NATIONAL TRANSPORTATION SAFETY BOARD
Office of Aviation Safety
Washington, D.C. 20594

February 13, 2020

Group Chairman's Factual Report

AIR TRAFFIC CONTROL FACTUAL REPORT

CEN19MA190

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A. ACCIDENT

Location: Addison, Texas
Date: June 30, 2019
Time: 0911 central daylight time (CDT)[1]
1411 coordinated universal time (UTC)[2]
Airplane: N534FF, Textron Aviation B300

B. AIR TRAFFIC CONTROL GROUP

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C. SUMMARY

On June 30, 2019, about 0911 central daylight time, a Textron Aviation B300, N534FF, was destroyed when it was involved in an accident near Addison, Texas. The airline transport pilot, the commercial co-pilot, and eight passengers sustained fatal injuries. The airplane was operated as a Title 14 *Code of Federal Regulations* Part 91 personal flight.

D. DETAILS OF THE INVESTIGATION

On Monday, July 1, 2019, the air traffic control (ATC) work group convened at Addison Airport (ADS) airport traffic control tower (ATCT) in Dallas, Texas. The group was provided an in brief by the ADS air traffic manager (ATM). Attending the in brief were the Central Service Area quality control group; ADS National Air Traffic Controllers Association (NATCA) representative; FAA General Counsel; and event investigations managers (EIMs) from FAA Compliance Services. The group reviewed controller records, ATC data and documents, and conducted a tour of the control tower. The work group traveled to the NTSB command post, located at Million Air Dallas fixed base operator (FBO) on ADS, for the nightly progress meeting.

On Tuesday, July 2, 2019, the ATC group reconvened at the command post for the morning progress meeting, and then traveled to the wreckage location. The group then reconvened at ADS ATCT to interview the controllers working the local control (LC) and ground control (GC)

[1] All times are central daylight time (CST) 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

positions. After the interviews[3] were completed the group convened at the command post for the evening progress meeting.

On Wednesday, July 3, 2019, the ATC group met at the command post for the morning progress meeting, then worked on and completed the field notes. The ATC group finalized and approved the ATC group field notes and completed the on-site portion of the investigation.

E. FACTUAL INFORMATION

1.0 History of Flight

The history of flight was compiled using resources obtained from the FAA, which included but not limited to ADS ATCT certified audio recordings[4]; aircraft accident package[5], FAA radar data[6], and automatic dependent surveillance-broadcast (ADS-B) data[7].

About 0828, the pilot of N534FF called the ground controller asking if the clearance was available for their 0900 departure to St Petersburg. The controller advised that the clearance would be available exactly 30 minutes before the time he filed. The pilot said he would stay on the frequency and would be ready when it was available.

About 0830, the ground controller informed the pilot of N534FF that the clearance was available. The pilot responded he was ready. The ground controller issued the pilot the clearance to SPG. The pilot read back the clearance.

About 0905, the pilot of N534FF contacted ground control stating he had automatic terminal information service (ATIS)[8] information "Mike" and was ready to taxi to runway 15. The controller issued the pilot taxi instructions to runway 15.

About 0908, the ground controller asked the pilot of N534FF if he would be ready to depart when reaching the approach end of runway 15. The pilot responded affirmative.

The pilot contacted the local control stating he was ready for departure from runway15. The local controller responded he was waiting for their IFR release (from Dallas–Fort Worth terminal radar approach control (TRACON) (D10)).

At 0909:41, the local controller instructed the pilot of N534FF to turn left heading 050 and cleared the flight for takeoff from runway 15. The pilot read back the instructions.

[3] All interviews are included in Attachment 1 – Interview Summaries.
[4] Audio recording from ADS ATCT are included in Attachment 5 – FAA Audio (Local Control Position) and Attachment 6 – FAA Audio (Ground Control Position).
[5] The Aircraft Accident Package is included in Attachment 2 – Aircraft Accident Package.
[6] FAA radar data is included in Attachment 3 – FAA Radar Data.
[7] ADS-B data is included in Attachment 4 – ADS-B Data.
[8] ATIS provides advance noncontrol airport/terminal area and meteorological information to aircraft.

After the airplane struck the hangar the ground controller activated the crash phone and declared an Alert 3[9], provided known information about the flight, and assisted with emergency vehicle response.

Figure 1 is a screenshot of N534FF's flight track from the time the pilot was issued the takeoff clearance by ADS local controller until the last radar target. The screenshot depicts the location of ADS ATCT relative to accident site. The radar data is overlayed on a Google Earth map.

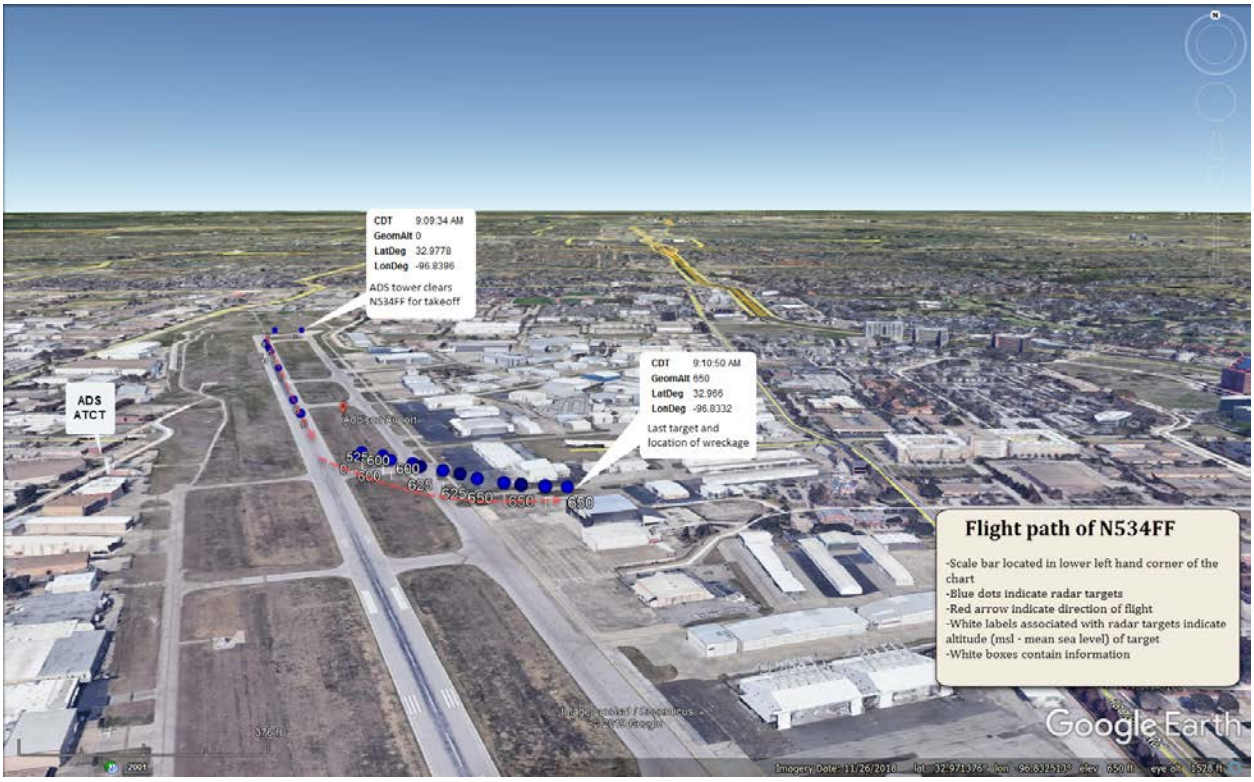

Figure 1. Flight track of N534FF overlayed a Google Earth map.

2.0 Radar Data

FAA radar data was provided by D10, and ADS-B data was provided by the FAA Accident Investigations Office, AVP-100. The radar source data used in this report was extracted from the ADS-B data file.

ADS-B Out relies on aircraft avionics, a constellation of GPS satellites, and a network of ground stations across the country to transmit an aircraft's position, ground speed, and other data to air traffic controllers. Its coverage area and position accuracy are greater than that of radar, and it can also be used as a more cost-effective surveillance solution in remote areas such as over the Gulf of Mexico or in certain mountainous regions.[10]

[9] Alert classifications are included in Attachment 7 – Letter of Agreement - Emergency Procedures.
[10] Source: FAA webpage.

3.0 Weather Information

The KADS weather for June 30, 2019 was obtained from the KADS automated surface observation system (ASOS)[11]. The meteorological aerodrome report (METAR)[12] weather report current at the time of the accident was:

METAR KADS 301347Z 10006KT 10SM SCT014 24/20 A3006

The METAR translated into plain language read:

At 1347 UTC/ 0847 CDT at ADS the reported wind from 100° at 6 knots, 10 miles visibility, scattered clouds at 1,400 feet above ground level (agl), temperature 24° Celsius (C), dew point 20° C, and altimeter 30.06 inches of mercury.

4.0 Air Traffic Controller Information[13]

The ADS ATC facility was staffed with 3 controllers at the time of the accident; 2 controllers were assigned to the control tower and 1 controller was on a break. Two control positions were open in the control tower; the local control (LC) position, which was independently operated by one controller; and the combined ground control (GC)/flight data (FD)/clearance delivery (CD) controller in charge (CIC) position operated by the other controller.

4.1 Local Controller Information[14]

The LC's air traffic control experience began in 2011 when he enlisted in the United States Air Force (USAF), and served for six years on active duty as an air traffic controller. He had been stationed at Langley Air Force Base. On May 17, 2018, he was hired by the FAA through the veteran's recruitment appointment (VRA) direct hire program and had worked at ADS since May 17, 2018.

4.1.1 Certifications at the Time of the Accident[15]

ADS ATCT Ground control	Certification date: 07/26/2018
ADS ATCT Flight data/clearance delivery	Certification date: 07/26/2018
ADS ATCT Local control	Certification date: 12/12/2018
ADS ATCT Cab Coordinator	Certification date: 12/12/2018
ADS ATCT Controller in charge	Certification date: 01/16/2019
ATC Medical Clearance	Issued date: 06/20/2019
Limitations: None	

4.1.2 Work Schedule

The LC's work schedule for the week leading up to, and including the day of the accident:

[11] 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.
[12] METAR is a format for reporting weather information. A METAR weather report is predominantly used by aircraft pilots, and by meteorologists, who use aggregated METAR information to assist in weather forecasting.
[13] See Attachment 2 – Aircraft Accident Package
[14] See Attachment 1 – Interview Summaries for additional information.
[15] Source: FAA ADS ATCT

June 24, 2019 Monday: Regular day off (RDO)
June 25, 2019 Tuesday: RDO
June 26, 2019 Wednesday: 1415–2215
June 27, 2019 Thursday: 1415–2215
June 28, 2019 Friday: 1245–2045
June 29, 2019 Saturday: 0545–1345
June 30, 2019 Sunday: 0545–1345

4.2 Ground Controller Information [16]

The GC was combined with the FD/CD and CIC positions. The GC's controller's air traffic control experience began on December 13, 2017, when he was hired by the FAA and attended initial training at the FAA Academy. After successful completion of initial air traffic control training he transferred to ADS where he had worked since March 17, 2018.

4.2.1 Certifications at the Time of the Accident [17]

ADS ATCT Ground control — Certification date: 06/10/2018
ADS ATCT Flight data/clearance delivery — Certification date: 06/10/2018
ADS ATCT Local control — Certification date: 09/19/2018
ADS ATCT Cab Coordinator — Certification date: 09/19/2018
ADS ATCT Controller in charge — Certification date: 10/19/2018
ATC Medical Clearance — Issued date: 03/29/2019
Limitations: None

4.2.2 Work Schedule

The GC's work schedule for the week leading up to, and including the day of the accident:

June 24, 2019 Monday: 0545–1345
June 25, 2019 Tuesday: 1200–2000 (Overtime shift), normally an RDO
June 26, 2019 Wednesday: RDO
June 27, 2019 Thursday: 1345–2145
June 28, 2019 Friday: 1345–2145
June 29, 2019 Saturday: Leave
June 30, 2019 Sunday: 0545–1345

5.0 Air Traffic Control Procedures

5.1 Shift Coverage

ADS order 7210.1M CHG 1, Addison Airport Traffic Control Tower, Facility Air Traffic Administration and Procedures, Chapter 2, paragraph 2-2-3 "Shift Coverage", provided guidance for staffing positions in the tower. The paragraph stated in part:

> a. Watch supervision may be performed by the ATM, FLM, or a CIC. The Watch Supervisor shall be signed on the FAA Form 7230-4.

[16] See Attachment 1 – Interview Summaries for additional information.
[17] Source: FAA ADS ATCT

b. To the maximum extent possible, the Watch Supervisor position will not be combined with any other position. Preference of positions to combine CIC position to are as follows:

1. CC
2. FD/CD
3. FD/CD/GC
4. LC

c. Position staffing expectations are as follows:

1. Two controllers available – CIC position will be combined with FD/CD/GC position. Two positions will be open except for short break/relief periods.

5.2 Emergency Procedures - Addison Airport

The Letter of Agreement "Emergency Procedures - Addison Airport,[18]" between Addison Airport Operator (ADS); Addison Fire Department (AFD); Addison Police Department (APD); and ADS ATCT established notification procedures and areas responsibilities for potential or actual emergencies involving aircraft. Paragraph 5 "Procedures" outlined the determining factors for categorizing the level of alert. Paragraph 6 "Responsibilities of FAA - Addison Tower" provided an outline of ADS ATCT's responsibilities during an emergency and the progression of the emergency. Paragraphs 5 and 6, respectively, stated in part:

5. Procedures: The initiating party shall determine and categorize alerts per the following classification scheme. As an incident progresses or as more information is obtained, tower personnel, Addison Airport management, or the on-scene Incident Commander (IC) will evaluate the situation and, if indicated, re-classify the alert.

a. Alert- I: Indicates a disabled aircraft on the ground, (movement area that affects or impedes air traffic movement); APD and AFD personnel and equipment stand by at Fire Station (in quarters).

b. Alert-2: Indicates an aircraft with an emergency in flight; AFD personnel and equipment deploy to standby positions on airfield. APD personnel stand by at designated spots.

c. Alert-3: Indicates an aircraft has been involved in an actual accident or that an accident is imminent; AFD and APO personnel and equipment deploy immediately.

6. Responsibilities of FAA - Addison Tower:

a. General Notification: FAA - Addison Tower ("Tower") personnel shall notify AFD, APD and/or Addison Airport management via the Town of Addison's emergency dispatch system, (NTECC) or by AFD radio (red), commercial telephone, or other available means as appropriate, when in the opinion of any of

[18] The letter of agreement is included in Attachment 7 – Letter of Agreement - Emergency Procedures.

the following agencies or individuals there exists a potential or actual emergency involving an aircraft, an airport facility, or threats to airport and/or aircraft safety or security:

b. Aircraft Alert Information: In the event of an aircraft alert, tower personnel will provide AFD, APO and/or Addison Airport management personnel with the following:

(1) Alert classification;
(2) Aircraft type and identification, if known;
(3) Nature of emergency;
(4) Runway to be used, aircraft's present location and estimated time of arrival or accident or incident site if applicable;
(5) Number of persons ("souls") on board, if known or when determined;
(6) Quantity of fuel on board (gallons or time), if known or when determined;
(7) Other special conditions (e.g., hazardous cargo on board; international arrival - U.S. Customs flight).

c. Incident Progression: After initial notification to AFD, APD and/or Addison Airport management, ADS ATCT personnel will take the following actions:

(1) Advise responding vehicles of the most expeditious route to emergency site or stand-by locations;
(2) Expeditiously issue all necessary clearances to responding vehicles to avoid delaying the emergency response;

(b) For Alert-3 aircraft: all operations on any movement areas directly affected will be suspended immediately. Depending on the severity of the accident, the entire airfield may be closed until reopened by an authorized airport representative. Persons authorized to close/open the airport include the Airport Director, Deputy Director, Operations Manager, and Maintenance Manager.

F. LIST OF ATTACHMENTS

Attachment 1 – Interview Summaries
Attachment 2 – Aircraft Accident Package
Attachment 3 – FAA Radar Data
Attachment 4 – ADS-B Data
Attachment 5 – FAA Audio (Local Control Position)
Attachment 6 – FAA Audio (Ground Control Position)
Attachment 7 – Letter of Agreement - Emergency Procedures

Submitted by:

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