

Original Brief and PC Showing Changes

The revisions in this report resulted from a meeting with the Federal Aviation Administration during which they clarified their role in approving a Plan of Activities.

The pilot was hired to fly the helicopter for the production of a reality television show. The tentative plan scripted for the production shoot called for an actor to drop a backpack to the ground while the helicopter was in a hover to enable the cameras to film the airborne actor, the backpack receiver on the ground, and the helicopter executing the mission. Two shots were needed of the backpack being dropped, and they were to be done by two different actors at two separate locations at a movie ranch; the accident occurred during the filming of the second shot.

Recovered audio and video recordings from inside the helicopter revealed that the first bag-drop flight occurred around 2100, lasted about an hour, and consisted of four actual bag drops. During the first flight, the pilot made numerous comments about not being able to see the drop zone due to the dark night conditions and had the actor guide him with verbalized visual cues to ensure that the helicopter remained clear of trees. Several of the pilot's comments indicate that he was trying to be amenable to the production company's requests, and, although he did not directly communicate that he could not comply with some of them, he repeatedly remarked on the limited visibility and the brightness of a flexible light pad affixed to the center windshield frame in the cockpit. After the flight, he expressed his appreciation to the ground crew for not pressuring him and giving him the opportunity to perform multiple passes.

The second bag-drop location was on a plateau close to the landing zone and was situated about 85 ft above a dry riverbed. The plan was for the helicopter to maneuver toward the plateau while ascending from the riverbed. There were no lights in the river valley; however, the production crew had placed lights on the plateau and glowsticks and another light on the sloping terrain leading up from the riverbed to the top of the plateau. The flight began around 0330 and was conducted with the pilot in the right-front seat, the actor in the left-front seat, and the camera operator in the left-rear seat. The flexible light pad was cupped to direct the light toward the actor's face.

Before takeoff, the camera operator asked the pilot if they could try to use the light pad, and the pilot responded, "we'll see, it just really [sigh] blinds me." The camera operator then showed the actor how to operate the light pad. The actor turned it on to the lowest setting, and the camera operator remarked that it was bright but that they would see what the pilot thought; the pilot did not comment. During the initial takeoff and while maneuvering over the dry riverbed, the actor continued with scripted dialogue for about a minute until the pilot intervened to state that he needed the light pad turned off. The camera operator acknowledged him and informed the actor to turn off the light by pressing a button twice. The actor leaned forward to turn off the light, and, 8 seconds later, the camera operator announced, "where did uh, we're going down low," indicating that he was temporarily disoriented and then noted that they were descending. The actor cycled through the light's settings and eventually turned it off while the pilot simultaneously stated, "okay, okay, I can't." The camera operator interrupted saying, "pull up, pull up." The helicopter subsequently impacted terrain in the dry riverbed. Postaccident

examination of the wreckage revealed no evidence of mechanical malfunctions or anomalies that would have precluded normal operation.

The pilot recognized on the first flight that he was operating with reduced/no visibility and with a bright light in the cockpit that "blinded" him when it was on but chose to proceed with both flights likely because he believed that was what was required to fulfill the production requirements. Despite recognizing the hazards of the operation and relaying his concerns to the ground crew and camera operator, the pilot was the only person knowledgeable about helicopters. As the pilot, he was responsible for the safe operation of the helicopter and should have initiated the measures necessary to ensure that the helicopter's internal lighting and the lighting on the ground would enable him to conduct the flight in a safe manner.

The accident occurred during the hours of darkness on a moonless night over minimally lighted terrain. According to Federal Aviation Administration (FAA) guidance, these conditions can result in illusions that make it difficult for a pilot to visually determine altitude, depth perception, and orientation, and often create the illusion that the aircraft is at a higher altitude than it actually is. Additionally temporary blindness, caused by an unusually bright light, may result in illusions or after images until the eyes recover from the brightness. Based on the dark night conditions, the minimal ground lighting, the bright light in the cockpit, and the absence of preimpact mechanical anomalies, the pilot was likely temporarily blinded by the light, lost visual reference to the ground, and then flew the helicopter into the ground.

Before the accident flight, the company submitted, and an FAA inspector subsequently accepted, a proposed Motion Picture Plan of Activities (POA). ~~During his review of the accident flight's POA, the FAA inspector had an opportunity to examine the proposed flight and location and determine if the proposed flight activities would be safe, but he failed to identify that the flight would be conducted on a moonless night over terrain with limited ground features and lights and to assess whether the equipment that would be used for lighting and filming would enable the pilot to conduct the flight in a safe manner. It is likely that, if the inspector had been fully aware of the conditions of the intended operation, he might have identified that the proposed flight activities were potentially unsafe. Although the accident occurred outside the time that the POA was valid, that did not contribute to the accident.~~

Probable Cause

The pilot's decision to conduct a flight in dark night conditions with an illuminated cockpit light that degraded his visibility and his ability to identify and arrest the helicopter's descent while maneuvering, which resulted in controlled flight into terrain. ~~Contributing to the accident was the Federal Aviation Administration inspector's failure to identify the video production's flight as being potentially dangerous during the review of the proposed flight activities.~~