



Aviation Investigation Final Report

Location:	, Gulf of Mexico	Accident Number:	CEN12FA321
Date & Time:	May 28, 2012, 16:10 Local	Registration:	N7077F
Aircraft:	Bell 206-L4	Aircraft Damage:	Substantial
Defining Event:	Loss of control in flight	Injuries:	1 Fatal
Flight Conducted Under:	Part 135: Air taxi & commuter - Non-scheduled		

Analysis

The commercial pilot was attempting to land his single-engine helicopter on a fixed production platform helipad when the main rotor blades struck the corner of an oil derrick that was partially positioned over the helipad. The pilot lost control and descended inverted into the ocean. The emergency external floats were not inflated, and the helicopter sank. At the time of the accident, a mobile jack-up rig was mated with the fixed production platform. According to the company that owned the production platform, the helipad was closed and all flight operations were being conducted from the jack-up rig's helipad, which was larger and unobstructed. However, at the time of the accident, the production platform's helipad was not marked closed and no notice to airman (NOTAM) had been issued to notify pilots that the helipad was closed.

There was also nothing in the operator's flight operations manual that would have restricted the pilot from landing under an obstruction. Other company pilots were aware that this helipad was a flight hazard due to the encroachment of the oil derrick, but it was never reported to management or via the company's internal safety notification system. A review of company flight manifest records revealed that the pilot had flown to this platform on several occasions, including 2 days before the accident, and landed on the jack-up rig's helipad. It could not be determined why the pilot decided to land on the smaller and obstructed helipad rather than the jack up rig's larger helipad just 2 days later. Examination of the helicopter and engine revealed no preimpact mechanical failures or malfunctions that would have precluded normal operation.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: The pilot's failure to maintain clearance from an obstacle while landing on an obstructed helipad, which resulted in a collision and loss of control. Contributing to the accident was the failure of the helipad owner to mark the helipad closed and the failure of the flight operator to report the known hazard and issue a notice to airman.

Findings

Personnel issues	Incorrect action performance - Pilot
Environmental issues	Runway markings/signage - Decision related to condition
Organizational issues	Availability of policy/proc - Other institution/organization
Organizational issues	Adherence to safety program - Operator
Environmental issues	Ground equipment - Contributed to outcome

Factual Information

History of Flight

Approach	Collision with terr/obj (non-CFIT)
Approach	Loss of control in flight (Defining event)

HISTORY OF FLIGHT

On May 28, 2012, approximately 1610 central daylight time, a Bell 206-L4 helicopter, N7077F, was substantially damaged when it collided with the Ensco 99 oil rig derrick while on approach to the South Timbalier (ST67B) production platform in the Gulf of Mexico. The commercial pilot, who was the only occupant, was fatally injured. The helicopter was registered to and operated by PHI INC, Lafayette, Louisiana. A company visual flight rules flight plan was filed for the flight that originated from its base in Grand Isle, Louisiana, at 1514, and was destined for the Mississippi Canyon (MC397) and ST67B oil platforms. Visual meteorological conditions prevailed for the on-demand offshore flight conducted under 14 Code of Federal Regulations Part 135.

According to PHI INC flight manifest records, the pilot landed at MC397 at 1541, dropped off a box, and then departed for the ST67B platform at 1543 to pick up a passenger.

The ST67B production platform was a permanent structure equipped with a 24-foot-long by 24-foot-wide helipad with a 3-foot-wide solid safety fence. At the time of the accident, the Ensco 99 mobile jack-up oil rig was connected on the north side of the ST67B platform. The Ensco 99 rig, which was being operated by Ensco for Energy XXI, was equipped with a 65-foot diameter helipad. At the time of the accident, the Ensco 99's oil derrick was positioned over the ST67B helipad by about seven feet and was supposedly closed due to this encroachment. Flight operations were being conducted to/from the Ensco 99 helipad.

In an interview, a witness, who was the passenger waiting to be picked up by the helicopter, stated he was standing on the Ensco 99 rig near the helipad when he heard a public announcement for a "Green deck on 67B." Then he heard someone respond, "Green deck 67B." The witness watched the helicopter circle the rig and then he headed toward the Ensco 99 helipad. When the helicopter did not approach the Ensco 99 helipad, he looked over the side of the rig and saw the helicopter approaching the ST67B helipad instead. The witness said the pilot's approach was slow and steady, and the helicopter was moving forward the entire time. There were numerous workers trying to wave the pilot off from landing. The witness remembered thinking to himself, "There was no way [the pilot] could land there." He then saw the main rotor blades hit the side of the rig and the engine revved up. The witness said the helicopter either backed out or lost control, because it came back up and the main rotor blades struck the rig a second time. Then the tail rotor struck the helipad and the entire helicopter fell

back into the water. The witness said he ran over to the ST67B platform and saw life rings in the water. He could still see the helicopter, but it was sinking quickly. A life boat was also being lowered into the water by the crew stationed on the the Alliance I lift boat.

The Alliance I lift boat was stationed at the southeast corner of the two rigs. The boat was staffed with a captain and a first mate, who both witnessed the accident. According to the captain, he was in his office on the boat when he heard the helicopter approaching. He got alarmed because the noise of the helicopter was so loud and he thought the ST67B helipad was closed. The captain watched the helicopter approach the pad and he could see a worker on the Ensco 99 rig trying to wave the pilot off from landing. Due to the relatively close proximity of the helicopter to the boat, the captain thought he saw the pilot trying to "pull back", but "it was too late", and the main rotor blades struck the southeast corner of the oil derrick. The helicopter then spun rapidly and the tail boom separated from the fuselage. The helicopter descended into the water inverted. The captain immediately sounded the general alarm. The emergency floats on the helicopter were not deployed and the helicopter began to sink. In less than a minute, a rescue boat was in the water but the helicopter had already sunk from view below the surface of the water. The captain said this was the first time he had seen someone try to land on the ST67B helipad.

The first mate said he was in the boat's wheelhouse when he heard the helicopter approaching. He looked outside the window and saw the skids of the helicopter going by. He was concerned because he thought the ST67B helipad was closed due to the oil derrick's position over the helipad. The first mate was watching a person on the Ensco 99 rig trying to wave the pilot off from continuing the approach when he heard a "pop, pop, pop" noise. At that moment, he knew the main rotor blades had struck the base of the oil derrick. When he looked back at the helicopter, it had spun around suddenly and he thought the tail rotor struck the helipad. He said, "The helicopter jumped violently and the tail seemed to fold and the chopper fell along the northeast side of the platform." The first mate then assisted the captain and other parties in an attempt to rescue the pilot. The first mate said that he has never seen a pilot try to land on the ST67B helipad prior to the accident.

Another witness was working on the north side of the oil derrick when he heard the helicopter make two passes around the oil rig. He then heard the helicopter approaching the ST67B helipad and it sounded "normal." Shortly after, the witness heard the main rotor blades impact the base of the oil derrick (rig floor). The witness then rushed down a set of stairs on the east side of the rig floor and looked over the railing. At that point, the tail boom had separated from the fuselage, and both sections were descending into the water. The witness said he had been stationed on the Ensco 99 rig for approximately four months and this was the first time he had seen a helicopter try to land on the ST67B helipad.

PERSONNEL INFORMATION

The pilot was hired by PHI INC on January 5, 2012. On January 18, 2012, he successfully completed ground school and flight training in the Bell 206 helicopter and was assigned to PHI INC's base in Grand Isle, Louisiana. He also successfully completed water survival training on

January 14, 2012.

The pilot held a commercial pilot certificate for rotorcraft-helicopter, and instrument helicopter. His last Federal Aviation Administration (FAA) First Class medical certificate was issued July 18, 2011. A review of company records and also one of the pilot's logbooks, revealed he had accrued approximately 1,645.1 hours; of which 363 hours were in Bell 206-L3/4 model helicopter.

The week before the accident, the pilot completed transition training in the Bell 407 helicopter and successfully passed an FAA Part 135 airman competency/proficiency check ride on May 24, 2012.

A review of company flight manifest records revealed the pilot had been dispatched to ST67B on several occasions. His most recent trip occurred just two days before the accident on May 26, 2012. According to the passenger he flew there that day; he said the pilot got a "green deck" before landing. He described the flight as normal and the pilot made two passes around the rig before landing on the Ensco 99 helipad. The passenger said he and the pilot did not discuss which helipad to land on. The passenger said that he had flown to/from ST67B about 2 to 3 times a month prior to the accident and never had a pilot try to land on the ST67B helipad.

In interviews with other PHI INC pilots based in Grand Isle, none of them recalled having a conversation with the accident pilot about the ST67B helipad.

AIRCRAFT INFORMATION

The helicopter was a Bell 206-L4, serial number 52038. An FAA inspector performed a review of the maintenance records, which revealed that all required inspections had been completed by the operator. No discrepancies were noted.

METEOROLOGICAL INFORMATION

Weather at Fourchon, Louisiana (K9F2), approximately 15 miles north of ST67B, at 1700, was reported as wind from 240 degrees at 12 knots, visibility 7 miles, few clouds 3,000 feet, temperature 32 degrees Celsius, dewpoint 25 degrees Celsius, and an altimeter setting of 29.87 inches of Mercury.

HELIPAD INFORMATION

At the time of the accident, the height above the ST67B helipad to the bottom of the Ensco 99's oil derrick was approximately 30 to 35 feet. According to Energy XX1, the ST67B helipad was closed due to this encroachment, but at the time of the accident there were no markings on the helipad that denoted it as closed.

Energy XX1 reported that when the Ensco 99 mated with the ST67B in January 2012, a tarp with a red "X" was placed over the ST67B helipad. At some point, the tarp blew away or "disappeared." Then an "X" was made on the helipad with red tape, and that too disappeared. Energy XX1 did not know when the tarp or tape were placed on the ST67B helipad. However, the day after the accident, a red "X" was painted on the ST67B helipad.

According to PHI INC, a Notice to Airmen (NOTAM) declaring the ST67B helipad "closed" was not issued prior to the accident. As a result of the accident, they issued a company NOTAM on May 29, 2012, declaring the ST67B helipad closed.

WRECKAGE AND IMPACT INFORMATION

The helicopter wreckage was recovered several hours after the accident and transported to PHI INC's facility in Lafayette. The wreckage was examined on May 30, 2012, under the supervision of the NTSB investigator-in-charge. In addition to salt-water damage, the helicopter sustained impact damage on the left side of the nose and along the left side of the fuselage. The roof of the fuselage was partially crushed into the cabin and the skids were spread.

The tail boom had separated from the fuselage at the point where the tail boom attached to the fuselage. The tail boom exhibited minor damage. The tail rotor assembly and both blades were not damaged; however, the main rotor blades exhibited impact damage and were fragmented. Both main rotor blades remained attached to the mast, but only about four feet of each blade remained. The missing pieces of the main rotor blades were not recovered. Flight control continuity was established for all flight controls to the cockpit. Examination of the airframe found no mechanical discrepancies that would have contributed to the accident.

Examination of the engine found no obvious mechanical discrepancies that would have contributed to a loss of engine power.

MEDICAL AND PATHOLOGICAL INFORMATION

An autopsy was conducted on the pilot on May 29, 2012, by the Jefferson Parish Forensic Center, in Harvey, Louisiana. The cause of death was determined to be asphyxia due to drowning and multiple blunt force injuries.

Toxicological testing was conducted by the FAA Toxicology Accident Research Laboratory, Oklahoma City, Oklahoma. The tests were negative for all items tested.

SURVIVAL ASPECTS

According to information provided by the company that recovered the helicopter, the pilot was found inside the cockpit of the helicopter with his seatbelt/shoulder harness assembly unfastened.

Examination of the helicopter revealed that the pilot's seat (front right) was intact and no visible damage was noted to the seat frame or box. The front right door was not damaged and functioned normally when tested. The pilot's 4-point seatbelt/shoulder harness assembly was intact and both the lap belt buckle and inertial reel system worked when manually tested. The pilot was wearing his company issued life vest and the two bladders were found outside of their vest pockets. The vest had two bladders that could be inflated manually by pulling down on two pull-tabs on the front of the vest (one for each bladder). When the tab is pulled it activates a carbon dioxide cartridge. Once the cartridge is activated, a red locking pin built into the system is sheared. Examination of the cartridge on the left side of the pilot's vest (which feeds the front bladder) revealed that the red locking pin was sheared and the cartridge had been activated. Examination of the front bladder revealed a 3-inch-long diagonal tear on the front left side of the bladder. The tear appeared to have been made with a sharp object and it was later determined that the bladder was cut by rescue personnel to help extricate the pilot from the helicopter. The seams of the bladder were inspected and no other tears/leaks were noted. Examination of the red locking pin on the right cartridge assembly (which feeds the rear bladder) revealed it was intact and the cartridge had not been activated. No tears or leaks were observed in the rear bladder. The cartridge was then activated and the bladder filled immediately with air. The helicopter's emergency external float system was intact. The system was manually activated from the cockpit during the wreckage examination, and all but the middle float on the right rear fully expanded.

ADDITIONAL INFORMATION

Energy XXI contracted PHI INC to transport their employees and contractors. Flights were conducted out of PHI's base in Grand Isle, Louisiana. Based on interviews conducted with PHI INC pilots based in Grand Isle, it was learned that the oil derrick's position over the ST67B helipad was a known safety hazard. However, the hazard was never brought to the attention of PHI INC management based in Grand Isle or via the company's internal safety reporting system. According to one pilot based in Grand Isle, he said he had landed on the ST76B helipad on April 17, 2012, at the request of his passenger, an Energy XX1 employee. At that time, the oil derrick was extended only 4-feet over the helipad. It was moved three more feet over the pad the following day on April 18, 2012. Though the pilot said he was legal to land on the ST67B helipad per his operations manual, he felt it was unsafe to operate from that helipad due to the confined space. The pilot said that when he returned to Grand Isle, he told an administrative assistant about the hazard versus the base's lead pilot because, "A lead pilot was not on duty that week." The pilot said an administrative assistant called the platform and told them the ST67B platform was too dangerous to land on and should be closed. The assistant then put up a memo in the pilot's lounge stating the ST67B helipad was closed. The pilot said he was aware of PHI INC's internal safety notification process since it was part of his initial training. But, with all the other information they had to absorb in training "that info went out the window." The pilot did not recall if he had any conversations with the accident pilot about landing on the ST67B helipad.

The passenger on the April 17th flight stated that he did not recall ever landing on the ST67B

helipad that day or ever making a request to land there. The passenger said he has always landed on the Ensco 99 helipad and has never had a pilot ask him which helipad he wanted to land on.

A review of the Grand Isle base's weekly safety meeting notes from January 2012 (when the Ensco 99 mated with the ST67B platform) to the date of the accident revealed there was no mention about the ST67B helipad being closed or a hazard.

A review of the Master Service Agreement between PHI INC and Energy XXI revealed there were no requirements for Energy XXI to inform PHI that the ST67B helipad was closed or to tell PHI INC how to conduct their flight operations. According to Energy XXI, they relied on pilots to use their best "professional judgment" to avoid hazards.

The Ensco 99 was staffed with a rig clerk, whose duties included coordinating transportation for Energy XXI and Ensco employees to and from the rig. In an interview, the rig clerk stated that one of PHI INC's administrative assistant from the Grand Isle base contacted him on the day of the accident via the telephone to verify that the accident pilot had a "green deck" prior to landing. He didn't recall if the assistant specified which helipad the green deck was for, but he assumed it was for the Ensco 99 helipad since that was the only helipad he gave a "green deck" to. The rig clerk confirmed the "green deck" and was told the pilot was 20 minutes out from landing.

A review of PHI INC's flight manifest records for the accident flight revealed that ST67B was the designated location, not Ensco 99. This was observed on other PHI INC flight manifest records as well. In an interview, the supervisor of the passenger scheduled to be picked up on the day of the accident, stated that he sent the transport request to PHI INC on the morning of the accident. When asked if he specifically requested that his employee be picked up at the ST67B helipad. He said, "No, the ST67B pad was out of service. However, when we make the request to PHI for a pilot to pick us up here, they know it's for the Ensco 99 helideck." The supervisor said that he had not seen or read anything that stated the ST67B pad was closed, and it was just an assumption since flights were always made to/from the Ensco 99 helipad.

According to PHI INC's FAA accepted Operations Manual revealed there were no restrictions or limitations that would have prevented the pilot from landing on the ST67B helipad.

Pilot Information

Certificate:	Commercial	Age:	29, Male
Airplane Rating(s):	None	Seat Occupied:	Right
Other Aircraft Rating(s):	Helicopter	Restraint Used:	
Instrument Rating(s):	Helicopter	Second Pilot Present:	No
Instructor Rating(s):	None	Toxicology Performed:	Yes
Medical Certification:	Class 1 Without waivers/limitations	Last FAA Medical Exam:	July 19, 2011
Occupational Pilot:	Yes	Last Flight Review or Equivalent:	May 24, 2012
Flight Time:	1703 hours (Total, all aircraft), 374 hours (Total, this make and model), 1560 hours (Pilot In Command, all aircraft), 69 hours (Last 90 days, all aircraft), 30 hours (Last 30 days, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Bell	Registration:	N7077F
Model/Series:	206-L4	Aircraft Category:	Helicopter
Year of Manufacture:		Amateur Built:	
Airworthiness Certificate:	Normal	Serial Number:	52038
Landing Gear Type:	None	Seats:	7
Date/Type of Last Inspection:	May 24, 2012 AAIP	Certified Max Gross Wt.:	4450 lbs
Time Since Last Inspection:		Engines:	1 Turbo shaft
Airframe Total Time:	12948 Hrs at time of accident	Engine Manufacturer:	Rolls Royce
ELT:	Installed, not activated	Engine Model/Series:	250C30P
Registered Owner:	PHI INC	Rated Power:	650 Horsepower
Operator:		Operating Certificate(s) Held:	On-demand air taxi (135)

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	Condition of Light:	Day
Observation Facility, Elevation:	9F2	Distance from Accident Site:	15 Nautical Miles
Observation Time:	17:00 Local	Direction from Accident Site:	360°
Lowest Cloud Condition:	Few	Visibility	7 miles
Lowest Ceiling:		Visibility (RVR):	
Wind Speed/Gusts:	12 knots /	Turbulence Type Forecast/Actual:	/
Wind Direction:	240°	Turbulence Severity Forecast/Actual:	/
Altimeter Setting:	29.87 inches Hg	Temperature/Dew Point:	32°C / 25°C
Precipitation and Obscuration:			
Departure Point:	GM	Type of Flight Plan Filed:	Company VFR
Destination:		Type of Clearance:	None
Departure Time:	15:14 Local	Type of Airspace:	Class G

Airport Information

Airport:	None	Runway Surface Type:	
Airport Elevation:		Runway Surface Condition:	
Runway Used:		IFR Approach:	None
Runway Length/Width:		VFR Approach/Landing:	

Wreckage and Impact Information

Crew Injuries:	1 Fatal	Aircraft Damage:	Substantial
Passenger Injuries:		Aircraft Fire:	None
Ground Injuries:	N/A	Aircraft Explosion:	None
Total Injuries:	1 Fatal	Latitude, Longitude:	29.474901,-88.702275

Administrative Information

Investigator In Charge (IIC):	Yeager, Leah
Additional Participating Persons:	Mark Chapman; FAA/FSDO; Baton Rouge, LA Mark Stunzner; Bell Helicopter; Hurst, TX Jack Johnson; Rolls Royce; Indianapolis, IN Terry Kaufman; PHI Inc; Lafayette, LA Paul Perkins; PHI Inc; Lafayette, LA Thomas Yakobovich; PHI Inc; Lafayette, LA DeWayne Misner; Energy XXI; Houston, TX
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Note:	
Investigation Docket:	https://data.nts.gov/Docket?ProjectID=83774

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The NTSB does not assign fault or blame for an accident or incident; rather, as specified by NTSB regulation, “accident/incident investigations are fact-finding proceedings with no formal issues and no adverse parties ... and are not conducted for the purpose of determining the rights or liabilities of any person” (Title 49 *Code of Federal Regulations* section 831.4). Assignment of fault or legal liability is not relevant to the NTSB’s statutory mission to improve transportation safety by investigating accidents and incidents and issuing safety recommendations. In addition, statutory language prohibits the admission into evidence or use of any part of an NTSB report related to an accident in a civil action for damages resulting from a matter mentioned in the report (Title 49 *United States Code* section 1154(b)). A factual report that may be admissible under 49 *United States Code* section 1154(b) is available [here](#).