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NATIONAL TRANSPORTATION SAFETY BOARD

Office of Aviation Safety
Washington, D.C. 20594

July 8, 2021

Specialist's Report

AIR TRAFFIC CONTROL

WPR20FA034

Table Of Contents

A. ACCIDENT

Location: North Las Vegas, Nevada
Date: November 26, 2019
Time: 1730 Pacific standard time (PST)[1]
November 27, 2019, 0130 coordinated universal time (UTC)[2]
Airplane: Cirrus SR-22, N7GA

B. AIR TRAFFIC CONTROL INVESTIGATOR

Betty Koschig
Senior Air Traffic Control Investigator
Operational Factors Division (AS-30)
National Transportation Safety Board

C. SUMMARY

On November 26, 2019, at 1730 Pacific standard time, a Cirrus SR-22 airplane, N7GA, was destroyed when it impacted mountainous terrain about 10 nautical miles (nm) north of the North Las Vegas Airport (VGT), North Las Vegas, Nevada. The private pilot and two passengers were fatally injured. The airplane was registered to Baron Von Speed LLC and operated under the provisions of Title 14 *Code of Federal Regulations* Part 91 as a personal flight. Dark night visual meteorological conditions prevailed, and a visual flight rules (VFR) flight plan was filed for the cross-country flight which originated from Lake Havasu, Arizona, about 1643, with an intended destination of VGT.

D. DETAILS OF THE INVESTIGATION

Air traffic control (ATC) services were provided by the Nellis Air Traffic Control Facility (NATCF) located on Nellis Air Force Base (LSV), Las Vegas, Nevada. The ATC investigator did not travel or conduct interviews in support of this accident investigation. All data used to produce this report were provided by the United States Air Force (USAF), and the Federal Aviation Administration (FAA).

E. FACTUAL INFORMATION

1.0 History of Flight

ATC services provided by Los Angeles Air Route Traffic Control Center (ZLA ARTCC) and Las Vegas Terminal Radar Approach Control (L30 TRACON) were routine and unremarkable.

At the time of the accident, ATC services were being provided by NATCF radar approach control (RAPCON). The history of flight was compiled using the following source data[3]: FAA

[1] All times are Pacific standard time (PST) unless otherwise noted.
[2] UTC – coordinated universal time – an international time standard using four digits of a 24-hour clock in hours and minutes based on the time in Greenwich, England.
[3] Data located in Attachments 1 through 5 of this document.

certified radar data, and LSV RAPCON ATC audio recording, certified ATC transcripts, controller statements, and ATC facility documents. Figure 1 is a screen capture[4] from MapPoint that illustrates an overview of the accident airplane's flight path while the pilot was being provided radar services from LSV RAPCON.

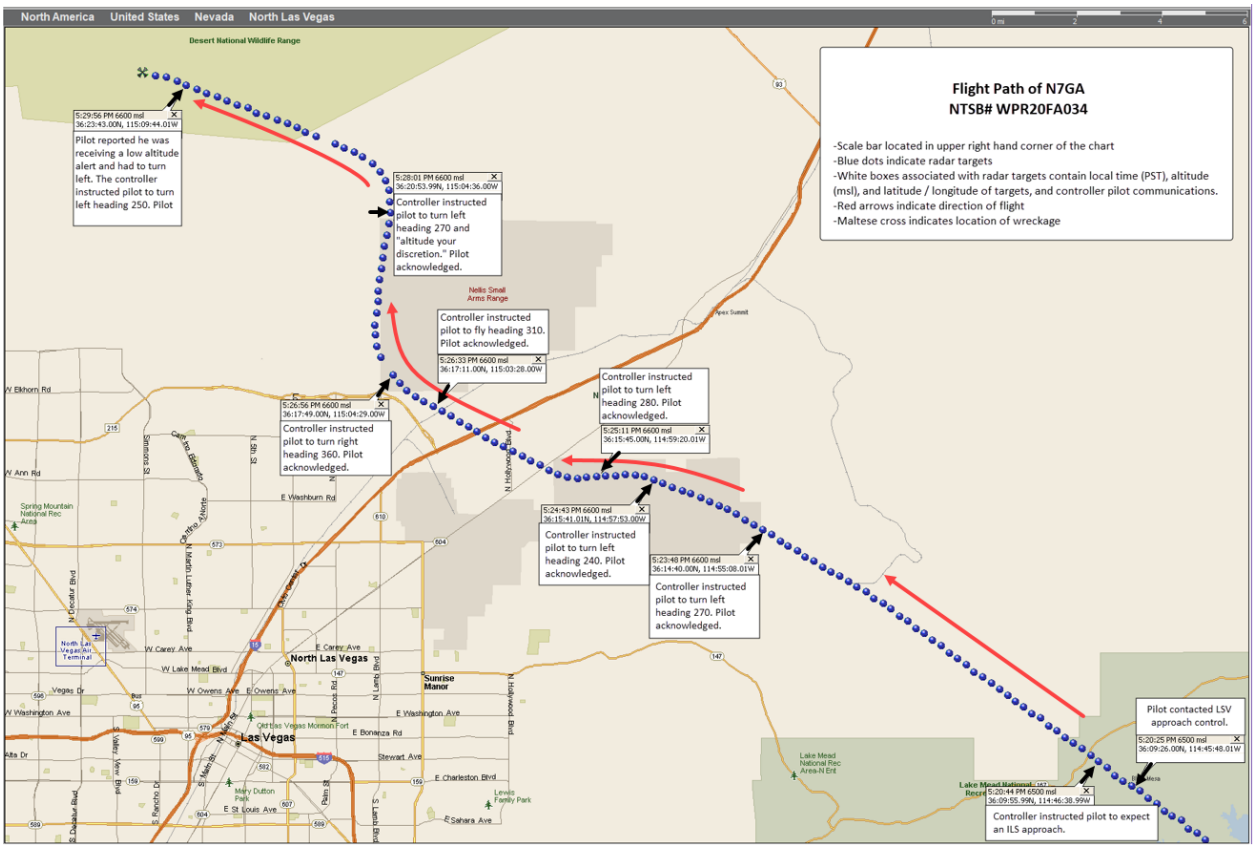

Figure 1. Screen capture illustrating the accident airplane's flight path with pertinent flight information and pilot/controller communications.

About 1720, the pilot[5] of N7GA contacted LSV RAPCON reporting his altitude at 6,500 feet (msl)[6] and in receipt of ATIS (automatic terminal information service)[7] information "papa."[8] The approach controller[9] advised the pilot that the transmission was "broken"[10] but understood he had ATIS information papa. The pilot confirmed he had information papa for North Las Vegas and requested a practice ILS (instrument landing system)[11] approach to runway 12 left (12L). The controller acknowledged and informed the pilot to expect the ILS approach.

[4] Screen captures of flight track information overlaid on geographic imagery from a commercial mapping software (Microsoft MapPoint).
[5] All reference to "the pilot" indicates the pilot of N7GA unless otherwise noted.
[6] All altitudes are in feet above mean sea level (msl) unless otherwise noted.
[7] ATIS provides advance non-control airport/terminal area and meteorological information to aircraft.
[8] Each ATIS broadcast is identified by a phonetic letter code word at both the beginning and the end of the message.
[9] All references to "controller" indicate the LSV approach controller unless otherwise noted.
[10] Commonly used term to describe that the quality of the radio transmission as being disjointed or jerky.
[11] ILS is a precision instrument approach system which normally consists of a localizer, glideslope, outer marker, middle marker, and approach lights.

About 1723, the controller instructed the pilot to turn left heading 270°, due to four F-35s [military fighter jets] departing from LSV and climbing through 2,200 feet.

About 1724, the pilot read back the heading and advised the controller that he was searching [for the F-35 traffic]. The controller then instructed the pilot to turn left heading 240°. The pilot read back the heading and stated that he had [in sight] the last F-35 off the departure end.

About 1725, the controller instructed the pilot to fly heading 280°. The pilot read back the instruction. The controller advised the pilot that a flight of four F-22s would be departing runway 21 and climbing to the north. The pilot responded that he was searching.

About 1726, the pilot asked the controller to verify that the F-22s were departing runway 21. The controller responded in the affirmative and subsequently instructed the pilot to fly heading 310° and advised him that the F-22s were departing. The pilot read back the heading. The controller instructed the pilot to turn right heading 360°. The pilot read back the heading.

About 1727, the controller instructed the pilot to turn left heading 270°. The pilot read back the heading.

At 1728:03, the controller instructed the pilot, "N7GA, altitude your discretion." The pilot responded with his call sign. Radar data indicated that N7GA was at 6,600 feet at the time of that transmission. Figure 2 is a screen capture[12] from Google Earth illustrating a profile view of N7GA's altitude relative to the surrounding terrain, and the altitude profile of the airplane for the preceding 5 minutes.

At 1729: 52, the pilot stated, "We're getting a low altitude alert for N7GA, we gotta turn left."

About 1730, the controller instructed N7GA to turn left heading 250°. The pilot read back the heading. The controller coordinated N7GA's ILS approach with VGT tower, and then attempted to contact the pilot. The pilot did not respond.

About 1731, the controller broadcasted to the pilot that a reply was not received, and radar contact was lost. No further communications from the pilot.

[12] Screen captures of flight track information overlaid onto satellite imagery from Google Earth using software that renders a 3D-type presentation of the flight track.

Figure 2. Screen capture from Google Earth illustrating the accident airplane's altitude relative to the terrain.

2.0 Radar Data

FAA radar data was provided by Las Vegas TRACON. The radar source data was obtained from the Las Vegas (LSV) ASR-9 antenna.

3.0 Weather Information

The VGT weather for November 27, 2019 was obtained from the VGT automated surface observation system (ASOS)[13]. The aviation routine weather report (METAR)[14] current at the time of the accident was:

[13] The ASOS systems serves as the nation's primary surface weather observing network. The ASOS units are operated and controlled cooperatively in the United States by the National Weather Service, FAA, and Department of Defense.

[14] METAR is an observation of current surface weather reported in a standard international format. METARs are issued hourly unless significant weather changes have occurred.

VGT 270053Z 11006KT 10SM CLR 08/M10 A2986 RMK AO2 SLP134 T00831100

The METAR in plain language reads: On November 27 at 0053 UTC the ASOS at VGT reported wind from 110° at 6 knots, 10 miles visibility, temperature 08° Celsius (C), and dew point -10° C, altimeter 29.86 inches of mercury. Remarks: this station had a precipitation discriminator, sea level pressure of 1013.4 hectopascals, temperature 08.3° C and a dew point temperature -10.0° C.

4.0 ATC Facility

Air traffic services were provided by NATCF RAPCON. NATCF was an FAA certified radar air traffic control facility that provided air traffic services to aircraft operating within the Nevada Test and Training Range, and NATCF delegated airspace. NATCF RAPCON provided terminal services within approximately 40 miles of LSV in the northern portion of the Las Vegas Class B airspace. NATCF RAPCON was the primary approach control facility for LSV and VGT airports.[15]

5.0 ATC Procedures

5.1 Basic Radar Services for VFR Aircraft

FAA order JO 7110.65Y, *Air Traffic Control*, paragraph 7-6-1. "Application" described basic radar services that controllers provided to a VFR aircraft. The paragraph stated in part:

> a. Basic radar services for VFR aircraft must include:
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> 1. Safety alerts.
> 2. Traffic advisories.
> 3. Limited radar vectoring when requested by the pilot.
> 4. Sequencing at locations where procedures have been established for this purpose and/or when covered by a LOA [Letter of Agreement].

5.2 Safety Alert

FAA order JO 7110.65Y, *Air Traffic Control*, paragraph 2-1-6, "Safety Alert," described procedures and circumstances when controllers would provide a safety alert to a pilot. The paragraph stated in part:

> Issue a safety alert to an aircraft if you are aware the aircraft is in a position/altitude that, in your judgment, places it in unsafe proximity to terrain, obstructions, or other aircraft. Once the pilot informs you action is being taken to resolve the situation, you may discontinue the issuance of further alerts. Do not assume that because someone else has responsibility for the aircraft that the unsafe situation has been observed and the safety alert issued; inform the appropriate controller.
>
> NOTE−1. The issuance of a safety alert is a first priority…once the controller observes and recognizes a situation of unsafe aircraft proximity to terrain, obstacles, or

[15] Information retrieved from: https://www.faasafety.gov/files/events/WP/WP19/2019/WP1992982/LSV_MACA_Pamphlet_12_Mar_19_V2.pdf

other aircraft. Conditions, such as workload, traffic volume, the quality/limitations of the radar system, and the available lead time to react are factors in determining whether it is reasonable for the controller to observe and recognize such situations. While a controller cannot see immediately the development of every situation where a safety alert must be issued, the controller must remain vigilant for such situations and issue a safety alert when the situation is recognized.

5.3 Terminal Radar Services for VFR Aircraft

Aeronautical Information Manual (AIM), paragraph 4-1-18, "Terminal Radar Services for VFR Aircraft," described the pilot's responsibilities when operating VFR and receiving radar services. The paragraph stated in part:

> e. PILOT RESPONSIBILITY. These services are not to be interpreted as relieving pilots of their responsibilities to see and avoid other traffic operating in basic VFR weather conditions, to adjust their operations and flight path as necessary to preclude serious wake encounters, to maintain appropriate terrain and obstruction clearance, or to remain in weather conditions equal to or better than the minimums required by 14 *CFR* section 91.155. Whenever compliance with an assigned route, heading and/or altitude is likely to compromise pilot responsibility respecting terrain and obstruction clearance, vortex exposure, and weather minimums, approach control should be so advised, and a revised clearance or instruction obtained.

F. LIST OF ATTACHMENTS

Attachment 1 – Audio Recording Thule Position
Attachment 2 – ATC Transcripts
Attachment 3 – FAA Radar Data
Attachment 4 – Controller Statements
Attachment 5 – Facility Documents

Submitted by:

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