



National Transportation Safety Board Aviation Accident Final Report

Location:	BOHEMIA, NY	Accident Number:	NYC97FA030
Date & Time:	12/16/1996, 1840 EST	Registration:	N425EW
Aircraft:	Cessna 425	Aircraft Damage:	Destroyed
Defining Event:		Injuries:	3 Fatal
Flight Conducted Under:	Part 91: General Aviation - Business		

Analysis

The pilot had received clearance for the ILS Runway 6 approach and was advised that the previous landing traffic reported '...breaking out at minimums.' Radar data revealed that the airplane descended in instrument meteorological conditions to the decision height altitude of 294 feet, approximately 3 miles from the missed approach point. The pilot did not perform the missed approach procedure. The airplane leveled off and continued at or below decision height altitude for approximately 28 seconds, traveling a distance of approximately 1 mile. Four low altitude alerts appeared on the tower controller's display. The controller stated he withheld the alert because '...it was a critical phase of flight and the aircraft appeared to be climbing...' The airplane collided with trees and terrain approximately 1.5 miles from the approach end of the landing runway.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: the pilot's early descent to decision height and his failure to perform the missed approach procedure. A factor was the failure of air traffic control to issue a safety advisory.

Findings

Occurrence #1: IN FLIGHT COLLISION WITH TERRAIN/WATER
Phase of Operation: APPROACH - FAF/OUTER MARKER TO THRESHOLD (IFR)

Findings

1. (F) WEATHER CONDITION - LOW CEILING
2. (C) IFR PROCEDURE - IMPROPER - PILOT IN COMMAND
3. (F) SAFETY ADVISORY - NOT ISSUED - ATC PERSONNEL(LCL/GND/CLNC)

Factual Information

HISTORY OF FLIGHT

On December 16, 1996, at 1840 eastern standard time, a Cessna 425, N425EW, was destroyed when it collided with trees and impacted the ground in the Connetquot State Park, Bohemia, New York, while on an instrument approach to the Long Island-MacArthur Airport (ISP), Islip, New York. The certificated commercial pilot and two passengers were fatally injured. There was ground fire. Instrument meteorological conditions prevailed for the business flight that originated at Macon, Georgia (MCN), about 1600. An IFR flight plan had been filed for the flight conducted under 14 CFR Part 91.

According to air traffic control records, all handling of N425EW from MCN to ISP, was "normal." At 1823, N425EW was given an approach clearance for the ILS Runway 6 approach to ISP. According to the Federal Aviation Administration (FAA) Accident Report Form 8020-6-1 prepared by the ISP tower:

"The controller gave N425EW an approach clearance which included a right turn to 030. He also told N425EW he was 5 miles from LOKKS LOM (Locator Outer Marker) to maintain 2000 until established on the localizer. The pilot acknowledged the clearance. The controller advised N425EW that previous arrivals reported breaking out at minimums."

N425EW contacted Long Island Tower, at 1825, and was cleared to land. At 1825:22, Long Island Tower transmitted: "...conquest five echo whiskey previous arrivals reported breaking out at minimums." N425EW acknowledged the radio call.

Radar data revealed that approximately 2 miles prior to the LOKKS LOM, N425EW initiated a descent below the assigned altitude of 2,000 feet. N425EW crossed the LOKKS LOM at 900 feet msl., 872 feet below the published glide slope intercept altitude. N425EW continued descent underneath the glideslope, and did not intercept the glideslope during the approach.

At 1827:16, N425EW descended to 300 feet and continued flight at or below that altitude for approximately 28 seconds, and traveled a distance of approximately 1 mile. The published Decision Height altitude for the ILS Runway 6 approach was 294 feet. The last radar plot, at 1827:44, placed the airplane approximately 2 miles from the runway at an altitude of 300 feet MSL.

In a written statement, the Air Traffic Control Specialist from the Long Island Tower stated:

"At approximately 2328 UTC (1828), a Low Altitude Alert sounded. I observed N5EW on a two mile final indicating 200 feet. As I was going to issue the alert, I observed the altitude indicating 300. In my judgment, since it was a critical phase of flight and the aircraft appeared to be climbing, I withheld the alert."

In a statement provided to the New York State Park Police, a witness on the ground who resided in the park stated:

"...I heard an airplane on the usual flight path towards the airport. I heard the aircraft pass over and then heard what sounded like heavy lumber falling off a truck ... When I heard the airplane I did not hear any change in sound from the engines or any sounds that would suggest the plane was in trouble."

In a telephone interview, a second witness stated he was walking across an open field

approximately 1 mile northwest of the accident site. He stated:

"I heard an aircraft with propeller driven engines running smoothly in level flight with the motor revved up a bit, quite loud and quite low. I thought he would be reported or something. Then it just stopped. There was no problem with the motor, it sounded quite smooth. I knew he wasn't climbing. It sounded like level - maybe descending ..."

The second witness estimated that the cloud ceiling was between 300-500 feet. He further stated that the clouds were "...right down to tree level over the park." The witness said there was a heavy mist in the air and the visibility was approximately one-quarter mile at ground level.

The airplane came to rest about 1.5 miles from the approach end of runway 06, in the vicinity of the ILS final approach course. The accident occurred during the hours of darkness approximately 40 degrees 46 minutes North latitude and 73 degrees 06 minutes West longitude. The reported weather for ISP at the time of the accident indicated cloud heights at 300 feet and the visibility as 3/4 of a mile.

PILOT INFORMATION

The pilot held a commercial Pilot Certificate with ratings for airplane single and multi-engine land and instrument airplane.

The pilot's most recent FAA Second Class Medical Certificate was issued on January 9, 1987. According to Part 61, a second class medical certificate was valid for 12 months.

The pilot's logbook was not recovered. However, information provided by the pilot to his insurance company in 1995, indicated that he had a total of 10,846 hours of flight experience. He indicated 2,089 hours in the Cessna 425, and 276 hours in the Cessna 421.

The pilot provided a letter dated April 24, 1996 to his insurance company. The letter was signed by a Certified Flight Instructor and stated that the pilot had completed a Biennial Flight Review, an Instrument Competency Check, and was trained to proficiency in the Cessna 425, and the Cessna 421C. The pilot also represented to his insurance company that he held a Second Class Medical Certificate dated November 28, 1995.

AIRCRAFT INFORMATION

The maintenance records for the airplane were not recovered. No evidence of logbooks or logbook binders was discovered at the accident site. Two members of the investigation team, both FAA Aviation Safety Inspectors, traveled to the Long Island MacArthur Airport on December 21, 1996 to inspect the hangar where N425EW was stored prior to the accident. Both inspectors provided written statements indicating that they were denied access to the hangar by an attorney and an aircraft mechanic representing the owner of N425EW. According to one statement, the FAA Inspectors:

"...were denied access to the hangar where N425EW (CE-425) was stored prior to the accident. We were denied access by Mr. Bernard Burton and Mr. Daniel Slanovic. [The inspectors] were there to review the aircraft records for N425EW which was involved in an accident on 12/16/96..."

METEOROLOGICAL INFORMATION

The ISP weather observation, at 1845, was: measured ceiling 300 feet overcast with visibility

3/4 statute mile with mist. The wind was from 240 degrees at 5 knots. The temperature was 6 degrees Celsius and the dewpoint was 6 degrees Celsius. The altimeter setting was 29.95.

AIDS TO NAVIGATION

The FAA performed a flight check of the ILS Runway 6 Approach at the MacArthur-Islip Airport, on December 18, 1996. In the remarks section of the FAA Form 8240-17 it stated:

"ILS Facility found satisfactory. Approach Lights MALSR: The Approach Lighting System was operating normally. The Runway Alignment Indicator Flashers had one light operating out of the normal five. Airways Facility Maintenance issued NOTAM # 12/036-ISP RWY 06 Approach Lighting System out of service. This NOTAM was issued 12/17/96 at 12:20 AM E.S.T. through ISP FSS."

WRECKAGE INFORMATION

The airplane wreckage was examined at the accident site on December 17, 1996. The examination revealed that all major components of the airplane were accounted for at the scene. The airplane came to rest upright on an approximate magnetic heading of 240 degrees, at a ground elevation of about 100 feet above mean sea level (MSL). The fuselage, including the cockpit and cabin areas, was consumed by post crash fire.

The wreckage path was oriented approximately 060 degrees and covered a distance of approximately 300 feet. The path was identified in 1 foot increments called stations. The wreckage path was measured from the point of initial tree impact, station zero, to the site where the left engine was discovered, station 300.

Initial tree impact scars were approximately 40 feet above ground level. The tree trunk was broken at a point approximately 12 inches in diameter. Trees between station 0 and station 110 were broken off at points progressively lower in the direction of the wreckage. Several angular cut tree branches were between stations 25 and station 50.

The left aileron and the outboard section of the left wing were at stations 40 and 50 respectively. The left inboard wing section was at station 110, at the base of a tree with a large impact scar. The wing section and the surrounding earth and trees exhibited evidence of ground fire.

The right outboard wing section was in the vicinity of station 220. The flap actuator position corresponded to 15 degrees of flaps.

Five of six propeller blades were scattered along the wreckage path between stations 140 and 300. One propeller blade was found still attached to the propeller hub on the right engine at station 275. All propeller blades exhibited torsional twisting, leading edge gouging, and chordwise scratching.

Examination of the main fuselage at station 250 revealed no useful evidence. However, several engine and flight instruments were ejected from the cockpit during impact and found between stations 75 and 110. The instrumentation was damaged or destroyed by impact or fire.

The right engine was separated from its mount and found in the vicinity of station 275. The engine was destroyed by impact and post crash fire. The engine was covered with ashes and debris. The first stage compressor was visible and the rotor and vanes displayed rotational damage and smearing.

The left engine was separated from its mount and found near station 300. The engine was destroyed by impact and post crash fire. The engine broke was in 4 pieces and remained connected by wires and lines. The propeller reduction gearbox was destroyed and the reduction gears were exposed. The engine accessory case was cracked and separated from the engine. The drive coupling displayed rotational damage and smearing.

The nose strut and wheel were separated from the fuselage at the attaching points, and located at station 210.

MEDICAL AND PATHOLOGICAL INFORMATION

Autopsies were performed on the pilot and two passengers by the Office of the Medical Examiner, Suffolk County, New York on December 17, 1996.

The pilot's toxicological testing was conducted at the FAA Toxicology Accident Research Laboratory, Oklahoma City, Oklahoma.

AIR TRAFFIC CONTROL

According to New York TRACON personnel, the ISP airspace was covered by Minimum Safe Altitude Warning (MSAW) radar. Describing the radar configuration, an FAA Support Specialist stated:

"Except for special cases, the general terrain monitor is all encompassing...one exception is the type two area associated with the approach path monitor. In this area, to eliminate unwanted or nuisance alarms, there is an adaptable set of altitudes. In the case of [runway] 6 at ISP, the type two altitudes were set at 206Ft. MSL. This means, an [aircraft] that entered the type two area from the outer most extension and on a trajectory toward the [runway], would not set an alarm until the parameter altitude. Also...there is a 15 second forward prediction that will cause an alarm based on reaching the parameter altitude within 15 seconds."

MSAW alerts were displayed on the ISP tower controller's monitor. Four alerts were displayed between 1827:16 and 1827:30.

The alert at 1827:16 indicated the airplane was 300 feet MSL, approximately 3.8 miles from the runway. The second and third alerts, at 1827:20 and 1827:25 respectively, indicated 200 feet. The fourth alert at 1827:30 indicated 300 feet, approximately 3.4 miles from the runway.

According to FAA Order 7110.65J, instructions to the controller were :

"Immediately issue / initiate an alert to an aircraft if you are aware the aircraft is at an altitude which, in your judgment, places it in unsafe proximity to terrain / obstructions."

ADDITIONAL INFORMATION

In a telephone interview, the pilot's wife stated she was unsure of the exact time her husband awoke on the morning of the accident flight. However, a 0530 to 0600 wake up was not unusual. The planned itinerary was to depart ISP, at 0800, conduct business in Macon, Georgia, and return to ISP. The pilot's wife said she expected her husband home approximately 2000. She stated a trip of that length, and a work day of that duration, was "...well within the parameters of what he would do."

According to the FAA Instrument Rating Practical Test Standards, while performing an ILS instrument approach procedure, the pilot, "Allows, while on the final approach segment, no more than three-quarter- scale deflection of either the localizer or glide slope indications..."

In the Pilot /Controller Roles and Responsibilities section of the Aeronautical Information Manual (AIM) it stated:

"5-5-5 MISSED APPROACH a. Pilot- 1. Executes a missed approach when one of the following conditions exists: (a) Arrival at the Missed Approach Point (MAP) or the Decision Height (DH) and visual reference to the runway environment is insufficient to complete the landing. (b) Determined that a safe landing is not possible."

In the Air Traffic Procedures section of the AIM, it states:

"A pilot adhering to the altitudes, flight paths, and weather minimums depicted on the IAP [Instrument Approach Procedure] chart or vectors and altitudes issued by the radar controller, is assured of terrain and obstruction clearance and runway or airport alignment during approach for landing."

The airplane wreckage was released to the owner on January 7, 1997.

Pilot Information

Certificate:	Commercial	Age:	55, Male
Airplane Rating(s):	Multi-engine Land; Single-engine Land	Seat Occupied:	Left
Other Aircraft Rating(s):	None	Restraint Used:	
Instrument Rating(s):	Airplane	Second Pilot Present:	No
Instructor Rating(s):	None	Toxicology Performed:	Yes
Medical Certification:	Class 2 Expired	Last FAA Medical Exam:	01/09/1987
Occupational Pilot:		Last Flight Review or Equivalent:	
Flight Time:	10846 hours (Total, all aircraft), 2089 hours (Total, this make and model), 5 hours (Last 24 hours, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Cessna	Registration:	N425EW
Model/Series:	425 425	Aircraft Category:	Airplane
Year of Manufacture:		Amateur Built:	No
Airworthiness Certificate:	Normal	Serial Number:	425-0150
Landing Gear Type:	Retractable - Tricycle	Seats:	6
Date/Type of Last Inspection:	Unknown	Certified Max Gross Wt.:	8200 lbs
Time Since Last Inspection:		Engines:	2 Turbo Prop
Airframe Total Time:		Engine Manufacturer:	P&W
ELT:	Installed, not activated	Engine Model/Series:	PT6A-112
Registered Owner:	U.S. DYNAMICS CORPORATION	Rated Power:	500 hp
Operator:	U.S. DYNAMICS CORPORATION	Operating Certificate(s) Held:	None

Meteorological Information and Flight Plan

Conditions at Accident Site:	Instrument Conditions	Condition of Light:	Night/Dark
Observation Facility, Elevation:	ISP, 99 ft msl	Distance from Accident Site:	0 Nautical Miles
Observation Time:	2345 GMT	Direction from Accident Site:	0°
Lowest Cloud Condition:	Unknown / 0 ft agl	Visibility	0.75 Miles
Lowest Ceiling:	Overcast / 300 ft agl	Visibility (RVR):	0 ft
Wind Speed/Gusts:	6 knots /	Turbulence Type Forecast/Actual:	/
Wind Direction:	60°	Turbulence Severity Forecast/Actual:	/
Altimeter Setting:	30 inches Hg	Temperature/Dew Point:	6°C / 6°C
Precipitation and Obscuration:			
Departure Point:	MACON, GA (MCN)	Type of Flight Plan Filed:	IFR
Destination:	ISLIP, NY (ISP)	Type of Clearance:	IFR
Departure Time:	1600 EST	Type of Airspace:	Class C

Airport Information

Airport:	LONG ISLAND-MAC ARTHUR (ISP)	Runway Surface Type:	Asphalt
Airport Elevation:	99 ft	Runway Surface Condition:	Wet
Runway Used:	6	IFR Approach:	ILS
Runway Length/Width:	7002 ft / 150 ft	VFR Approach/Landing:	None

Wreckage and Impact Information

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

Administrative Information

Investigator In Charge (IIC):	BRIAN C RAYNER	Report Date:	02/02/1998
Additional Participating Persons:	SERGIO LOPEZ (FAA); FARMINGDALE, NY RON HUGHES (FAA); FARMINGDALE, NY PETER DASILVA; EAST GRANBY, CT DAVID S RYAN; WICHITA, KS		
Publish Date:			
Investigation Docket:	NTSB accident and incident dockets serve as permanent archival information for the NTSB's investigations. Dockets released prior to June 1, 2009 are publicly available from the NTSB's Record Management Division at pubinq@ntsb.gov , or at 800-877-6799. Dockets released after this date are available at http://dms.nts.gov/pubdms/ .		

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