



National Transportation Safety Board Aviation Accident Data Summary

Location:	St Louis, MO	Accident Number:	CEN15FA164
Date & Time:	03/06/2015, 2310 CST	Registration:	N356AM
Aircraft:	Airbus Helicopters (Eurocopte EC-130-B4)	Injuries:	1 Fatal
Flight Conducted Under:	Part 91: General Aviation - Positioning - Air Medical (Unspecified)		

Analysis

The emergency medical service (EMS) helicopter was landing on a privately owned elevated heliport to pick up two medical crewmembers. The medical crewmembers had been dropped off with a patient on a preceding flight. During the preceding flight, the nurse thought about telling the pilot to abort the landing on the heliport because there was a lot of rolling and yawing, and he was having a hard time landing the helicopter. After the landing, the nurse and another medical crewmember stated that the pilot did not want to depart the heliport, but the medical crewmembers told the pilot that there may be potential arrivals of other EMS helicopters. The pilot chose to depart the heliport and obtained fuel at the operator's base of operations. For the return flight to pick up the two medical crewmembers, the wind had increased, and the helicopter approached the heliport in high-wind conditions and with a right, quartering tailwind. Also, the wind along with the surrounding buildings likely created a turbulent airflow/windshear environment in which the helicopter was operating as it approached for landing. The helicopter's operation in a high-power, low-airspeed condition in high-wind conditions, including a right quartering tailwind, likely resulted in a loss of control due to settling with power.

A security video showed the helicopter on a northerly flightpath descending at about a 45-degree angle before impacting the ground and coming to rest on an approximate northerly heading. The pilot sustained fatal injuries due to the subsequent fuel tank fire/explosion, which otherwise would have been a survivable accident.

A postaccident safety evaluation of the heliport showed that the final approach and takeoff area/safety area were obstructed by permanent and semi-permanent objects that pose a serious hazard to helicopter operations. These obstructions limited the available approach paths to the heliport, which precludes, at times, approaches and landings with a headwind. The helipad is privately owned; therefore, it is not subject to Federal Aviation Administration (FAA) certification or regulation.

A review of the helicopter's flight manual revealed that there were no wind speed/azimuth limitations or suggested information available to pilots to base the performance capabilities of the make and model helicopter in their flight planning/decision-making process. Examination of the helicopter revealed no anomalies that would have precluded normal operation and showed engine power at the time of impact.

An accredited representative from the Bureau d'Enquêtes et d'Analyses pour la Sécurité de l'Aviation Civile (BEA) was assigned to this investigation as the state of manufacture of the helicopter. The BEA provided comments on this report, which can be found in the docket.

Flight Events

Approach - Other weather encounter
Approach-VFR pattern final - Loss of control in flight
Approach-VFR pattern final - Settling with power/vortex ring state
Uncontrolled descent - Collision with terr/obj (non-CFIT)

Probable Cause

The National Transportation Safety Board determines the probable cause(s) of this accident to be:

The pilot's decision to land during unfavorable wind conditions, which resulted in a loss of control due to settling with power. Contributing to the accident were the lack of an adequate approach path due to numerous obstructions and the lack of available guidance regarding the helicopter's performance capabilities in the right quartering tailwind condition.

Findings

Aircraft-Aircraft oper/perf/capability-Performance/control parameters-Descent rate-Attain/maintain not possible - C

Aircraft-Aircraft oper/perf/capability-Performance/control parameters-Descent/approach/glide path-Not specified - F

Personnel issues-Action/decision-Action-(general)-Pilot - C

Environmental issues-Physical environment-Object/animal/substance-(general)-Effect on operation - F

Environmental issues-Conditions/weather/phenomena-Wind-Tailwind-Contributed to outcome

Environmental issues-Conditions/weather/phenomena-Wind-High wind-Contributed to outcome

Pilot Information

Certificate:	Commercial	Age:	52
Airplane Rating(s):	None	Instrument Rating(s):	Helicopter
Other Aircraft Rating(s):	Helicopter	Instructor Rating(s):	None
Flight Time:	2614 hours (Total, all aircraft), 366 hours (Total, this make and model), 1449 hours (Pilot In Command, all aircraft), 29 hours (Last 90 days, all aircraft), 15 hours (Last 30 days, all aircraft), 5 hours (Last 24 hours, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Airbus Helicopters (Eurocopte	Registration:	N356AM
Model/Series:	EC-130-B4	Engines:	1 Turbo Shaft
Operator:	Air Methods Corporation	Engine Manufacturer:	Tubomecca
Operating Certificate(s) Held:	On-demand Air Taxi (135)	Engine Model/Series:	Arriel 2B1
Flight Conducted Under:	Part 91: General Aviation - Positioning - Air Medical (Unspecified)		

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual Conditions	Condition of Light:	Night
Observation Facility, Elevation:	CPS, 413 ft msl	Weather Information Source:	Weather Observation Facility
Lowest Ceiling:		Wind Speed/Gusts, Direction:	6 knots / , 210°
Temperature:	3°C	Visibility	10 Miles
Precipitation and Obscuration:			
Departure Point:	St Louis, MO (MU05)	Destination:	St Louis, MO (MO55)

Airport Information

Airport:	St Louis University Hospital H (MO55)	Runway Surface Type:	
Runway Used:	H1	Runway Surface Condition:	Dry
Runway Length/Width:	50 ft / 50 ft		

Wreckage and Impact Information

Crew Injuries:	1 Fatal	Aircraft Damage:	Destroyed
Passenger Injuries:	N/A	Aircraft Fire:	On-Ground
Ground Injuries:	N/A	Aircraft Explosion:	On-Ground
Latitude, Longitude:	38.622222, -90.233611 (est)		

Administrative Information

Investigator In Charge (IIC):	Mitchell F Gallo	Adopted Date:	06/22/2016
Note:	The NTSB traveled to the scene of this accident.		
Investigation Docket:	http://dms.nts.gov/pubdms/search/dockList.cfm?mKey=90830		

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