure mailbox procedures. To avoid confusion, please use only one method of submission (that is, do not submit both an electronic copy and a hard copy of the same response letter).

Acting Chairman ROSENKER and Members HERSMAN, HIGGINS, SUMWALT, and CHEALANDER concurred with these recommendations.

[Original Signed]

By: Mark V. Rosenker
Acting Chairman