U.S. Coast Guard

Helicopter operators should be required to do more to make passengers aware of life raft operations, the NTSB says.

Watery WARNINGS

BY LINDA WERFELMAN

Citing the death of an Air Logistics Bell 206L1 passenger while awaiting rescue following a crash in the Gulf of Mexico, the U.S. National Transportation Safety Board (NTSB) is recommending additional information to tell passengers how to activate externally mounted life rafts.

The NTSB cited the Dec. 29, 2007, crash of the Air Logistics helicopter in a letter accompanying two safety recommendations to the U.S. Federal Aviation Administration (FAA). The investigation of the accident was continuing. Preliminary findings indicated that the pilot and all three passengers survived the crash, which occurred in instrument meteorological conditions during the approach to an offshore platform in the Gulf, but one passenger died of hypothermia associated with "asphyxia from drowning" — suffocation because of water in the airway — before rescuers arrived. The other two passengers received minor injuries, and the pilot was seriously injured.

The NTSB said that the three passengers had boarded the helicopter about 1430 local time at a platform in the Gulf for a 20-minute flight to the base platform. The two surviving passengers said that the pilot had not conducted a safety briefing before takeoff.

U.S. National Transportation Safety Board

Life rafts on the Bell 206L1 could be activated from inside the helicopter or by pulling either of two red external T-handles.

The pilot told investigators that, as the helicopter approached the base platform, he encountered a "sloping cloud deck" and a tail wind and observed indications of a "settling with power" event. He said that because of the low altitude, he was unable to recover the helicopter or deploy the emergency flotation devices before the helicopter struck the water. He estimated that weather conditions included ceilings between 300 ft and 500 ft and visibility between 1 mi (2 km) and 5 mi (8 km).

The NTSB letter that accompanied its safety recommendations said that the helicopter was in 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."

After the impact, as water flooded into the helicopter, the pilot and passengers evacuated and inflated their life vests. However, they did not deploy the two external six-person life rafts. Once in the water, the pilot and passengers attempted to swim to the unstaffed base platform, about 100 yd (96 m) away, but they became separated by the 8- to 10-ft (2- to 3-m) swells, a preliminary accident report said.

After about two hours, a fisherman heard the two surviving passengers' cries for help and pulled them, along with the body of the third passenger, into his boat, the NTSB letter said. The fisherman relayed their location to the U.S. Coast Guard, which rescued the pilot about two hours later; because of his lengthy exposure to the water, which was 49 degrees F (9 degrees C), he was "severely hypothermic," the NTSB said.

The helicopter's float assembly consisted of six floats — forward, center and aft floats on both the left and right skids — that were inflated by activation of a float-inflation handle on the pilot-side cyclic. The life rafts were "integral to the center floats" and were designed to inflate when any one of three T-handles — one located inside the helicopter on the pilot's console and the other two outside, on the forward cross tubes — was pulled.

The NTSB said that, during an interview, the pilot "provided no indication why he did not deploy the external life rafts using the internal T-handle when the helicopter entered the water, even though he had received training on external life raft 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 life rafts 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 [life vests]. Both surviving passengers stated that they did not know that the helicopter was equipped with external life rafts with external activation handles."

Instructions for operating the T-handle in the cockpit were printed on a placard on the ceiling above the pilot's seat, but there were no placards outside the helicopter describing where the external T-handles were located or how to operate them.

In a 2007 letter to the FAA in support of another safety recommendation, the NTSB cited four helicopter crashes in the Gulf of Mexico in which passengers and crews survived the impact but either were unable to find the life raft or did not have enough time to retrieve it. The 2007

letter also described three other Gulf helicopter accidents in which there were no fatalities; in these accidents, the pilots deployed the external life rafts, and in one of these, the pilot also deployed the floats during autorotation.

"In this accident, if the pilot had deployed the external life raft using any of the T-handles, then the occupants might not have been directly exposed to the 49 degree F water temperature for a prolonged time, and the passenger who died would have likely survived."

In June 2008, the NTSB was told that the manufacturer of the float/life raft system was designing a placard for the external life raft T-handles and planned to issue a service bulletin to make the placard available to helicopter operators, and that the FAA planned to issue a special airworthiness information bulletin (SAIB) to recommend installation of the placard.

Nevertheless, because SAIBs are not mandatory and only float/life raft systems from one manufacturer would be affected, the NTSB issued a safety recommendation in October calling on the FAA to "require operators of turbine-powered helicopters with externally mounted life rafts to install a placard for each external T-handle that clearly identifies the location of and provides activation instructions for the handle."

The recommended action is needed because the NTSB believes that external placards would "assist passengers in finding and activating the external T-handles, especially if the pilot were unable to do so."

The NTSB also recommended that the FAA "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 life rafts."

U.S. Federal Aviation Regulations Part 135, "Commuter and On-Demand Operations," require pilots to ensure before takeoff that all passengers have received oral briefings about the location of survival equipment, and that, if a flight involves "extended overwater operation" — more than 50 nm (93 km) from shore or from an offshore heliport — the briefing must include life rafts and other flotation equipment. The accident flight did not meet the definition of an overwater operation.

The Air Logistics *Flight Operations Manual* contains a requirement for preflight briefings on the location of survival equipment but does not specifically include life rafts among the items to be discussed in such briefings.

The NTSB noted that it had recommended in 1999 that the FAA require preflight briefings on the use of flotation equipment for passengers on air taxi and air tour flights over water at altitudes that "would not allow them to reach a suitable landing area, including those flights less than 50 miles from the shoreline." A subsequent FAA rule issued such a requirement — applicable to air tour operations but not air taxi flights.

"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," the NTSB said.

In an interview with accident investigators, the accident pilot gave no indication why he had not conducted 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 life rafts and the method by which the life rafts could be deployed," the NTSB said. "Although the passenger safety briefing cards contained information about the external life rafts, briefing cards by themselves are not sufficient for conveying critical safety information because passengers may not read them or fully understand their content."

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Further Reading From FSF Publications

FSF Editorial Staff. *Waterproof Flight Operations*, a special issue of *Flight Safety Digest*, September 2003–February 2004, available on compact disc from Flight Safety Foundation.