# National Transportation Safety Board
# Aviation Accident Data Summary

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|---|---|---|---|
| **Location:** | Clear Lake, IA | **Accident Number:** | CEN13FA122 |
| **Date & Time:** | 01/02/2013, 2057 CST | **Registration:** | N445MT |
| **Aircraft:** | BELL HELICOPTER 407 | **Injuries:** | 3 Fatal |
| **Flight Conducted Under:** | Part 91: General Aviation - Positioning - Air Medical (Medical Emergency) | | |

## Analysis

GPS tracking data revealed that, after departure, the helicopter proceeded westbound about 600 ft above ground level (agl), following a roadway. About 6 minutes after liftoff, when the helicopter was about 3/4 mile south of the accident site, it turned right and became established on a northerly course. The helicopter subsequently turned left and appeared to be on a southerly heading at the final data point. Shortly before beginning the left turn, the helicopter entered a climb, reached an altitude of about 1,800 ft agl, and then entered a descent that continued until impact.

Weather observations from the nearest Automated Surface Observing System, located about 7 miles east of the accident site, indicated that the ceilings and visibility appeared to be adequate for nighttime helicopter operations and did not detect any freezing precipitation. Although an airmen's meteorological information advisory for icing conditions was current for the route of flight, and several pilot reports of icing conditions had been filed, none of the reports were in the immediate vicinity of the intended route of flight. Witnesses and first responders reported mist, drizzle, and icy road conditions at the time of the accident. It is likely that the pilot inadvertently encountered localized icing conditions, which resulted in his subsequent in-flight loss of helicopter control.

A postaccident examination of the helicopter revealed no preimpact failures or malfunctions. The engine control unit recorded engine torque, engine overspeed, and rotor overspeed events; however, due to their timing and nature, the events were likely a result of damage that occurred during the impact sequence. Evidence also indicated that the cyclic centering, engine overspeed, and hydraulic system warning lights illuminated; it is also likely that their illumination was associated with the impact sequence. Further, the engine anti-ice status light was illuminated, which was consistent with the activation of the anti-ice system at some point during the accident flight.

## Flight Events

Enroute - Structural icing
Enroute - Loss of control in flight
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 inadvertent encounter with localized icing conditions and his subsequent in-flight loss of helicopter control.

## Findings

Aircraft-Aircraft oper/perf/capability-Performance/control parameters-(general)-Not attained/maintained - C
Personnel issues-Task performance-Use of equip/info-Aircraft control-Pilot - C
Environmental issues-Conditions/weather/phenomena-Ceiling/visibility/precip-Freezing rain/sleet-Awareness of condition - C
Environmental issues-Conditions/weather/phenomena-Ceiling/visibility/precip-Freezing rain/sleet-Effect on equipment - C

## Pilot Information

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|---|---|---|---|
| **Certificate:** | Airline Transport | **Age:** | 53 |
| **Airplane Rating(s):** | Single-engine Land | **Instrument Rating(s):** | Helicopter |
| **Other Aircraft Rating(s):** | Helicopter | **Instructor Rating(s):** | Helicopter |
| **Flight Time:** | 2808 hours (Total, all aircraft), 29 hours (Total, this make and model), 2697 hours (Pilot In Command, all aircraft), 29 hours (Last 90 days, all aircraft), 6 hours (Last 30 days, all aircraft), 0 hours (Last 24 hours, all aircraft) | | |

## Aircraft and Owner/Operator Information

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|---|---|---|---|
| **Aircraft Manufacturer:** | BELL HELICOPTER | **Registration:** | N445MT |
| **Model/Series:** | 407 | **Engines:** | 1 Turbo Shaft |
| **Operator:** | Med-Trans Corporation | **Engine Manufacturer:** | Rolls-Royce |
| **Air Carrier Operating Certificate:** | On-demand Air Taxi (135) | **Engine Model/Series:** | 250-C47B |
| **Flight Conducted Under:** | Part 91: General Aviation - Positioning - Air Medical (Medical Emergency) | | |

## Meteorological Information and Flight Plan

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|---|---|---|---|
| **Observation Facility, Elevation:** | MCW, 1214 ft msl | **Weather Information Source:** | Weather Observation Facility |
| **Conditions at Accident Site:** | Visual Conditions | **Lowest Ceiling:** | Broken / 1700 ft agl |
| **Condition of Light:** | Night | **Wind Speed/Gusts, Direction:** | 8 knots, 300° |
| **Temperature:** | -3°C / -5°C | **Visibility** | 8 Miles |
| **Precipitation and Obscuration:** | No Obscuration; No Precipitation | | |
| **Departure Point:** | Mason City, IA | **Destination:** | Emmetsburg, IA (IA76) |

## Airport Information

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| **Airport:** | Mason City Municipal (MCW) | **Runway Surface Type:** | |
| **Runway Used:** | N/A | **Runway Surface Condition:** | |
| **Runway Length/Width:** | | | |

## Wreckage and Impact Information

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|---|---|---|---|
| **Crew Injuries:** | 3 Fatal | **Aircraft Damage:** | Destroyed |
| **Passenger Injuries:** | N/A | **Aircraft Fire:** | On-Ground |
| **Ground Injuries:** | N/A | **Aircraft Explosion:** | On-Ground |

## Administrative Information

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| **Investigator In Charge (IIC):** | Timothy Sorensen | **Adopted Date:** | 02/12/2015 |
| **Note:** | The NTSB traveled to the scene of this accident. | | |
| **Investigation Docket:** | http://dms.ntsb.gov/pubdms/search/dockList.cfm?mKey=85944 | | |

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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.