Misplaced Priorities

The NTSB blames an overemphasis on 'getting the job done' for helping create the weak safety culture that led to a fatal crash.

BY LINDA WERFELMAN

Charlie Mauzé/Airliners.net

An organizational culture that "prioritized mission execution over aviation safety" contributed to the 2009 crash of a New Mexico State Police Agusta A-109E that killed the pilot and the lost hiker he had just rescued from a mountainous wilderness area, the U.S. National Transportation Safety Board (NTSB) says.

The NTSB, in its final report on the accident, cited as its probable cause "the pilot's decision to take off from a remote, mountainous landing site in dark (moonless) night, windy, instrument meteorological conditions."

The NTSB added that factors contributing to the accident included the organization's emphasis on mission completion, as well as "the pilot's fatigue, self-induced pressure to conduct the flight and situational stress."

Also cited were "deficiencies in the NMSP [New Mexico State Police] aviation section's safety-related policies, including lack of a requirement for a risk assessment at any point during the mission; inadequate pilot staffing; lack of an effective fatigue management program for pilots; and inadequate procedures and equipment to ensure effective communication between airborne and ground personnel during search and rescue [SAR] missions."

"One thing we learned from this accident," NTSB Chairman Deborah A.P. Hersman said in a news release, "is that if safety is not the highest organizational priority, an organization may accomplish more missions, but there can be a high price to pay for that success."

Call for Help

The crash occurred about 2135 local time June 9, about 2 ½ minutes after departure from a landing site in the Pecos Wilderness about 20 nm (37 km) northeast of Santa Fe. In addition to the two deaths, a state highway patrol officer who acted as a spotter during the SAR mission was seriously injured. The helicopter was substantially damaged, the report said.

The SAR flight was initiated in response to a call from the lost hiker, identified as a Japanese citizen, who had used her cell phone about 1646 to ask for help. SAR personnel organized a search, and, anticipating delays because there were no roads in the search area, they requested that an NMSP helicopter join the effort.

At 1756, a police shift supervisor asked the pilot, who earlier in the day had completed an eight-hour shift that included three flights, if he "(felt) like going up again." The pilot initially responded that it was too windy in the search area to fly at that time of day; he called back several minutes later to say that, having checked the winds, he would make the flight.

Post-accident interviews indicated that the pilot, who was also the chief pilot[1] in the NMSP aviation section, had asked the other full-time helicopter pilot about taking the flight and accepted the mission himself after learning that the other pilot was unavailable.

The spotter told accident investigators that the pilot had warned him before takeoff about possible turbulence in the mountains; he said he did not remember comments about any other safety concerns.

About 1851, the pilot told the dispatcher that the helicopter was en route to the search area; regular communication continued with the dispatcher, who was speaking with the hiker via telephone, to better determine her location. About 1942, the hiker told the dispatcher that the helicopter was directly above her. The pilot and the spotter saw her about 2010 and began searching for a suitable landing area.

At 2030, about 20 minutes before sunset, the pilot told the dispatcher that they had landed in a clear area on a hill about 0.5 mi (0.8 km) above the hiker. The spotter said that, as they opened the helicopter's doors, they felt strong, cold westerly winds and saw sleet begin to fall. Because the hiker needed help reaching the helicopter, the pilot walked down the hill, located her and carried her back up the hill to the helicopter.

About 2127, the spotter told the dispatcher that they were about to fly back to Santa Fe.

He later told investigators that "almost immediately after takeoff, the helicopter was in the clouds with zero visibility and that the flight was very turbulent." Radar indicated that the helicopter initially headed northwest, then, about

one minute after takeoff, "began to fly erratically in a northeasterly direction and to climb, crossing terrain as high as 12,500 ft before descending rapidly near the crash site," the report said.

About 2134, the pilot radioed the dispatcher, "I struck a mountainside. [I'm] going down." She asked, "Are you [OK]?" The pilot answered "negative."

SAR teams found the helicopter on rocky, snow- and ice-covered terrain.

"The pilot continued to key his microphone, and on the dispatch recording, he could be heard breathing rapidly for about the next 39 seconds," the report said. "The dispatcher inquired, 'Santa Fe 606?' The pilot then said, 'Hang on [unintelligible]' and the radio transmission cut off immediately thereafter."

The last radar return was recorded at 2135.

The spotter said that after the crash, he was alone in the wreckage of the fuselage. Despite a broken ankle, chipped vertebrae, separated ribs and other injuries, he crawled out of the wreckage, yelling to the pilot, who yelled back from a distance. He found the hiker and determined that she had died, but he was unable to locate the pilot, who no longer answered his calls.

He spent the night inside the wrecked fuselage. In the morning, SAR personnel found him attempting to hike down the mountain to find help. SAR teams found the helicopter at 1816 on June 10 on rocky, snow- and ice-covered terrain.

Chief Pilot

The accident pilot had been hired as a patrol officer by the NMSP in 1995, after serving in the U.S. Marine Corps. He was transferred to a pilot position in 2002 and began pilot training. At the time of the accident, he had 1,331 flight hours, including 482 hours in helicopters — 411 of which were in the A-109E.

He held a commercial pilot certificate with airplane single- and multi-engine land ratings, a rotorcraft/helicopter rating, an airplane instrument rating and a first class medical certificate. He had received specific training in the A-109E and Cessna 421, in addition to instruction in mountain flying and the use of night vision goggles (NVGs). Records showed that he met U.S. Federal Aviation Regulations Part 61 night currency requirements for both helicopters and airplanes.

The pilot did not have a helicopter instrument rating, and one was not required by the NMSP because their helicopter operations typically were conducted as visual flight rules (VFR) operations.

The report said that a July 23, 2008, memo written by the head of the state Department of Public Safety (DPS) specified that the pilot must be "accompanied by a more experienced pilot when operating the helicopter above 9,000 ft or in mountainous terrain." Several authorities within the NMSP and DPS told accident investigators that they believed the restrictions had been removed, but there was no written indication of the removal.

In addition to his flight duties, the pilot was assigned in 2007 to serve as NMSP public information officer (PIO). In 2009, he was appointed chief pilot of the four-pilot operation. The other pilots — all of whom had more experience — described the accident pilot as a "competent pilot" and a "very skilled manipulator of the controls … for his experience level," the report said.

His colleagues disagreed about the pilot's aeronautical decision making. The report said that during interviews with accident investigators, "the full-time helicopter pilot said that the accident pilot usually examined all aspects of a mission and selected an intelligent strategy," while the part-time helicopter pilot said that the accident pilot "lacked 'temperance' because of his youth and inexperience."

Some of the other pilots told investigators that the accident pilot had refused flights in the past, either because of poor weather or fatigue, but one also said he was a "very heroic type person" who disliked turning down requests that he fly.

His wife, the state police emergency dispatcher working at the time of the accident, added that the pilot probably had accepted the accident flight because the winds were not unsafe, he was concerned about the hiker's safety and a supervisor had asked him to fly. "If

he could do the mission and help, that was his focus," she said.

The report said that the pilot had taken a prescribed antidepressant for several years, with no side effects. Accident investigators found no indication of any preexisting medical condition that might have affected the pilot's performance during the flight.

Late-Night Phone Calls

The pilot typically worked from 0700 to 1500 Monday through Friday, but the pilot's wife said that he often was on call, either as a pilot or as PIO, and that she could not remember the last day that was totally free of work-related duties.

For example, during the weekend that preceded the Tuesday accident, the pilot was on call for both PIO duties and pilot duties. In his PIO role, he worked with the news media periodically throughout the day Saturday and Sunday. He received work-related telephone calls around 0035 Sunday, around 2330 Sunday and around 0245 Monday. His duty day on Monday had begun around 0300 and ended around 1100. On Tuesday, he worked a typical 0700 to 1500 shift before being called back for the SAR flight.

"The pilot's wife stated that her husband loved flying and appreciated that the NMSP had given him the opportunity to work as a pilot," the report said. "However, the pilot's wife stated that her husband 'absolutely hated' his duties as the NMSP PIO."

He disliked having to talk in front of news cameras and worried that the time spent answering reporters' questions prevented him from getting adequate rest for flying, she said.

'Get Over It'

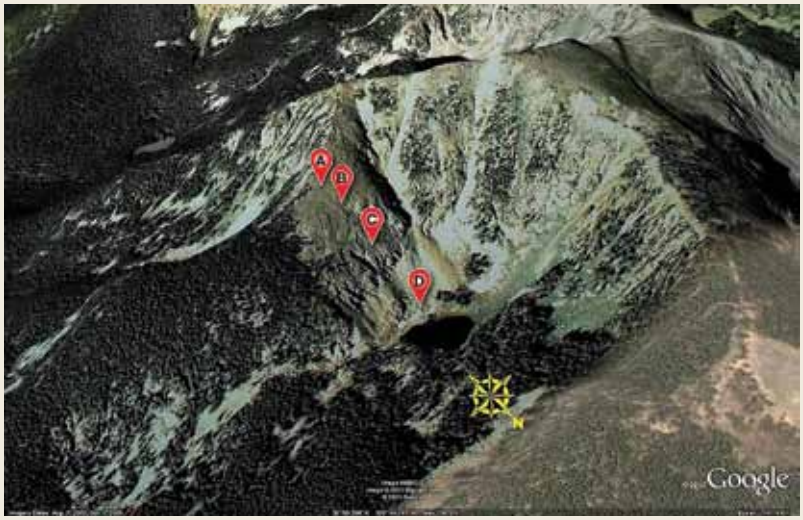
She added that when her husband told NMSP upper management that his PIO duties conflicted with his chief pilot duties and that he could not get adequate rest, "he was told to 'get over it' and to do his job," the report said.

The pilot's immediate supervisor — the NMSP special operations captain — shared the concern about the pilot's dual assignments and told investigators that the previous chief pilot had tried but failed to have the accident pilot relieved of his PIO assignment.

NMSP upper management saw no problem with the accident pilot's workload, however.

"The chief of police told investigators that the aviation section pilots were 'not overworked. They don't fly enough hours. They have a lot of idle time,'" the report said. "He stated that he had not relieved the accident pilot of his PIO duties after appointing him chief pilot because he 'didn't feel it was a conflict. … They're not flying that often, and the PIO position … if there's nothing big happening in the state, you're not doing anything.'

A tail strike occurred at an undetermined location before the Agusta crashed on a ridgeline. The highest piece of wreckage was found at point A, impact marks at B, the tail boom at C, and the main fuselage wreckage at D.



"The chief of police further stated, 'Look at the number of hours they fly and divide that by the number of pilots. … He's flying a couple hundred hours a year.'"

The head of the DPS said that he also had performed the PIO job and other extra duties during his tenure as chief pilot in the early 1990s and that he saw no conflict. He said he was unaware that the pilot had asked to be relieved of PIO duties.

The pilot who had held the chief pilot's position immediately before the accident pilot was assigned the job in 2009 said that he had been "relieved of his chief pilot responsibilities" — on the orders of the head of the DPS — because he had refused to send the two most junior pilots "on a mission that he considered extremely high risk."

The A-109E was manufactured in 2003 and delivered to the Department of Public Safety later that year; it had accumulated 1,710 flight hours. It had two Pratt & Whitney Canada PW206C turboshaft engines; the right engine had accumulated 1,667 hours and the left, 1,132 hours. The department had three sets of NVGs intended for use in the helicopter. The investigation found no indication of pre-impact problems.

'Poor Decision Making'

The NTSB said that when the pilot accepted the flight, weather and lighting conditions "did not preclude the mission." Nevertheless, because the flight was to be at high altitudes in a mountainous area in approaching darkness and deteriorating weather conditions, the report added that the pilot "should have taken steps to mitigate the potential risks involved, for example, by bringing cold-weather survival gear and ensuring that [NVGs] were on board and readily available."

Later, the pilot "exhibited poor decision making when he chose to take off from a relatively secure landing site at night and attempt [VFR] flight in adverse weather conditions," the report said, adding that his decision probably resulted from fatigue, self-induced pressure and stress.

"Although there was no evidence of any direct [NMSP] or [DPS] management pressure on the pilot during the accident mission, there was evidence of management actions that emphasized accepting all missions, without adequate regard for conditions, which was not consistent with a safety-focused organizational safety culture," the report said.

Recommendations

In April 2010, a DPS memo — included in the NTSB accident docket — said that the department was working to "establish a quality safety management approach to controlling risk" within the NMSP aviation section. The actions being taken included the development of new procedures for dispatching crews and aircraft; appointment of a 4,000-hour chief pilot, an aviation section safety officer and a training officer; and development of new standard operating procedures and a new risk management program.

As a result of the accident investigation, the NTSB issued 15 safety recommendations, most of them directed to law enforcement associations but several addressed to the governor of New Mexico.

The recommendations included a call for the Airborne Law Enforcement Association to revise its standards to ensure that pilots receive adequate rest periods and to require that all pilots are instructed on how to fly safely out of instrument meteorological conditions.

Recommendations to the National Association of State Aviation Officials and the International Association of Chiefs of Police included encouraging association members to review and modify their policies in accordance with forthcoming guidance from the Airborne Law Enforcement Association and to implement risk management procedures for their operations. The associations also should encourage the installation of 406-MHz emergency locator transmitters in all member aircraft, as well as flight-tracking equipment.

The NTSB called on the state of New Mexico to "bring its aviation section policies and operations into conformance with industry standards," to implement a comprehensive fatigue management program for NMSP pilots and to revise policies to ensure direct communication between NMSP aircraft and SAR ground personnel during SAR operations.

This article is based on NTSB accident report NTSB/AAR-11/04, Crash After Encounter With Instrument Meteorological Conditions During Takeoff From Remote Landing Site; New Mexico State Police, Agusta S.p.A A-109E, N606SP; Near Santa Fe, New Mexico; June 9, 2009. *Adopted May 24, 2011.*

Note

1. According to NMSP documents, the chief pilot was the "day-to-day administrator and supervisor" of four other pilots and one maintenance technician, and was responsible for "all daily flight operations, maintenance coordination, purchasing, training, planning and personnel matters involving aircraft and pilots." The report said that the chain of command placed five police officers above the chief pilot; the top official was the secretary of the Department of Public Safety, a member of the governor's Cabinet. Of those who outranked the chief pilot, only the Cabinet secretary had any knowledge or experience with aviation.