

National Transportation Safety Board

Office of Aviation Safety

Washington, DC 20594



CEN21FA368

INVESTIGATION SUMMARY

June 28, 2022

TABLE OF CONTENTS

A. ACCIDENT.....	3
B. PARTICIPANTS.....	3
C. SUMMARY	3
D. DETAILS OF THE INVESTIGATION	4
1.0 ACCIDENT SITE	4
2.0 AIRFRAME EXAMINATION.....	4
3.0 ENGINE/PROPELLER EXAMINATION.....	5
4.0 AIRCRAFT INFORMATION	5
5.0 WITNESS INFORMATION	5

A. ACCIDENT

Location: Strasburg, North Dakota
Date: August 10, 2021
Time: 0740 central daylight time
Airplane: Rockwell International S2R, N4956X

B. PARTICIPANTS

IIC	Joshua Lindberg National Transportation Safety Board Dallas, Texas
Party Coordinator	Perry Ochsner Federal Aviation Administration Fargo, North Dakota
Group Member	Michael Linden Federal Aviation Administration Fargo, North Dakota

C. SUMMARY

On August 10, at 0740 central daylight time, a Rockwell International S2R agricultural airplane, N4956X, was substantially damaged when it was involved in an accident near Strasburg, North Dakota. The pilot was fatally injured. The airplane was operated as a Title 14 Code of Federal Regulations Part 137 aerial application flight.

An employee of the pilot, who loaded the chemical on the airplane, stated that the pilot was alert and in a good mood as usual. She met the pilot at the loading pad at 0630, whereupon she loaded the hopper with chemical, then the pilot departed about 0645. The pilot returned to the airport at 0721 after he sprayed the first field. The airplane was rinsed and loaded with a new chemical; the pilot departed again to spray a sunflower field. She added that she had never witnessed nor heard the pilot mention any issues with the airplane's GPS.

A colleague of the pilot, who was familiar with the operation, stated that the pilot was completing his second aerial application flight of the day and intended to apply insecticide to a sunflower field. He and the pilot had sprayed this field many times before, which was always done in a north-south racetrack pattern. He had never seen the pilot spray this field in an east-west pattern before, and that it shouldn't be done due to the large powerlines on the west side. He stated that the pilot had recently experienced problems with the airplane's GPS.

A witness driving eastbound observed the airplane flying west after it exited the sunflower field. The airplane then collided with the power lines, then crashed onto a road and slid into a field.

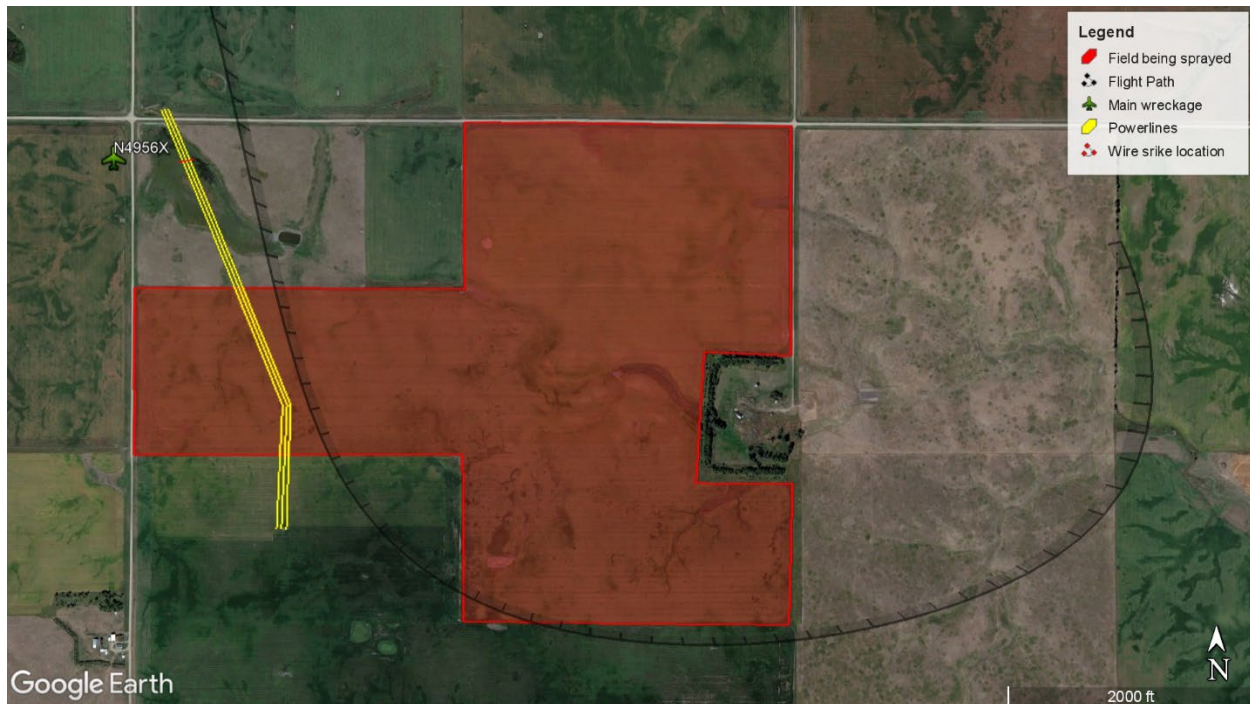


Figure 1. The field being sprayed in red, power lines in yellow, and main wreckage location overlaid onto Google Earth.

D. DETAILS OF THE INVESTIGATION

1.0 Accident Site

The main wreckage was located at latitude 46.086536°, longitude -100.233917°, and elevation 2,000 ft above msl. The damaged and severed transmission lines were located at latitude 46.086672°, longitude -100.231678°. The lines were measured at 34 ft 10 in above the ground. A postaccident examination revealed three damaged power lines on the west side of the target field. The east side line was the least damaged but was still mostly intact. The center line was mostly severed with less than a third of the wire strands intact. The west side line was completely severed and lying on the ground.

2.0 Airframe Examination

Examination of the airplane was completed at the accident site on August 11, 2021. No evidence of preimpact mechanical malfunction was noted during the examination.

Examination of the airframe revealed that the right wing collided with one transmission line in a right wing high, left wing low condition. The outboard and leading edge of the right wing contained wire strike marks. Part of the leading edge panel wrapped forward around the wire then fell to the ground underneath the wires.

The top piece of the rudder and horizontal stabilizer were found underneath the wires and exhibited black sooting and burn marks. The adjoining piece of rudder was separated from the rest of the rudder and empennage. The two fiberglass sections of the horizontal stabilizer appeared to mate and appeared to have been severed by a wire. The larger section of rudder contained a large burn mark on the top metal section. The remainder of the airplane came to rest inverted in the field. The flight controls were continuous from the cockpit to the respective control surfaces.

The airplane's Satloc G4 GPS device and the MVP-50T engine monitor were removed and sent to the NTSB Vehicle Recorders Laboratory for data extraction.

3.0 Engine/Propeller Examination

Examination of the engine revealed that the engine and propeller had separated from the airplane and were located in the debris field, about 50 ft east of the main wreckage. They both sustained impact damage and the propeller blades were bent after and exhibited chordwise scratches.

4.0 Aircraft Information

The airplane's maintenance logbooks were not located during the investigation.

5.0 Witness Information

FAA inspector Ochsner spoke with Mr. Andrew (Andy) Tibert. Mr. Tibert, who worked closely with the Pilot in Command (PIC) of the accident aircraft. Mr. Tibert was familiar with the field location and had sprayed that field in the past. He (Tibert) was aware of the power lines located in the west corner of the field. During the interview, Tibert drew a map of the field and demonstrated to me how the field should be sprayed for safety reasons. Tibert was confused as to why the PIC chose to spray the field in a different direction than they had in past years. Mr. Tibert did not clarify why he thought the PIC sprayed the field in a non-standard direction. Tibert reasoned the PIC may have broken off from the field and was resetting his GPS to spray the standard pattern and did not see the power lines. Tibert mentioned on several occasions during the interview, the PIC was having operational issues with the GPS.

The Inspector also spoke with Mandi Voller who was a 2 year employee of the PIC and loaded the accident aircraft. Ms. Voller stated the PIC was alert and in a "good mood as usual". Ms. Voller stated she met the PIC at the load pad at 0630. She does not recall if the PIC performed a preflight of the accident aircraft. Ms. Voller loaded the aircraft with chemical and the PIC departed the airport at 0645 to spray a nearby field. The PIC returned to the airport at 0721 after finishing that field. The accident aircraft was rinsed and loaded with a new chemical. The PIC departed with the new load at 0730 to spray sunflowers. The accident was reported at 0740. Ms. Voller's aviation background consists of loading aircraft for aerial application of economic poisons. She has no formal aviation training as a pilot or mechanic. Ms. Voller had never witnessed nor heard the PIC mention issues with the GPS.

The Inspector received a written statement from a witness, Mr. Chad Vander Laan: "I was heading east on 92 watching a crop duster spray sunflowers; he was flying west and after exiting the field he flew under the powerlines. He cleared the first line but the tail clipped the second line causing the plane to go into the last line. I missed a few moments here because I was stopping my pickup, getting out, and dialing the phone. When I looked again the plane was crashing on the road and then slid into the field."

Submitted by:

Joshua Lindberg
NTSB IIC