



National Transportation Safety Board Aviation Accident Final Report

Location:	Blanco, TX	Accident Number:	CEN13FA010
Date & Time:	10/11/2012, 1958 CDT	Registration:	N474FA
Aircraft:	ROBINSON HELICOPTER COMPANY R44 II	Aircraft Damage:	Substantial
Defining Event:	Loss of control in flight	Injuries:	3 Fatal
Flight Conducted Under:	Part 91: General Aviation - Other Work Use		

Analysis

According to track data recovered from a handheld GPS receiver found in the wreckage, the helicopter was on the final leg of a cross-country flight that had originated earlier in the day. According to fueling documentation, the helicopter was refueled, and the flight departed and proceeded on a southeast course toward the intended destination. According to the plotted GPS data, while enroute, about 600 feet above ground level (agl), the helicopter entered a descending left turn to an east-northeast course. About 30 seconds later, after descending about 100 feet, the helicopter entered a climb while on a northeast heading. During the climb, the helicopter's groundspeed decreased from 73 knots to 27 knots. The final GPS data point, recorded about 1 minute after the initial turn from the intended course, showed the helicopter about 800 feet agl at 27 knots groundspeed and about 0.2 mile north-northwest of the accident site. The helicopter wreckage was located in a sparsely populated area with hilly terrain. The debris path was orientated on a south-southeast heading, and the length and distribution of the debris path were consistent with the helicopter impacting rising terrain at cruise speed. Postaccident examination of the helicopter revealed no evidence of a preimpact failure or malfunction that would have precluded normal operation.

A postaccident review of meteorological data established that marginal visual flight rules conditions likely existed in the vicinity of the accident site at the time of the accident. The weather data supported increasing low-level cloud development and scattered light rain showers. No strong outflow winds or severe storm signatures were associated with the observed rain showers. The accident flight was conducted in dark nighttime conditions with minimal illumination from ground light sources. The helicopter's flight path during the last minute of GPS data was consistent with the pilot becoming spatially disoriented due to the lack of a discernible horizon that he could use to maintain control of the helicopter. Although the helicopter was equipped with basic attitude instrumentation and avionics, it was not certified for flight under instrument flight rules (IFR). Additionally, although the pilot held an instrument rating for helicopters, his IFR currency could not be verified from available logbook data.

According to FAA correspondence, about 5 months before the accident, the FAA had notified the pilot that he was ineligible to hold any class of medical certificate because of his multiple alcohol-related offenses. Although he had been advised multiple times of his ineligibility to hold a medical certificate, flight documentation established that the pilot continued to exercise the privileges of his commercial and flight instructor certificates. Toxicological test results for the pilot were negative for carbon monoxide, cyanide, ethanol, and all drugs and medications.

The helicopter operator reported that the accident occurred during an instructional flight; however, a review of available evidence did not support that the front-seat passenger was receiving flight instruction on the accident flight. According to FAA records, the front-seat passenger had never applied for a student pilot certificate or an aviation medical certificate. Additionally, a pilot logbook was not recovered during the investigation for the front-seat passenger. According to a business associate of both passengers, the front-seat passenger had coordinated the flight to attend a business appointment. According to photographs recovered from the front-seat passenger's mobile phone, on earlier flight legs, he had been seated in the left front seat. According to the helicopter manufacturer, the flying pilot typically would be seated in the right front seat, especially during initial flight instruction. Additionally, a review of the front-seat passenger's mobile phone established that he had been exchanging text messages with a business colleague in the minutes preceding the accident. Specifically, the final outgoing text message was sent about 26 seconds before the helicopter deviated from the direct course toward the intended destination. Therefore, it is unlikely that the passenger was operating the helicopter at the time of the accident.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: The pilot's loss of helicopter control as a result of spatial disorientation due to dark night conditions and marginal visual flight rules weather conditions.

Findings

Personnel issues	Aircraft control - Pilot (Cause)
	Spatial disorientation - Pilot (Cause)

Factual Information

HISTORY OF FLIGHT

On October 11, 2012, about 1958 central daylight time, a Robinson Helicopter Company model R44 II, N474FA, was substantially damaged when it collided with terrain during cruise flight near Blanco, Texas. The pilot and two passengers were fatally injured. The helicopter was operated by Veracity Aviation LLC, under the provisions of 14 Code of Federal Regulations (CFR) Part 91 without a flight plan. Night visual meteorological conditions prevailed for the flight that departed Gillespie County Airport (T82), Fredericksburg, Texas, about 1942, and was en route to Huber Airpark Civic Club LLC Airport (E70), Seguin, Texas.

According to recovered GPS data, the roundtrip cross-country flight, from the operator's home base at E70, located in Seguin, Texas, to Midland International Airport (MAF), in Midland, Texas, originally departed at 1241. The helicopter landed at MAF about 1503. According to fueling documentation, the accident helicopter was fueled with 37.7 gallons of 100 low-lead aviation fuel before the return flight. The return flight departed MAF at 1735 and landed at T82 to refuel about 1936.

There were no witnesses to the helicopter arriving at T82 nor while it was being refueled at the self-serve fueling stations. According to fueling documentation, at 1936, the accident helicopter was fueled with 15.92 gallons of 100 low-lead aviation fuel.

According to GPS data, the flight departed T82 at 1942. A witness, who was also a helicopter pilot, reported seeing a Robinson R44 helicopter depart toward the southeast; however, due to the dark night conditions he was unable to discern the helicopter's registration number or paint color. He noted that the helicopter had departed from the self-service fueling station near the main airport building.

The plotted GPS data indicated that the flight proceeded on a southeast course toward the intended destination (E70). According to the data, the helicopter maintained an average ground speed of about 80 knots while in cruise flight. At 1956:50 (hhmm:ss), the helicopter entered a descending left turn from a southeast course to an east-northeast course. The helicopter was at 2,517 feet GPS altitude, about 610 feet above ground level, and had a ground speed of 72 knots when it entered the descending left turn. At 1957:19, the recorded GPS altitude was 2,396 feet, about 500 feet above ground level, and the helicopter's ground speed was 73 knots. The helicopter then began to climb on a northeast heading. The GPS data indicated that, during the climb, the helicopter's ground speed decreased from 73 knots to 27 knots. The final GPS data point associated with the accident flight was recorded at 1957:49 and a GPS altitude of 2,643 feet, about 800 feet above the terrain, with a ground speed of 27 knots. The final data point was located about 0.2 miles north-northwest of the accident site.

At 2006, the United States Air Force Rescue Coordination Center (AFRCC), located at Tyndall Air Force Base, Florida, received a 406 MHz emergency locator transmitter (ELT) signal assigned to the accident helicopter. About 18 minutes later, the AFRCC was received their first of several triangulated positions for the active ELT signal. The accident site was subsequently located, with the assistance of airborne and ground units, at 0824 the morning following the accident. The wreckage was located in a sparsely populated area that was comprised of hilly terrain.

PERSONNEL INFORMATION

According to Federal Aviation Administration (FAA) records, the pilot, age 35, held a commercial pilot certificate with helicopter and instrument helicopter ratings. He also held a flight instructor certificate with helicopter and instrument helicopter ratings. His last aviation medical examination was completed on March 31, 2011, when he was issued a second-class medical certificate without limitations.

The pilot's flight history was reconstructed using a partially completed pilot logbook, a spreadsheet flight history that was provided by the pilot's employer, and GPS flight data that was recorded on the day of the accident. A review of the pilot's flight logbook revealed that his last recorded flight was completed on May 24, 2012. At that time, he had accumulated 1,410.9 hours total flight experience, of which 1,348.1 hours were listed as pilot-in-command. All of his logged flight time had been completed in helicopters. He had accumulated 63.6 hours in simulated instrument conditions and 109.5 hours at night. According the spreadsheet flight history, the pilot had flown an additional 111.7 hours since his final logbook entry. According to recovered GPS data, the pilot had flown 4.7 hours on the day of the accident. The pilot's total flight experience was estimated to be about 1,527.3 hours, of which 543.7 hours were completed in the same make/model as the accident helicopter. He had accumulated 1,464.5 hours as pilot-in-command and 644.4 hours as a flight instructor. He had accumulated 422.6 hours during the past year, 149.4 hours during the prior 6 months, 95.0 hours during previous 90 days, and 27.4 hours in the last 30 days. The pilot had flown 5.6 hours within the 24 hour period before the accident.

The pilot's employer, Veracity Aviation LLC, provided flight instruction, local air tours, on-demand air taxi services, and external load operations. The accident pilot was employed as a flight instructor and assistant chief pilot for their 14 CFR Part 141 flight school. According to FAA documentation, on November 7, 2011, the pilot demonstrated the skill and knowledge to operate as pilot-in-command for external-load helicopter operations. On November 8, 2011, the pilot passed a FAA regulatory checkride to become an assistant chief pilot for the 14 CFR Part 141 flight school. The pilot was not authorized to act as pilot-in-command for Veracity Aviation LLC's on-demand air taxi service under 14 CFR Part 135.

On March 15, 2012, the pilot received a letter from the FAA Aerospace Medical Certification Division informing him that he was not eligible to hold any class of medical certificate because of multiple alcohol related offenses. The pilot had two arrests that were associated with driving while intoxicated (DWI). The first arrest, dated October 16, 2004, resulted in a DWI conviction. The second arrest, dated November 18, 2011, was not prosecuted by the State of Texas as a DWI offense. On March 19, 2012, the pilot replied to the FAA letter, stating that he intended to work with the FAA to regain his eligibility to hold a medical certificate. The pilot also wrote that he had included his current medical certificate with the correspondence; however, FAA documentation indicated that the pilot had not included his medical certificate with his response. On March 27, 2012, the FAA replied to the pilot in the form of another letter that identified the specific regulations by which his eligibility to hold a medical had been revoked. The FAA response also detailed what documentation was required to be sent to the Aerospace Medical Certification Division for additional review before his eligibility could be reconsidered. On June 25, 2012, the pilot replied to the FAA in the form of another letter in which he described the circumstances of both alcohol related driving arrests. He wrote that he continued to provide "ground instruction" to his former students. Additionally, the pilot wrote that the State of Texas had declined to prosecute the November 2011 arrest for the charge of driving while intoxicated; however, he had pleaded not-guilty to the charges of speeding and

being in possession of an open alcoholic beverage while operating a motor vehicle. On October 9, 2012, the FAA sent another letter to the pilot that reiterated his ineligibility to hold a medical certificate until all of the previously requested documentation had been received and reviewed by the Aerospace Medical Certification Division. (The pilot had not received the latest correspondence from the FAA Aerospace Medical Certification Division when the accident occurred)

The owner of Veracity Aviation LLC told the NTSB investigator that although he knew of the pilot's November 2011 arrest, he was unaware that the FAA had revoked his medical certificate. Additionally, he was unaware that the pilot had been working with the FAA to reestablish his eligibility to hold a medical certificate. According to flight documentation provided by Veracity Aviation LLC and the pilot's personal logbook, the pilot had accumulated 218.1 hours since March 15, 2012, when he received the initial letter from the FAA Aerospace Medical Certification Division notifying him of his ineligibility to hold a medical certificate. Additionally, the flight records indicated that the pilot continued to act as pilot-in-command and as a flight instructor during the same time period. (Federal regulation 14 CFR Part 61.23 required a flight instructor to hold at least a third-class medical certificate if they acted as the pilot-in-command of any instructional flight)

AIRCRAFT INFORMATION

The accident aircraft was Robinson Helicopter Company model R44 II, serial number (s/n) 12517. The helicopter was a four-seat, single-engine helicopter that was equipped with a skid type landing gear. The FAA type certificate required one flight crew member (pilot) and permitted operations under day or night visual flight rules (VFR). Although the cockpit was equipped with flight attitude instrumentation and avionics, the accident helicopter was not certified for flight under instrument flight rules. The helicopter was equipped with dual cyclic controls and anti-torque pedals located at both the right and left cockpit positions. The helicopter was powered by a 245-horsepower Lycoming model IO-540-AE1A5, s/n L-33161-48E, reciprocating engine.

The helicopter was issued a Standard Airworthiness Certificate on October 14, 2008. A review of the maintenance records revealed that the helicopter had undergone an annual inspection on October 3, 2012, at 993.5 hours total time. At the time of the accident, the airframe and engine had accumulated 1,003.0 hours in service. The helicopter had accumulated 9.5 hours since the last maintenance inspection. A review of maintenance documentation did not reveal any unresolved airworthiness issues.

According to maintenance documentation, the accident helicopter had a basic empty weight of 1,530.5 pounds (lbs), a center-of-gravity location of 106.9-inches, and a useful load of 969.5 lbs. According to autopsy data, the pilot weighed 200 lbs, the front seat passenger weighed 325 lbs, and the rear seat passenger weighed 200 lbs. According to the Robinson R44 II Pilot Operating Handbook, the seats were limited to 300 lbs. According to GPS flight data and refueling documentation, the accident helicopter had about 36 gallons of fuel onboard when it departed on the accident flight. The additional personal property and cargo found onboard the helicopter weighed about 30 lbs.

According to postaccident weight and balance calculations, the helicopter weighed about 2,501.5 lbs and had a center-of-gravity location of 91.85-inches when it departed on the accident flight. As such, at the time of departure, the helicopter likely exceeded the maximum

gross weight limitation of 2,500 lbs and had a center-of-gravity located forward of the allowable limit.

METEOROLOGICAL INFORMATION

At 1900, a National Weather Service (NWS) Surface Analysis Chart depicted a low pressure system over eastern Kansas with a cold front extending southwest through Kansas and into the Oklahoma panhandle. A warm front extended southeast from the low into eastern Oklahoma and Arkansas. A high pressure region was located over Alabama. The resultant pressure gradient resulted in a general southeasterly wind flow that supported a warm moist air mass originating from the Gulf of Mexico.

At 2000, the NWS Weather Depiction Chart depicted a small area of marginal visual flight rule (MVFR) conditions in the vicinity of the accident site. The observed conditions near the accident site supported increasing low-level cloud development and scattered rain showers and thunderstorms.

A review of weather radar data revealed that, between 1956 and 1958, the helicopter's recorded GPS flight track bordered an area of very light intensity echoes. During the same time period, there was an area of light radar echoes that had developed immediately south of the accident site. The radar images revealed the potential of lower clouds and restricted visibility with light rain. Following the accident, several small areas of moderate-to-strong rain showers developed about 2 miles south of the accident site. These rain showers moved northward at 10 knots with time. No strong outflow winds or severe storm signatures were associated with the observed rain showers.

The closest weather observing station was located at the Gillespie County Airport (T82), Fredericksburg, Texas, about 22 miles northwest of the accident site. At 1955, the automated surface observing system reported: wind 140 degrees magnetic at 5 knots, visibility 10 miles, scattered clouds at 1,900 feet above ground level, temperature 23 degrees Celsius, dew point 22 degrees Celsius, and an altimeter setting of 30.10 inches of mercury.

The United States Naval Observatory reported that the sunset and end of civil twilight at the departure airport was at 1908 and 1932, respectively. At the time of the accident, the moon was more than 15 degrees below the horizon and, as such, did not provide any illumination. Additionally, the accident site was located in a sparsely populated area with minimal illumination from ground light sources. As such, dark nighttime conditions existed at the time of the accident.

The owner of the property where the accident occurred reported that it had been overcast a majority of the day with a noticeable lower cloud layer at the time of the accident. Between 1910 and 1915, as he was driving east on Farm-To-Market Road, approximately 2 to 4 miles west of his property and approximately 4 miles north of the accident site, he observed a dark cloud to the south and southeast, which he thought was associated with an area of rain. He did not recall seeing any lightning at that time. After arriving home, about 2030, it began to rain lightly to the point where it was necessary to close his house windows.

WRECKAGE AND IMPACT INFORMATION

The helicopter wreckage was located in a sparsely populated area that was comprised of hilly terrain. The initial point-of-impact was identified by recently disturbed terrain near the summit of a hill. A wreckage debris path originated from the initial point-of-impact and

consisted of fragmented airframe and flight control components. The debris path was orientated on a south-southeast heading. Portions of both landing gear skids were located between the initial point-of-impact and the main wreckage. The main wreckage was located about 160 feet from the initial point-of-impact. The engine, which had separated from the airframe, was located about 300 feet from the initial point-of-impact.

A postaccident investigation confirmed that all airframe structural components were located at the accident site. A majority of the airframe and flight control systems were fragmented during the impact sequence. There was no evidence of an inflight or postimpact fire. Flight control continuity could not be established due to multiple separations; however, all observed separations were consistent with overstress fractures. The hydraulic control servos moved freely when manipulated by hand. Examination of the four V-belts did not reveal any preimpact separations. The entire circumference of the forward face of the upper sheave exhibited scoring. Additionally, an upper fuselage frame tube exhibited scoring adjacent to the forward face of the upper sheave in the direction of sheave rotation. The observed scoring was consistent with the engine operating at the time of impact. The main rotor and tail rotor drive systems exhibited impact damage and several overstress separations. The main rotor hub had separated from the upper portion of the mast; however, the main rotor blades remained attached to their respective blade grips. The main rotor blades exhibited spanwise bending, fractures, and delamination consistent with ground impact. The main rotor gear box rotated freely by hand without any anomalies. The tail rotor hub remained attached to the tail rotor gearbox output shaft. The tail rotor blades remained attached their respective blade grips. One tail rotor blade exhibited spanwise bending and was fractured near the tip. Both tail rotor blades exhibited chordwise scratches. The tail rotor gear box rotated freely by hand without any anomalies. Both fuel tanks had been damaged during impact and did not contain any recoverable fuel. There were numerous separations within the fuel system; however, all observed separations were consistent with overstress fractures. The fuel selector valve was found in the "ON" position. The airframe examination did not reveal any evidence of a preimpact failure or malfunction of the helicopter structure, drive train, flight controls, hydraulic system, fuel system, and main and tail rotor systems that would have precluded normal operation. All observed airframe fractures were consistent with overload forces that were encountered during the impact sequence.

The engine had separated from the helicopter airframe during the impact sequence. The left magneto, engine-driven fuel pump, and oil filter had separated from the engine. Internal engine and valve train continuity was confirmed as the engine crankshaft was rotated. Compression and suction were noted on all cylinders in conjunction with crankshaft rotation. The upper spark plugs were removed and exhibited features consistent with normal engine operation. A borescope inspection of the cylinders revealed no evidence of foreign object ingestion or detonation. The ignition harness and both magnetos exhibited impact damage that precluded a functional test of the ignition system. The fuel injection servo, induction system, and exhaust were not obstructed. Fluid consistent with the appearance and odor of 100 low-lead aviation fuel was observed in trace amounts at the fuel flow divider, engine-driven fuel pump, and the fuel injection servo filter screen. The right side of the oil cooler exhibited numerous impact marks adjacent to the starter ring gear. The left side cooling panels, adjacent to the starter ring gear, also exhibited scuff marks. The postaccident examination revealed no evidence of preimpact mechanical malfunctions or failures that would have precluded normal engine operation.

Following the accident, a fuel sample was collected from the self-service fueling station that was used to fuel the accident helicopter before the accident flight. The fuel sample was blue in color, consistent with 100 low-lead aviation fuel. Additionally, the fuel sample did not contain any particulate or water contamination.

MEDICAL AND PATHOLOGICAL INFORMATION

On October 13, 2012, an autopsy was performed on the pilot by the Bexar County Medical Examiner's Office, located in San Antonio, Texas. The cause of death was attributed to multiple blunt-force injuries that were sustained during the accident. The FAA's Civil Aerospace Medical Institute (CAMI) located in Oklahoma City, Oklahoma, performed toxicology tests on samples obtained during the autopsy. The toxicological test results were negative for carbon monoxide, cyanide, ethanol, and all drugs and medications.

ADDITIONAL DATA/INFORMATION

The two passengers were employed by Venture Energy Services. According to a company representative, the purpose of the flight was to fly to Midland, Texas, so that the passengers could interview a potential employee. Venture Energy Services owned and operated their own airplane for business flights; however, on the day of the accident, the airplane was not available because it was undergoing maintenance. The owner of the company had other personal aircraft that were often used for business flights; however, those aircraft typically were not made available unless the owner was also going on the business flight. As such, one of the passengers had arranged the accident flight through Veracity Aviation LLC.

According to the owner of Veracity Aviation LLC, the passenger who arranged the accident flight was an established customer who had previously obtained helicopter flight instruction. According to invoices, dated between May 2012 and September 2012, the passenger had completed 5 instructional flights in a Robinson R44 helicopter, totaling 7 hours of flight time. The owner of Veracity Aviation LLC reported that the passenger did not have a logbook in which the dual instruction had been recorded. Additionally, the passenger had reportedly paid for two of his friends to have introductory helicopter flights.

According to FAA records, the passenger who arranged the accident flight had never applied for a student pilot certificate or an aviation medical certificate. A pilot logbook was not recovered during the investigation for the passenger. Beyond the 5 invoices for the instructional flights with Veracity Aviation LLC, no additional information was recovered during the investigation that indicated the passenger had been actively pursuing flight instruction.

According to fueling documentation for the accident flight, the passenger who arranged the flight had used his company credit card, issued by Venture Energy Services, to purchase fuel at Midland International Airport (MAF) and Gillespie County Airport (T82). According to the owner of Veracity Aviation LLC, the advertised rental rate for the accident helicopter included the cost of fuel. He further stated that he did not know why the passenger would have paid for the fuel, but that he would have credited any fuel that had been purchased by the passenger. According to a Venture Energy Services company representative, the passenger who had arranged the flight told him that Veracity Aviation LLC had discounted the hourly rental rate for the helicopter if they agreed to purchase any required fuel.

The passenger who had arranged the accident flight had a mobile phone that contained several text messages and photos which were aviation related. On September 22, 2012, the passenger

and the owner of Veracity Aviation LLC discussed having a "charter" the following morning. The passenger noted that he had an investor in town that wanted to go on an aerial observation flight to "count his exotic animals." On September 23, 2012, the passenger sent a text message to his investor that read "We're getting the doors off and fueling up. I'll text you when we take off and I'll pick you up by the tennis court by the lodge." The passenger's mobile phone contained several photos that were taken on September 23, 2012, during a helicopter flight. Two of the photos established that the photographer was seated in the forward right seat of a Robinson R44 helicopter. The photographer's feet were flat on the floor; they were not positioned on the helicopter's anti-torque pedals. According to invoices provided by Veracity Aviation LLC, the flight on September 23, 2012, was invoiced as an instructional flight and the owner of Veracity Aviation LLC was listed as the flight instructor.

On October 9, 2012, the passenger and the owner of Veracity Aviation LLC exchanged multiple text messages about another potential flight; however, the discussed flight was subsequently canceled by the passenger due to a scheduling change.

On the day of the accident, the passenger's mobile phone had several text messages that were associated with the accident flight. At 1016:47, the passenger mistakenly sent a text message to an unintended recipient that read "Also I need your weight??? Lol its for fuel purposes." At 1034:41, the pilot sent the passenger a text message concerning a temporary airspace flight restriction (TFR), which ultimately was determined not to be active on the day of the accident. Between 1049:32 and 1050:28, the passenger and pilot exchanged 3 text messages about meeting at the airport, and the final message from the passenger read "it will be me and 187 lbs person." After landing in Midland, Texas, at 1529:08, the pilot sent a business related message that indicated that they had landed at Midland. At 1859:38, the pilot sent a text message that read "In helicopter headed back to Seguin from Midland I'm about 1 hr out." Between 1951:00 and 1956:24, the pilot and a colleague exchanged 5 text messages concerning a business related topic. The final 2 text messages of that conversation were sent by the passenger at 1956:17 and 1956:24. According to the recovered GPS track data, which was obtained from another handheld device, the passenger's final outgoing text message was sent about 26 seconds before the helicopter began the left descending turn, and 1 minute 25 seconds before the final recorded GPS data point.

The passenger's mobile phone also contained several photos that were taken at various times on the day of the accident. At 1449:33, while the helicopter was en route to Midland, Texas, a photo was taken looking forward from the front left seat of a Robinson R44 helicopter. At 1503:47, shortly after the helicopter had landed at Midland, Texas, a photo was taken of an airport ramp, looking forward from the front left seat of the helicopter. At 1818:17, while the helicopter was en route to Fredericksburg, Texas, a photo was taken looking forward from the front left seat of the helicopter. At 1926:36, another photo was taken looking forward from the front left seat of the helicopter. At 1926:52, another photo was taken from the front left seat of the helicopter, and depicted the left edge of the instrument panel, the left cockpit floor, and the left cyclic control stick. In the photo the photographer's feet were positioned on the helicopter's anti-torque pedals, which were in a neutral position. Although the photo did not capture entire length of left cyclic control stick, there were no hands visible on the upper 1/3 of the control stick. At 1935:35 and 1935:44, two photos were taken of a dark airport ramp with runway and taxiway lights illuminated. At 1940:05 and 1940:08, two photos were taken while the photographer stood outside the helicopter. The photos were focused on the left side of a Robinson R44 helicopter that was sitting on an airport ramp. Although the horizon was still

discernible in the photos, the ramp area was already dark. The helicopter's red beacon lights were illuminated and the main rotor was rotating at the time of the photographs.

According to the helicopter manufacturer, the flying-pilot typically would be seated in the right cockpit position. Additionally, during flight instruction, the pilot-receiving-instruction typically would be seated in the right cockpit position and the flight instructor in the left cockpit position.

History of Flight

Enroute-cruise	Other weather encounter Loss of visual reference Loss of control in flight (Defining event) Collision with terr/obj (non-CFIT)
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Pilot Information

Certificate:	Flight Instructor; Commercial	Age:	35
Airplane Rating(s):	None	Seat Occupied:	Right
Other Aircraft Rating(s):	Helicopter	Restraint Used:	Seatbelt
Instrument Rating(s):	Helicopter	Second Pilot Present:	No
Instructor Rating(s):	Helicopter; Instrument Helicopter	Toxicology Performed:	Yes
Medical Certification:	None None	Last Medical Exam:	03/31/2011
Occupational Pilot:	Yes	Last Flight Review or Equivalent:	11/08/2011
Flight Time:	(Estimated) 1527.3 hours (Total, all aircraft), 543.7 hours (Total, this make and model), 1464.5 hours (Pilot In Command, all aircraft), 95 hours (Last 90 days, all aircraft), 27.4 hours (Last 30 days, all aircraft), 5.6 hours (Last 24 hours, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Manufacturer:	ROBINSON HELICOPTER COMPANY	Registration:	N474FA
Model/Series:	R44 II	Aircraft Category:	Helicopter
Year of Manufacture:		Amateur Built:	No
Airworthiness Certificate:	Normal	Serial Number:	12517
Landing Gear Type:	Skid	Seats:	4
Date/Type of Last Inspection:	10/03/2012, Annual	Certified Max Gross Wt.:	2500 lbs
Time Since Last Inspection:	10 Hours	Engines:	1 Reciprocating
Airframe Total Time:	1003 Hours	Engine Manufacturer:	Lycoming
ELT:	C126 installed, activated, aided in locating accident	Engine Model/Series:	IO-540-AE1A5
Registered Owner:	Eric A. Spitzer, LLC	Rated Power:	245 hp
Operator:	Veracity Aviation, LLC	Air Carrier Operating Certificate:	Rotorcraft External Load (133); On-demand Air Taxi (135)

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual Conditions	Condition of Light:	Night/Dark
Observation Facility, Elevation:	T82, 1695 ft msl	Observation Time:	1955 CDT
Distance from Accident Site:	22 Nautical Miles	Direction from Accident Site:	300°
Lowest Cloud Condition:	Scattered / 1900 ft agl	Temperature/Dew Point:	23° C / 22° C
Lowest Ceiling:	None	Visibility	10 Miles
Wind Speed/Gusts, Direction:	5 knots, 140°	Visibility (RVR):	
Altimeter Setting:	30.1 inches Hg	Visibility (RVV):	
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Fredericksburg, TX (T82)	Type of Flight Plan Filed:	None
Destination:	Seguin, TX (E70)	Type of Clearance:	None
Departure Time:	1942 CDT	Type of Airspace:	Class G

Wreckage and Impact Information

Crew Injuries:	1 Fatal	Aircraft Damage:	Substantial
Passenger Injuries:	2 Fatal	Aircraft Fire:	None
Ground Injuries:	N/A	Aircraft Explosion:	None
Total Injuries:	3 Fatal	Latitude, Longitude:	30.051944, -98.606667

Administrative Information

Investigator In Charge (IIC):	Andrew T Fox	Adopted Date:	09/17/2015
Additional Participating Persons:	Jesse Sanchez; Federal Aviation Administration - San Antonio FSDO; San Antonio, TX Thom Webster; Robinson Helicopter Company; Torrance, CA Mark Platt; Lycoming Engines; Chandler, AZ		
Publish Date:	09/17/2015		
Note:	The NTSB traveled to the scene of this accident.		
Investigation Docket:	http://dms.nts.gov/pubdms/search/dockList.cfm?mKey=85313		

The National Transportation Safety Board (NTSB), established in 1967, is an independent federal agency mandated by Congress through the Independent Safety Board Act of 1974 to investigate transportation accidents, determine the probable causes of the accidents, issue safety recommendations, study transportation safety issues, and evaluate the safety effectiveness of government agencies involved in transportation. The NTSB makes public its actions and decisions through accident reports, safety studies, special investigation reports, safety recommendations, and statistical reviews.

The Independent Safety Board Act, as codified at 49 U.S.C. Section 1154(b), precludes the admission into evidence or use of any part of an NTSB report related to an incident or accident in a civil action for damages resulting from a matter mentioned in the report.