

National Transportation Safety Board

Office of Aviation Safety

Washington, DC 20594



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AIR TRAFFIC CONTROL

Group Chair's Factual Report

October 12, 2024

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A. ACCIDENT

Location: Las Vegas, Nevada
Date: November 18, 2022
Time: 1027 Pacific standard time (PST)¹
1827 universal coordinated time (UTC)²
Airplane: Cessna 172M, N88E
Airplane: Robinson Helicopter, R44, N4050P

B. AIR TRAFFIC CONTROL GROUP

Group Chair	Betty Koschig National Transportation Safety Board Washington, DC
Group Member	Brandon Johnson National Air Traffic Controllers Association (NATCA) Salt Lake City, Utah
Group Member	Brandon Bowman Federal Aviation Administration Salt Lake City, Utah

C. SUMMARY

On Friday, November 18, 2022, about 1027 Pacific standard time, a Cessna 172M, N88E, and a Robinson R44, N4050P, collided over Runway 30 right (30R) at North Las Vegas Airport (VGT), Las Vegas, Nevada. The flight instructor and student pilot onboard the Cessna and the student pilot onboard the Robinson were not injured. Both aircraft were operated under the provisions of Title 14 *Code of Federal Regulations* Part 91.

D. DETAILS OF THE INVESTIGATION

On Monday, November 21, 2022, the air traffic control (ATC) group convened at the North Las Vegas Airport (VGT) airport traffic control tower (ATCT). The group attended an in brief provided by the VGT air traffic manager (ATM). Attending the in brief were the VGT National Air Traffic Controllers Association (NATCA) Facility Representative; Western Service Area Quality Control Group; FAA attorney, Office of Special Counsel; Event Investigation Manager (EIM), AVP-100 team lead, and Seattle

¹ All times are Pacific standard time (PST) unless otherwise noted.

² UTC is an international time standard using four digits of a 24-hour clock in hours and minutes based on the time in Greenwich, England.

District representative. The group conducted a tour of facility and then went to the VGT fixed based operations (FBO) conference room. The group reviewed associated data related to the accident and conducted interviews with the Local Control 2 (LC2) controller, and the Operations Supervisor (OS) who was combined on the ground control, clearance delivery and flight data positions. Both interviews were audio recorded.

On Tuesday, November 22, 2022, the ATC group reconvened at the VGT FBO. The group reviewed associated data related to the accident and conducted an interview with the Local Control 1 (LC1) controller. The interview was audio recorded. The ATC group completed and obtained approval for field notes. The onsite phase of the ATC investigation was completed.

E. FACTUAL INFORMATION

1.0 History of Flight

The factual data for this history of flight was compiled using the FAA source data provided in Attachment 1 through Attachment 8.

ATC services were provided by VGT ATCT. N4050P and N88E were VFR flights conducting practice approaches in the local traffic patterns. Both flights had been unremarkable until the midair collision. The following timeline summarizes pilot and controller communications, and other pertinent information related to the sequence of events in this accident. All times are rounded to the nearest minute.

0954 N4050P departed from taxiway Papa (P) for VFR helicopter pattern work to taxiway P.

0958 N88E departed runway 30 left (30L) for VFR pattern work to runway 30R.

Figure 1 is the VGT airport diagram depicting the location of runway 30R and taxiway P; those areas are indicated with blue circles.

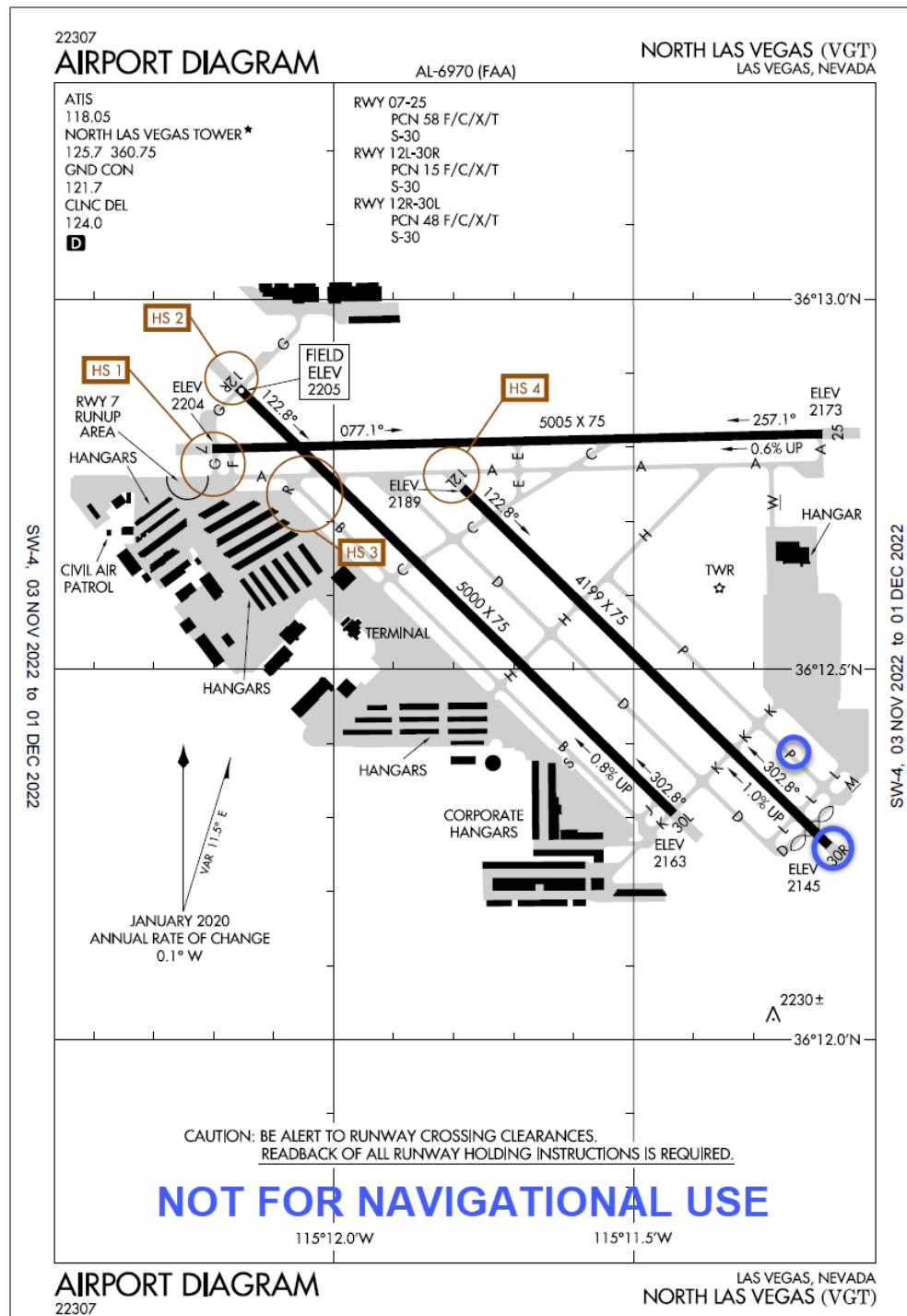


Figure 1. VGT airport diagram depicts the locations of runway 30R and Taxiway P.

Figure 2 is an aerial view graphic that was produced by overlaying Automatic Dependent Surveillance-Broadcast (ADS-B) flight track data from N4050P and N88E onto satellite imagery in Google Earth. The ADS-B data provided flight track surveillance information for the entire accident flights of both airplanes

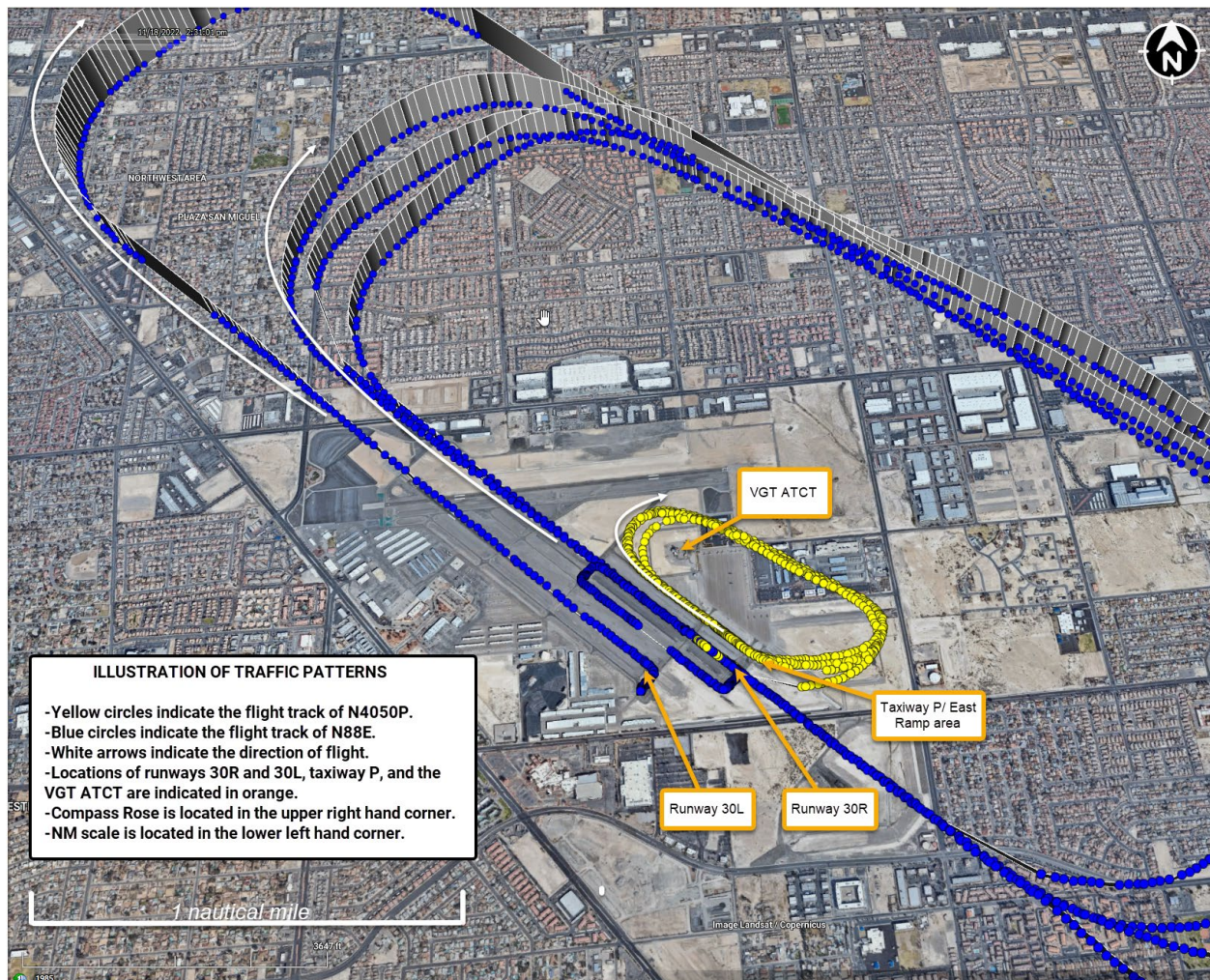


Figure 2. Overhead view of the ADS-B flight tracks of N88E and N4050P overlaid onto satellite imagery.

After departing runway 30L, N88E completed 3 approaches to runway 30R before the accident approach.

N4050P had completed 4 full stop landings to taxiway P approaches before the accident approach.

1023 The pilot of N4050P contacted the VGT tower Local 2 (LC2) controller. The LC2 controller issued the pilot taxi instructions to taxiway P, via taxiway Lima. The pilot acknowledged the instructions.

1024 The LC2 controller cleared N88E for the option runway 30R. The pilot read back the instructions.

1025 The LC2 controller cleared N4050P for take-off from taxiway P, and subsequently cleared the pilot for the option taxiway P. The pilot acknowledged the instructions.

Figure 3 is a graphic that was produced by overlaying ADS-B flight track data from N4050P and N88E, onto satellite imagery in Google Earth. The figure is an aerial view of the airport that depicts the location of the N88E when ATC provided clearance for the option instruction, and when N4050P was provided clearance for takeoff instructions from taxiway P.

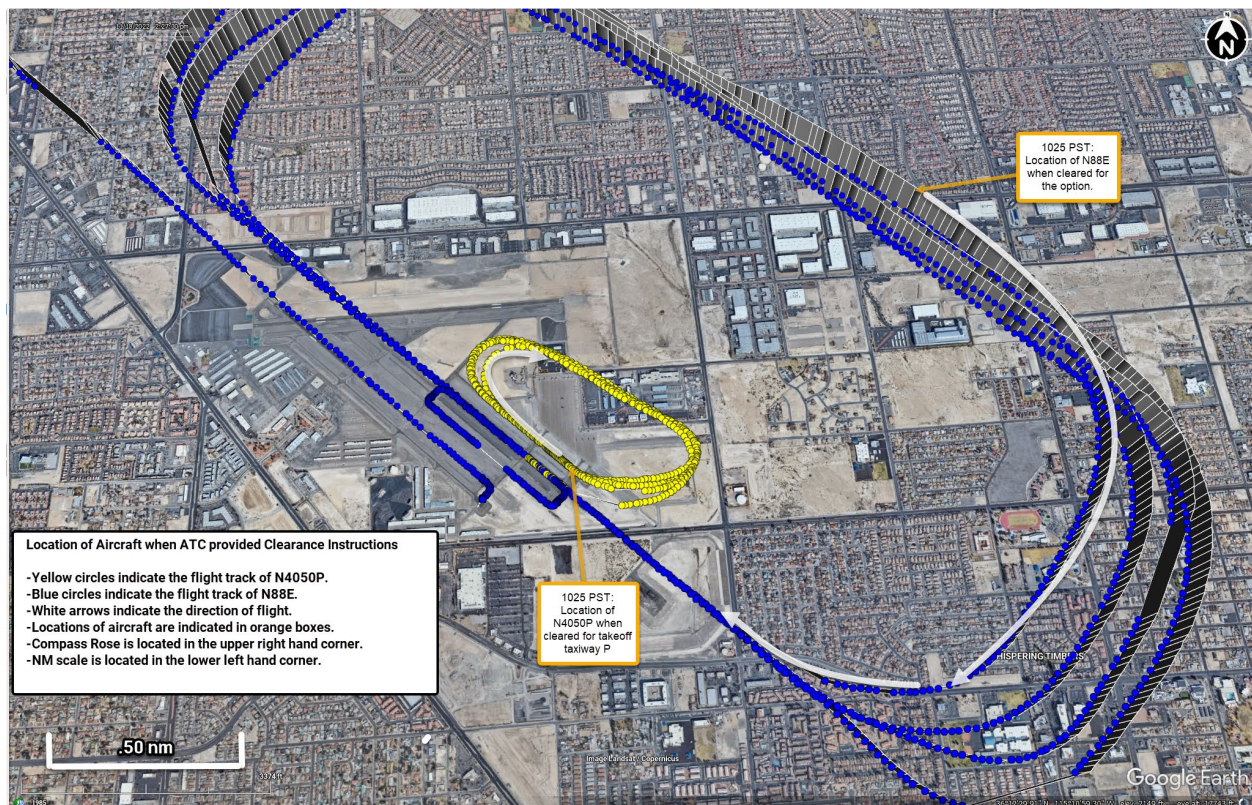


Figure 3. Location of N88E and N4050P when ATC provided clearance instructions.

1026 The LC2 controller advised the pilot of N88E that there was helicopter traffic in a close right base for taxiway P. The pilot of N88E replied that they were looking.

1027 The LC2 controller instructed N4050P that when able make a right turn on taxiway Kilo (K) and then informed the pilot that landing on the east ramp was at their own risk. The pilot responded by stating "Las Vegas tower, five zero papa." The LC2 controller instructed the pilot of N4050P to make a right turn on taxiway K. The pilot did not acknowledge the instruction.

The LC2 controller transmitted a blanket broadcast to all aircraft on the frequency to maintain radio silence.

The LC2 controller contacted the pilot of N88E, by stating the call sign. The pilot responded that they were okay.

- 1028 The LC2 controller asked the pilot of N88E if they were able to taxi or did they need a tow. The pilot stated that they were unable to taxi.

The LC2 controller asked the pilot of N88E if there were two people on board. The pilot stated affirmative.

The LC2 controller instructed the pilot of N4050P to turn right on taxiway K and advised that landing on the east ramp was at their own risk. The pilot did not respond.

- 1029 The LC2 controller attempted to contact N4050P. The pilot did not respond.

- 1030 The LC2 controller broadcasted N4050P's call sign over the frequency. The pilot responded, and the LC2 controller asked the pilot how many people were on board. The pilot responded one. The LC2 controller asked the pilot if they were injured. The pilot responded negative, there were no injuries.

There were no further ATC communications with N4050P or N88E.

Figure 4 is a graphic that was produced by overlaying ADS-B flight track data from N4050P and N88E onto satellite imagery in Google Earth. The figure is an aerial view of the airport that depicts the location of the accident location, runway 30R, and taxiway P.

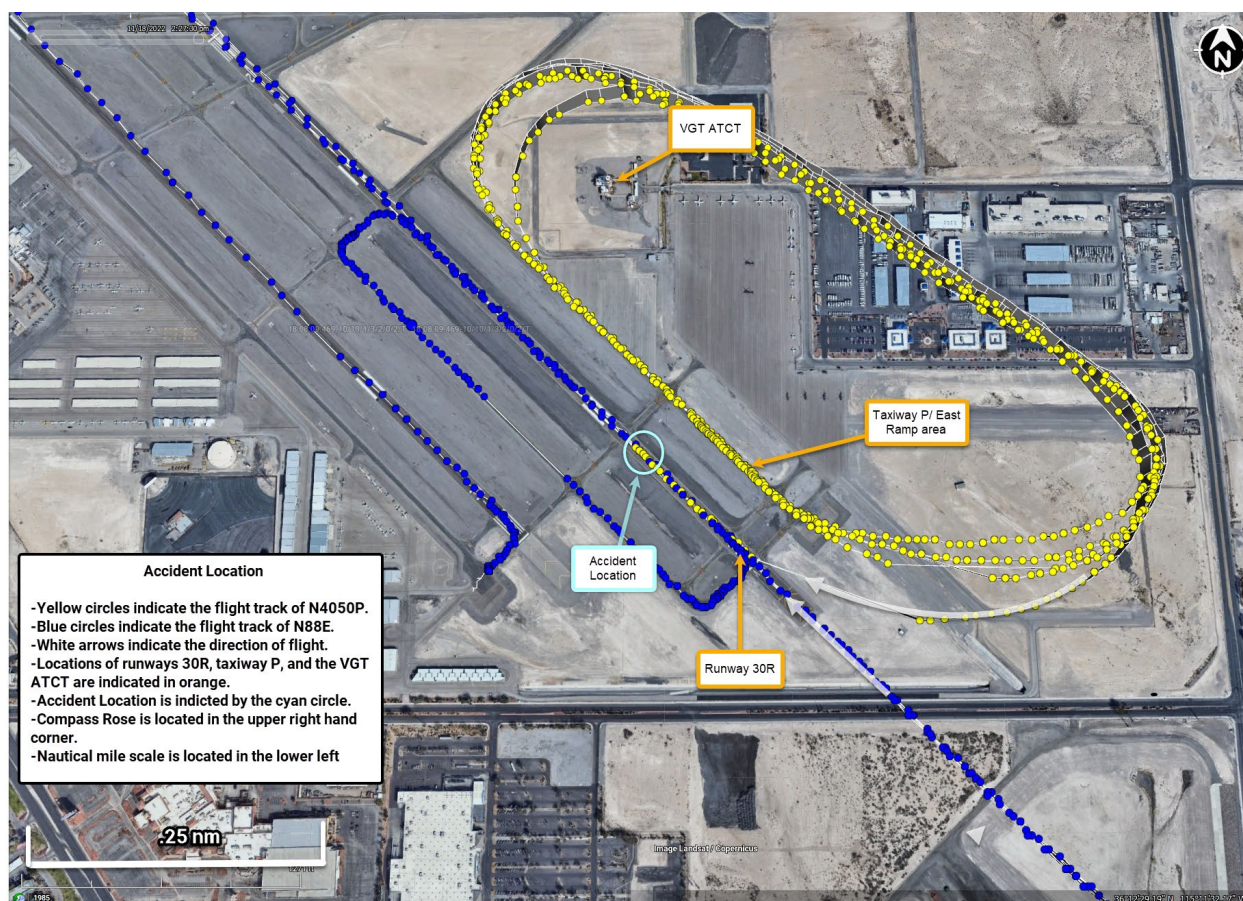


Figure 4. Graphic depicts the flight tracks of N4050P and N88E, and the accident location.

2.0 Automatic Dependent Surveillance - Broadcast (ADS-B)

Certified ADS-B data was provided by the FAA. These data were provided in comma separated value (.csv) and keyhole markup language (.kml) formats. The ADS-B data provided flight track surveillance information for the entire accident flights of both airplanes.

3.0 Meteorological Information

An Automated Weather Observing System (AWOS)³ was located at VGT in North Las Vegas, Nevada, about one mile northwest of the area of the midair collision at an elevation of about 2,205 feet. The AWOS was augmented by VGT ATCT

³ AWOS - Automated Weather Observing System is equipped with meteorological instruments to observe and report temperature, dewpoint, wind speed and direction, visibility, cloud coverage and ceiling up to 12,000 feet, and altimeter setting.

Limited Aviation Weather Reporting Station (LAWRS)⁴ certified controllers. The longline observations⁵ that were disseminated on weather circuits and general flight categories were as follows (observation closest to accident time is in bold for emphasis):

KVGT 181653Z 03003KT 10SM CLR 09/M07 A3009 RMK AO2 SLP210
T00941072

**KVGT 181753Z 00000KT 10SM CLR 10/M08 A3010 RMK AO2 SLP213
T01001078 10106 20050 51012**

KVGT 181853Z 15004KT 10SM CLR 12/M08 A3009 RMK AO2 SLP206
T01221078

KVGT 181953Z 14004KT 10SM CLR 13/M08 A3006 RMK AO2 SLP196
T01281078

KVGT 182053Z 08004KT 10SM CLR 16/M08 A3004 RMK AO2 SLP189
T01561083 58019

KVGT 182153Z 08007KT 10SM FEW110 17/M08 A3004 RMK AO2 SLP189
T01671083

4.0 Airport Information

VGT was a medium sized, primarily general, business, and corporate aviation airport located in the city of North Las Vegas, just northwest of the Las Vegas strip. The larger Harry Reid International Airport (LAS) was located eight miles south, and Nellis Air Force Base (LSV) was seven miles east. VGT had its own Class D airspace underlying the larger LAS Class B airspace. The airport had two closely spaced parallel runways (12/30 L/R) and an intersecting runway (7/25) and had a field elevation of 2,205 feet.

5.0 Airport Traffic Control Tower

VGT ATCT was a level 7 tower only facility located on VGT Airport in North Las Vegas, Nevada. It was open from 0600 to 2000 from October through March, and 0600 to 2100 from April through September. The tower measured 85 feet to the top

⁴ 2 LAWRS - Limited Aviation Weather Reporting Station - An airport weather station that utilized various degrees of automated sensors and/or other automated equipment (i.e., AWOS) and is often augmented/backed up by certified tower weather observers at these locations.

⁵ "Longline" refers to the dissemination of weather observations with the intent that they are available in near-real time to national databases (effectively, the whole world) and accessible to the general global public from a large number of vendors. This does not include public accessibility to observations from a reporting station's Very High Frequency (VHF; line-of-site) or telephone broadcast, where applicable. Longline dissemination of weather observations is the primary vehicle through which the general global public has access to surface weather observations, particularly outside of the aviation community.

of the highest antenna and was located on the east side of the airfield and situated between runway 12L/30R and runway 7/25 and oriented with the control positions facing with a westerly view from the tower cab.

Figure 5 is a photograph of the control tower⁶ and figure 6 is the tower cab layout diagram. The blue arrow points at the LC2 position where the LC2 controller was standing, and the orange arrow points in the direction of runway 30R.



Figure 5. Photograph of the VGT airport traffic control tower.

⁶ Screen shot of this photograph obtained from the front cover of the VGT Stand Operating Procedures. Handbook, Order 7110.1G.

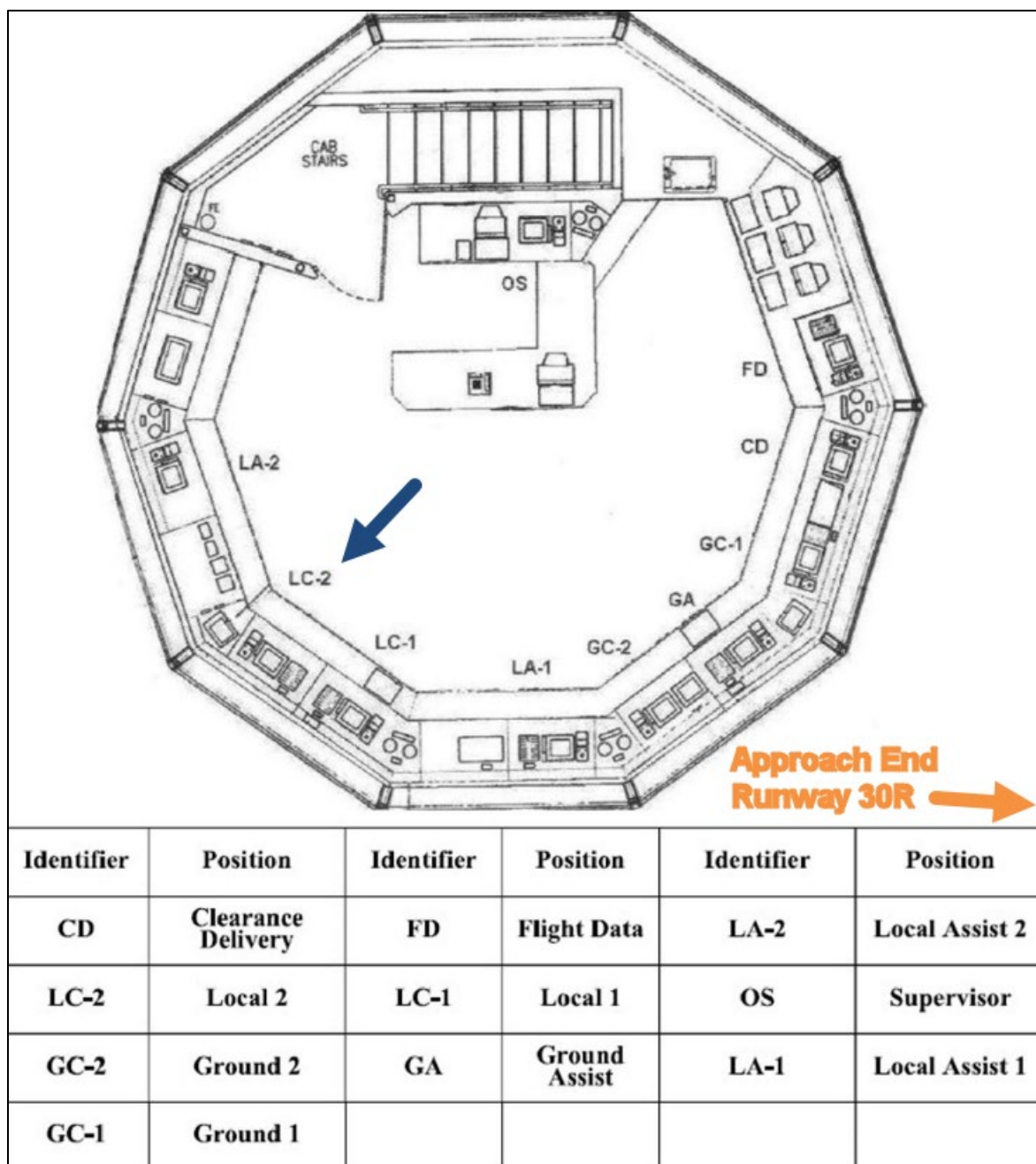


Figure 6. Tower Cab Layout depicts the location of LC2 position and approach end of runway 30R.

6.0 Air Traffic Control Personnel Interviewed

6.1 Operations Supervisor (OS)

The OS controller's air traffic control career with the FAA began in September 2007, as a veteran's recruitment appointment (VRA) direct hire to Cincinnati/Northern Kentucky International Airport (CVG), Covington, Kentucky. Before transferring to VGT in 2020, she worked at Las Vegas Terminal Radar Approach Control (TRACON) (L30), Las Vegas, Nevada from 2012. Prior to working for the FAA, she served in the

United States Navy for 6 years as a controller. She was qualified on all positions in the control tower.

6.2 Local Control 1 (LC1) Controller

The LC1 controller's air traffic control career with the FAA began in July 2017, as a VRA direct hire to VGT. Prior to working for the FAA, he served in the United States Air Force for 7 years as a controller. He was qualified on all positions in the control tower and was certified as a controller in charge (CIC).

6.3 Local Control 2 (LC2) Controller

The LC2 controller's air traffic control career began at the FAA in November 2009, when she attended initial air traffic control training at the FAA Academy in Oklahoma City, Oklahoma. Prior to transferring to VGT in 2018, she worked at Dallas-Fort Worth TRACON (D10), Dallas, Texas from 2009 to 2013; The Eastern Iowa Airport (CID), Cedar Rapids, Iowa from 2013 to 2015; Addison Airport (ADS), Dallas, Texas from 2015 to 2016, and Harry Reid International Airport (LAS), Las Vegas, Nevada from 2016 to 2018. She was qualified on all positions in the control tower and was certified as a CIC.

7.0 Air Traffic Control Procedures

7.1 FAA Order JO 7110.65Z, Air Traffic Control

7.1.1 Purpose of This Order

Chapter 1, Section 1, General, paragraph 1-1-1, Purpose of This Order, stated in part:

This order prescribes air traffic control procedures and phraseology for use by persons providing air traffic control services. Controllers are required to be familiar with the provisions of this order that pertain to their operational responsibilities and to exercise their best judgment if they encounter situations that are not covered by it.

7.1.2 ATC Service

Chapter 2, Section 1, General Control, paragraph 2-1-1, ATC Service, stated in part:

a. The primary purpose of the ATC system is to prevent a collision involving aircraft operating in the system.

b. *In addition to its primary purpose, the ATC system also:*

1. Provides a safe, orderly, and expeditious flow of air traffic.

2. *Supports National Security and Homeland Defense missions.*
- c. *The ATC system must provide certain additional services to the extent permitted. The provision of additional services is not optional on the part of the controller, but rather required when the work situation permits. It is recognized that the provision of these services may be precluded by various factors, including, but not limited to:*
 1. *Volume of traffic.*
 2. *Frequency congestion.*
 3. *Quality of surveillance.*
 4. *Controller workload.*
 5. *Higher priority duties.*
 6. *The physical inability to scan and detect situations falling in this category.*

7.1.3 Safety Alert

Chapter 2, Section 1, General Control, paragraph 2-1-6, Safety Alert, 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.

7.1.4 Traffic Advisories

Chapter 2, Section 1, General Control, paragraph 2-1-21, Traffic Advisories, stated in part:

Unless an aircraft is operating within Class A airspace or omission is requested by the pilot, issue traffic advisories to all aircraft (IFR or VFR) on your frequency when, in your judgment, their proximity may diminish to less than the applicable separation minima. Where no separation minima apply, such as for VFR aircraft outside of Class B/Class C airspace, or a TRSA, issue traffic advisories to those aircraft on your frequency when in your judgment their proximity warrants it.

7.1.5 Visually Scanning Runways

Chapter 3, Section 1, General, paragraph 3-1-12, Visually Scanning Runways,

stated in part:

- a. Local controllers must visually scan runways to the maximum extent possible.*
- b. Ground control must assist local control in visually scanning runways, especially when runways are in close proximity to other movement areas.*

F. LIST OF ATTACHMENTS

Attachment 1: Interview Transcriptions
Attachment 2: Aircraft Accident Package
Attachment 3: Local Control 2 (LC2) Audio
Attachment 4: Local Control 1 (LC1) Audio
Attachment 5: Ground Control (GC) Audio
Attachment 6: ATIS Audio
Attachment 7: ADS-B Data
Attachment 8: FAA ATC Radar Data
Attachment 9: Operations, Training, and Staffing Documents

Submitted by:

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