



National Transportation Safety Board

Washington, D.C. 20594

Safety Recommendation

Date: February 2, 2009

In reply refer to: A-09-01

Ms. Lynne A. Osmus
Acting Administrator
Federal Aviation Administration
Washington, D.C. 20591

On September 6, 2005, about 1605 central daylight time,¹ the flight crew of a Sikorsky S-76A twin-engine helicopter, N90421, registered to and operated by Houston Helicopters, Inc. (HHI) of Houston, Texas,² executed a forced landing into the open waters of the Gulf of Mexico about 24 miles southeast of Sabine Pass, Texas, following a loss of power to both engines. Both pilots and all 10 passengers were able to egress before the helicopter submerged. Three passengers and both pilots sustained serious injuries, and seven passengers sustained minor injuries.³ All occupants wore personal flotation devices⁴ that kept them afloat during the 7.5 hours before they were rescued. Visual meteorological conditions prevailed for the 14 *Code of Federal Regulations* (CFR) Part 135 on-demand air taxi flight.⁵

The National Transportation Safety Board determined that the probable cause of this accident was the pilots' delayed response to the No. 1 engine fire warning and the loss of power to both engines, which occurred for undetermined reasons. The pilots' delayed response was most likely due to stress and fatigue. Contributing to the delay of the initiation of search and rescue operations were the pilots' incomplete "mayday" call, the pilots' and HHI's

¹ Unless otherwise indicated, all times are central daylight time, based on a 24-hour clock.

² HHI surrendered its operating certificate in October 2007.

³ Neither of the two 18-pound liferafts that were stored under the outboard first row of cabin seats was retrieved before the helicopter sank, leaving the survivors exposed to the water. As a result, several were exposed to hypothermia-inducing conditions. After this accident, the National Transportation Safety Board issued Safety Recommendation A-07-87, asking the Federal Aviation Administration (FAA) to require that all existing and new turbine-powered rotorcraft operating in the Gulf and certificated for five or more seats be equipped with externally mounted liferafts. Externally mounted liferafts are often easier to find and deploy. The recommendation is classified "Open—Acceptable Response."

⁴ These personal flotation devices were not equipped with 406-megahertz personal locator beacons. On October 19, 2007, the Safety Board issued Safety Recommendation A-07-88, which asked the FAA to require all offshore helicopter operators in the Gulf of Mexico to provide their flight crews with personal flotation devices equipped with these locator beacons. The recommendation is classified "Open—Acceptable Response."

⁵ The description of this accident, DFW05MA230, can be found on the Safety Board's website at <<http://www.nts.gov/ntsb/query.asp>>.

noncompliance with company and Federal Aviation Administration (FAA) flight-following requirements, and HHI's inadequate communications contingencies and procedures for reporting overdue flights. Also contributing to the delay of search and rescue operations was the FAA's inadequate surveillance of previously identified company deficiencies, including HHI's lack of adequate flight-following procedures. This lack of surveillance allowed HHI's corporate culture to remain lax with regard to safety.

On the day of the accident, the captain used his personal satellite telephone to make a limited number of calls,⁶ some of which were to the director of operations. However, the accident pilots failed to contact base operations upon arrival at or departure from the oil platform for the flight preceding the accident flight and upon departure for the accident flight, as required by the company's FAA-approved operations specification (OpsSpec). Specifically, the pilots were responsible for filing a flight plan with a company representative and contacting the company's base at departure, arrival, and in 15-minute intervals en route. If this was not possible, the pilots were required to file a flight plan with an FAA flight service station (FSS); however, no flight plan was filed with HHI or an FSS.

Postaccident interviews with HHI pilots indicated that, before Hurricane Katrina in 2005, the company's communications network allowed them to make the required calls most of the time. At the time of the accident, however, neither the company's network nor cellular towers in the area were functioning after being damaged by the hurricane. Although other Gulf offshore helicopter operators secured alternate means for their pilots to communicate with their base operations (for example, by using "repeater" aircraft⁷ or through issuance of satellite telephones), HHI did not take similar action. Rather than provide a formal communications plan, HHI management suggested that its pilots use their own cellular phones or request assistance from oil platform personnel to relay flight departure information to base operations. The accident pilots did not request assistance from platform personnel to relay information for the accident flight or the previous two flight legs nor did they contact an FSS. Each pilot reported in postaccident interviews that he assumed the other pilot made efforts to contact the company.

When the accident helicopter did not return to base near the expected time, HHI management contacted personnel at the last departure platform and refueling docks in an attempt to locate the aircraft or obtain information regarding its schedule.⁸ Although an HHI policy stated that home base should initiate overdue flight procedures after a flight's first missed check-in (which would have been at departure for the accident flight),⁹ management waited almost 2 hours after the accident flight's expected arrival at home base to contact the authorities.

⁶ The captain reported that each call had an associated fee and that HHI was not reimbursing pilots.

⁷ Repeater aircraft relay calls from a helicopter to its base operations. Other operators in the Gulf worked together to secure a repeater aircraft and offered to include HHI in this joint effort; however, HHI declined to participate because of the cost. HHI also had the option of using its own Cessna C-172 as a repeater aircraft but did not.

⁸ The last recorded entry in the radio dispatcher's log was at 1300.

⁹ Although the company's operations manual was approved by the FAA at the time of the accident, it did not detail the specifics of HHI's overdue flight procedures. However, after the accident and before HHI surrendered its operating certificate, this guidance was amended to include specific procedures and the timing for their implementation.

The extensive communications failure throughout the Gulf of Mexico area after Hurricane Katrina prompted FAA staff from the Houston flight standards district office to survey a subset of Gulf offshore helicopter operators to determine continued compliance with flight-following procedures. They found that, as previously noted, these operators had developed alternate methods of communication to support compliance with flight-following requirements.

However, the Safety Board found that, although HHI had 8 accidents (including 3 fatal accidents), 3 incidents, and 18 FAA surveillance discrepancies (including a February 2005 discrepancy related to flight-locating procedures) during the 10 years preceding this accident, the assigned principle operations inspector did not follow up specifically with HHI to inquire about the company's alternate methods of conducting flight-following. If he had, he could have become aware of HHI's failure to provide a reliable method of communication for its pilots or to enforce the company policy that pilots file a flight plan with an FSS.

In addition, the facts of this accident further support the Safety Board's belief that the FAA's automatic dependent surveillance-broadcast (ADS-B)¹⁰ system should be available to operators in the Gulf of Mexico as soon as possible. The Board notes that the delay in finding and rescuing the survivors of this accident likely would have been lessened or eliminated if the ADS-B system had been operational at the time of the accident. As a result of its investigation of the March 23, 2004, accident involving an Era Aviation Sikorsky S-76A++ that crashed in the Gulf of Mexico,¹¹ the Board issued Safety Recommendation A-06-21, which asked the FAA to "ensure that the infrastructure for the National Automatic Dependent Surveillance-Broadcast Program in the Gulf of Mexico is operational by fiscal year 2010." This recommendation is currently classified "Open—Acceptable Response" based on a June 2006 briefing in which the FAA informed the Board of plans to have the program fully operational before the end of fiscal year 2010.

Because hurricanes can be a yearly occurrence in the Gulf of Mexico, the FAA's oversight of Gulf offshore helicopter operators should ensure that all operators can comply with flight-following procedures in the event that a storm causes extensive damage to the normal means of communication. The Safety Board recognizes that it is the responsibility of an operator to meet its OpsSpec, but it is the FAA's responsibility to ensure that respective OpsSpecs are being met.

¹⁰ ADS-B relies on position information that is transmitted by individual aircraft based on global positioning system (GPS) technology. Each ADS-B-equipped aircraft has the capability to broadcast its position using a digital data link that provides information on the aircraft's airspeed and altitude and an indication of whether the aircraft is turning, climbing, or descending. This information can be directly transmitted from one aircraft to another, or the information can be transmitted to an ADS-B ground station, combined with other aircraft data, and transmitted back to any aircraft within range of an ADS-B ground station. Because the system primarily relies on GPS, a satellite-based technology, it would not be fully exposed to the hazards of a hurricane.

¹¹ For more information, see National Transportation Safety Board, *Controlled Flight Into Terrain, Era Aviation Sikorsky S-76A++, N579EH, Gulf of Mexico, About 70 Nautical Miles, South-Southeast of Scholes International Airport, Galveston, Texas, March 23, 2004*, Aviation Accident Report NTSB/AAR-06/02 (Washington, DC: 2006).

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

Following a hurricane or other major event that could affect communications, evaluate all offshore helicopter operators in the Gulf of Mexico for compliance with their communication contingency plan that supports continued adherence to required flight-following procedures. (A-09-01)

Acting Chairman ROSENKER and Members HERSMAN, HIGGINS, SUMWALT, and CHEALANDER concurred with this recommendation.

In response to the recommendation in this letter, please refer to Safety Recommendation A-09-01. 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).

[Original Signed]

By: Mark V. Rosenker
Acting Chairman