Aviation Investigation Final Report

Location:	Hickory, North Carolina	**Accident Number:**	ERA23LA334
Date & Time:	August 13, 2023, 11:28 Local	**Registration:**	N239WD
Aircraft:	SCODA AERONAUTICA LTDA SUPER PETREL LS	**Aircraft Damage:**	Substantial
Defining Event:	Low altitude operation/event	**Injuries:**	2 Fatal
Flight Conducted Under:	Part 91: General aviation - Personal		

Analysis

The private pilot/owner and the student pilot/passenger departed in the amphibious airplane and flew to a local lake where they were observed conducting a touch-and-go landing and flying low over the water. One witness, who was on his boat dock about 100 yards from a set of energized powerlines that spanned the lake, reported that the airplane was flying level about 100 to 200 ft above the water toward the powerlines. As the airplane approached the powerlines, it appeared to take a sudden nose-down attitude before it impacted the powerlines. There was a large explosion and the airplane impacted the water. The collision also resulted in a electrical power outage to the surrounding community. Postaccident examination of the airplane revealed impact signatures consistent with impact with the powerlines and no evidence of any mechanical deficiencies or malfunctions that would have precluded normal operation. Based on the witness' observations, the pilot likely observed the powerlines and attempted to maneuver underneath them. The airplane then struck the powerlines, lost control, and impacted the lake.

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 powerlines while maneuvering at a low altitude over water, which resulted in a collision and loss of control.

Findings

Personnel issues	Monitoring environment - Pilot
Personnel issues	Identification/recognition - Pilot
Personnel issues	Delayed action - Pilot
Environmental issues	Wire - Ability to respond/compensate
Environmental issues	Wire - Effect on equipment

Factual Information

History of Flight

Maneuvering-low-alt flying	Low altitude operation/event (Defining event)

On August 13, 2023, at 1128 eastern daylight time, a Scoda Aeronautica Ltda Super Petrel LS, N239WD, was substantially damaged when it was involved in an accident near Hickory, North Carolina. The private pilot/owner and the student pilot passenger were fatally injured. The airplane was operated as a Title 14 *Code of Federal Regulations* Part 91 personal flight.

A review of automatic dependent surveillance-broadcast (ADS-B) data revealed the airplane departed Hickory Regional Airport (HKY) Hickory, North Carolina, about 1120. The airplane flew northeast toward Lake Hickory at an altitude of about 1,600 ft mean sea level (msl) and a groundspeed of about 98 knots.

After arriving over Lake Hickory, the airplane turned left to the west and descended to about 900 ft msl before the ADS-B data ended. About that time, a witness recorded the airplane performing a touch-and-go landing on the water. A short time later, several other witnesses observed the airplane flying “unusually low” and “in a highly banked angle” over the water. Another witness, who was on his boat dock located about 100 yards northwest of a set of energized powerlines that spanned the lake, reported the airplane flying level about 100 to 200 ft above the water toward the powerlines. As the airplane approached the powerlines, it appeared to take a “sudden” nose-down attitude before it impacted the powerlines. There was an explosion and the airplane then tumbled into the water. The collision with the powerlines resulted in a power outage to the surrounding community of 18,000.

Postaccident examination of the airplane revealed the plexiglass windshield/canopy was missing due to impact damage and the entire cockpit area was exposed. Striations consistent with contact with a power line cable were observed embedded on the left side of the dashboard. Deep gouging and striation marks were also observed from the top left area of the fuselage out toward the left-wing root and continued down the left side of the fuselage. The left wing had separated from impact and the composite material (fabric) was melted and shriveled along the inboard portion of wing. Heat-damaged wing material was also observed hanging from where the wing had separated from the airframe. The right wing had been removed by salvage personnel and did not appear to be damaged. The tail section remained attached to the airplane, but the left horizontal stabilator was deflected down from impact. Flight control continuity was established for both horizontal stabilizers by manual manipulation of both control sticks. Continuity was confirmed to the wing root area for both wings when the control sticks were moved. The rudder pedals were partially jammed due to

impact, but some movement was achieved to the rudder when the pedals were manipulated. A light coat of soot was observed on the engine pylon, cowling, spinner, and portions of the fuselage.

The engine remained secure to the airframe and was undamaged. The three bladed propeller remained secure to the engine and all three blades were secure in the hub. The outer half of one blade was missing and the remaining portion of blade exhibited some gouging. The other two blades were intact and exhibited gouging. The engine crankshaft was manually rotated via the propeller. Thumb compression and valvetrain continuity were established to each cylinder. Fuel and some water were noted in each carburetor bowl.

No preimpact deficiencies or malfunctions were noted with the airframe or engine that would have precluded normal operation at the time of impact.

The North Carolina Office of The Chief Medical Examiner, Wake Forest Baptist Medical Center, performed the autopsy on the pilot and determined that the manner of death was blunt trauma resulting in accidental death.

Toxicological testing performed on specimens from the pilot by the Federal Aviation Administration's (FAA) Bioaeronautical Sciences Research Laboratory, Oklahoma City, Oklahoma, were negative for medications or drugs that would have posed a hazard to flight safety.

Power and transmission lines are typically not published on an aeronautical map unless they are over 200 ft tall and then only used for navigation. No altitudes are charted for individual towers and their depiction is intended to help navigation by pilotage or using visual landmarks outside of the airplane. The Federal Aviation Administration designated these in the Aeronautical Chart User's Guide as "power transmission and telecommunication lines."

Pilot Information

Certificate:	Private	**Age:**	63,Male
Airplane Rating(s):	Single-engine land; Single-engine sea	**Seat Occupied:**	Left
Other Aircraft Rating(s):	None	**Restraint Used:**	Unknown
Instrument Rating(s):	Airplane	**Second Pilot Present:**	Yes
Instructor Rating(s):	None	**Toxicology Performed:**	Yes
Medical Certification:	Class 3 With waivers/limitations	**Last FAA Medical Exam:**	May 23, 2023
Occupational Pilot:	No	**Last Flight Review or Equivalent:**	
Flight Time:	(Estimated) 3100 hours (Total, all aircraft), 8.4 hours (Total, this make and model)		

Student pilot Information

Certificate:	Student	**Age:**	49,Male
Airplane Rating(s):	None	**Seat Occupied:**	Right
Other Aircraft Rating(s):	None	**Restraint Used:**	Unknown
Instrument Rating(s):	None	**Second Pilot Present:**	Yes
Instructor Rating(s):	None	**Toxicology Performed:**	
Medical Certification:	Class 2 Without waivers/limitations	**Last FAA Medical Exam:**	August 4, 2022
Occupational Pilot:	No	**Last Flight Review or Equivalent:**	
Flight Time:	(Estimated) 24 hours (Total, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	SCODA AERONAUTICA LTDA	**Registration:**	N239WD
Model/Series:	SUPER PETREL LS	**Aircraft Category:**	Airplane
Year of Manufacture:	2022	**Amateur Built:**	
Airworthiness Certificate:	Special light-sport (Special)	**Serial Number:**	S0392
Landing Gear Type:	Retractable - Tricycle; Amphibian	**Seats:**	2
Date/Type of Last Inspection:	May 11, 2023 Condition	**Certified Max Gross Wt.:**	1430 lbs
Time Since Last Inspection:	33 Hrs	**Engines:**	1 Reciprocating
Airframe Total Time:	33 Hrs at time of accident	**Engine Manufacturer:**	Rotax
ELT:	Installed	**Engine Model/Series:**	914UL
Registered Owner:	On file	**Rated Power:**	115 Horsepower
Operator:	On file	**Operating Certificate(s) Held:**	None

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	**Condition of Light:**	Day
Observation Facility, Elevation:	HKY,1170 ft msl	**Distance from Accident Site:**	2 Nautical Miles
Observation Time:	11:53 Local	**Direction from Accident Site:**	218°
Lowest Cloud Condition:	Clear	**Visibility**	10 miles
Lowest Ceiling:	None	**Visibility (RVR):**	
Wind Speed/Gusts:	4 knots /	**Turbulence Type Forecast/Actual:**	None / None
Wind Direction:	200°	**Turbulence Severity Forecast/Actual:**	N/A / N/A
Altimeter Setting:	30.07 inches Hg	**Temperature/Dew Point:**	28°C / 21°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Hickory, NC (HKY)	**Type of Flight Plan Filed:**	None
Destination:		**Type of Clearance:**	None
Departure Time:	11:20 Local	**Type of Airspace:**	Class G

Airport Information

Airport:	HICKORY RGNL HKY	**Runway Surface Type:**	Asphalt
Airport Elevation:	1189 ft msl	**Runway Surface Condition:**	Water-calm
Runway Used:	6	**IFR Approach:**	None
Runway Length/Width:	6401 ft / 150 ft	**VFR Approach/Landing:**	Unknown

Wreckage and Impact Information

Crew Injuries:	2 Fatal	**Aircraft Damage:**	Substantial
Passenger Injuries:	N/A	**Aircraft Fire:**	None
Ground Injuries:	N/A	**Aircraft Explosion:**	None
Total Injuries:	2 Fatal	**Latitude, Longitude:**	35.77307,-81.352747

Administrative Information

Investigator In Charge (IIC):	Mccarter, Lawrence
Additional Participating Persons:	Robert Reynolds; FAA/FSDO; Charlotte, NC Diego Bandeira da Costa; CENIPA William E. Gortney; SCODA Aeronáutica; Ormond Beach, FL
Original Publish Date:	July 5, 2024
Last Revision Date:	
Investigation Class:	Class 3
Note:	The NTSB did not travel to the scene of this accident.
Investigation Docket:	https://data.ntsb.gov/Docket?ProjectID=192853