National Transportation Safety Board
Office of Aviation Safety
Washington, DC 20594

WPR22FA068

AIR TRAFFIC CONTROL

Group Chair's Factual Report

April 5, 2024

TABLE OF CONTENTS

A. ACCIDENT

Location: El Cajon, California
Date: December 27, 2021
Time: 1914 Pacific standard time (PST)[1]
0314 coordinated universal time (UTC) / December 28, 2021
Airplane: Gates Learjet Corporation 35A, N880Z

B. AIR TRAFFIC CONTROL GROUP

Group Chair	Brian Soper National Transportation Safety Board (NTSB) Washington, DC
Subject Matter Expert[2]	Mike Richards National Transportation Safety Board (NTSB) Washington, DC
Group Member	Dan Carrico National Air Traffic Controllers Association (NATCA) Chicago, IL
Group Member	Doug Blaul Federal Aviation Administration (FAA) Orange County, CA

C. SUMMARY

On December 27, 2021, about 1914 Pacific standard time, a Gates Learjet Corporation 35A, N880Z, was destroyed when it was involved in an accident near El Cajon, California. The 2 pilots, and 2 flight nurses were fatally injured. The airplane was operated as a Title 14 *Code of Federal Regulations* Part 91 repositioning flight.

D. DETAILS OF THE INVESTIGATION

On January 4, 2022, the air traffic control work group was formed. Notification was made to the FAA advising intent to conduct on-site investigative work at Gillespie Field Airport Traffic Control Tower (SEE ATCT), the facility providing services to

[1] All times are in Pacific standard time (PST) unless otherwise noted.
[2] A subject matter expert (SME) from AS-30 was embedded with, but not an actual member of the ATC group. A basic meteorological (MET) section has been included within this report documenting pertinent weather around the event, however detailed weather information can be found in the Meteorology Factual Report.

N880X at the time of the accident. On-site investigative work was scheduled for the week of January 18, 2022.

On January 19, 2022, the ATC group met at SEE and conducted a brief organizational meeting, followed by an in-brief provided by the SEE ATCT Acting Air Traffic Manager (AATM) and members of his staff. Also in attendance at the meeting were representatives from the FAA's Safety Intelligence and Response Group (SIRG), Western Service Area Quality Control Group (WSA QCG), and Office of Chief Counsel. The group was then provided with an operational tour of the SEE tower cab, after which an interview was conducted with the Local Control (LC) controller who was providing ATC services at the time of the accident.

On January 20, 2022, the ATC group returned to SEE, reviewed additional data that had been provided by SEE ATCT, then conducted interviews with the Controller In-Charge (CIC) that was providing general oversight in the tower at the time of the accident, as well as the AATM.

On January 21, 2022, the group returned a final time to SEE, reviewed remaining data and conducted an interview with the Manager, San Diego Navigational Aids and Communications Systems Support Center (the office that provided technical operations support to SEE and four other airports in the southern California area). Concluding on-site activities at SEE, the group then visited the home of local residents who had provided surveillance camera footage that captured the local weather conditions in the vicinity of the accident location. They provided their recollection of the accident and discussed what they recalled about the weather that evening. The group then completed field notes, obtained concurrence and concluded the field phase of the ATC investigation.

E. FACTUAL INFORMATION

1.0 History of Flight

The following is a summary of the communications between the accident pilot and SEE ATCT and was constructed from certified audio re-recordings and data provided by the FAA[3]. Times in this summary are in PST and are rounded to the nearest minute and altitudes are in feet above mean sea level (msl).

1901 A radar controller from Southern California Terminal Radar Approach Control (SCT TRACON) contacted SEE ATCT for an approval request (APREQ). The SEE ATCT controller approved the APREQ stating that runway (RWY) 27R was available, RWY 27L was unlit, and that there was no traffic.

[3] A partial transcript of the ATC audio is provided in Attachment 1: ATC Audio Partial Transcript.

1908 N880Z first checked in with the SEE ATCT LC controller on the GPS RWY 17 approach. The LC controller acknowledged, provided the wind and cleared the pilot to land RWY 17. The flight crew acknowledged with a correct readback.

1912 The flight crew of N880Z advised that they had the airport in sight and would like to squawk VFR. The LC controller initially acknowledged and cleared them to land RWY 17, however the pilot then stated that they would like to land RWY 27.

The LC controller then confirmed that the flight crew was cancelling their IFR, approved them to overfly the field, instructed them to enter left traffic for RWY 27R and cleared them to land RWY 27R. The pilot acknowledged with a correct readback.

The flight crew of N880Z then requested that the lights be turned up and the LC advised they were already at 100%.

1914 Repeated expletives consistent with indications of distress were recorded from the flight crew of N880Z.

[No further transmissions were recorded from N880Z. SEE ATCT staff saw the explosion and began accident notifications immediately.]

2.0 Flight Track Surveillance Data

Certified ADS-B[4] data was provided by the FAA[5]. These data were provided in both comma separated value (.csv) and keyhole markup language (.kml) formats. The ADS-B data provided flight track surveillance information for the entire accident flight. The graphics in figures 1-3 in section F were produced overlaying these data onto satellite imagery in Google Earth[6].

NOTE: Though altitudes in ADS-B data were rounded to the nearest 25-foot (ft.) increment, all altitudes displayed to ATC were rounded to the nearest 100 ft. increment and corrected for barometric pressure, and therefore values in the figures and what was visible to ATC differ.

[4] ADS-B – Automatic Dependent Surveillance-Broadcast - A surveillance system in which an aircraft or vehicle to be detected is fitted with cooperative equipment in the form of a data link transmitter. The aircraft or vehicle periodically broadcasts its GPS-derived position and other information such as velocity over the data link, which is received by a ground-based transmitter/receiver (transceiver) for processing and display at an air traffic control facility.
[5] ADS-B source data is provided in Attachment 2: ADS-B Data,
[6] Google Earth – A web based virtual globe, map and geographical information program that maps the Earth by the superimposition of images obtained from satellite imagery, aerial photography and geographic information system 3D globe.

3.0 Meteorological Information

3.1 Surface Observations

An Automated Weather Observing System (AWOS)[7] was located at SEE which was in El Cajon, California, about 1.5 miles west of the accident location at an elevation of about 385 feet and had a magnetic variation of about 11°30′ east. The AWOS was augmented by SEE ATCT LAWRS[8]-certified controllers. The following conditions were reported at the approximate time of the accident in plain language. For detailed weather information see the Meteorology Specialist's Factual Report in the docket.

> Routine weather observation for KSEE at 1855 PST, variable wind at 5 knots, visibility 3 statute miles, mist, ceiling broken at 2,000 feet above ground level (agl), overcast clouds at 2,600 feet agl, temperature 10° Celsius (C), dew point temperature 8° C, and an altimeter setting of 29.98 inches of mercury (inHg).

The longline[9] observations that were disseminated on weather circuits and general flight categories were as follows (observation closest to incident time is in bold for emphasis):

VFR	METAR KSEE 280147Z VRB06KT 10SM FEW029 BKN042 11/06 A2995=
MVFR	SPECI KSEE 280213Z VRB06KT 5SM BR FEW019 BKN026 11/07 A2997=
MVFR	**METAR KSEE 280255Z VRB05KT 3SM BR BKN020 OVC026 10/08 A2998=**
MVFR	METAR KSEE 280355Z VRB05KT 3SM BR SCT011 BKN020 11/09 A2996=

[7] ASOS – Automated Surface Observing System – Automated sensor suites equipped with meteorological instruments to observe and report wind, visibility, ceiling, temperature, dewpoint, altimeter, and barometric pressure. These systems generally report at hourly intervals, but also report special observations if weather conditions change rapidly and cross aviation operation thresholds.
[8] LAWRS – Limited Aviation Weather Reporting Station – An airport weather station that utilized various degrees of automated sensors and/or other automated equipment (ie; AWOS) and is often augmented/backed up by certified tower weather observers at these locations.
[9] "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.

Automated one-minute observations from the SEE AWOS (OMO) were provided from the County of San Diego and a subset of the OMO for times surrounding the accident time are presented below with the parameters: time (TM; local) average wind magnitude (WM; knots), average wind direction (WD; true), gust wind magnitude (GM; knots), visibility (V; statute miles), variable visibility (VarV; statute miles), present weather (WX), sky condition (SKY; feet agl). A"/" indicates a missing value (for detailed information on these data, see the Meteorology Specialist's Factual Report in docket). The observation when SEE first went from MVFR to IFR, and the observation closest to the accident time are in bold for emphasis:

TM	WM	WD	GM	VW	V	VarV	WX	SKY CONDITION		
1900	4	180	/	/	3		BR	SCT014	BKN021	BKN028
1901	**5**	**180**	**/**	**/**	**2 ½**	**1 ½**	**BR**	**BKN014**	**BKN021**	**BKN028**
1902	/	/	/	/	2 ½	1 ½-3	BR	BKN013	BKN021	BKN028
1903	4	190	/	VRB	2		BR	FEW010	BKN014	BKN020
1904	4	180	/	/	2		BR	FEW010	BKN014	BKN020
1905	5	190	/	/	2		BR	FEW007	BKN013	BKN021
1906	4	190	/	/	2		BR	FEW007	BKN013	BKN018
1907	5	190	/	/	2		BR	FEW009	BKN015	BKN022
1908	/	180	/	/	2		BR	FEW009	BKN015	BKN022
1909	/	/	/	/	2		BR	FEW007	SCT013	BKN018
1910	/	/	/	/	2		BR	FEW007	SCT013	BKN018
1911	5	190	/	/	2		BR	FEW009	BKN016	OVC028
1912	/	/	/	/	2 ½		BR	FEW009	BKN016	OVC028
1913	/	/	/	/	2 ½		BR	FEW010	BKN016	OVC028
1914	**/**	**/**	**/**	**/**	**2 ½**		**BR**	**FEW010**	**BKN016**	**OVC028**
1915	/	/	/	/	2 ½		BR	FEW008	BKN016	OVC028

3.2 AIRMETs

Airmen's Meteorological Information (AIRMET[10]) advisories for instrument flight rule (IFR)11[11] conditions, mountain obscuration, moderate turbulence below FL180[12], low-level wind shear (LLWS) and moderate icing between the freezing level and 17,000 feet were active for the accident location at the accident time (pertinent

[10] AIRMET – Airmen's Meteorological Information - In-flight weather advisories issued only to amend the area forecast concerning weather phenomena which are of operational interest to all aircraft and potentially hazardous to aircraft having limited capability because of lack of equipment, instrumentation, or pilot qualifications.

[11] IFR conditions - Ceilings less than 1,000 feet agl and/or visibility less than three statute miles.

[12] Flight Level (FL) - a standard nominal altitude of an aircraft, in hundreds of feet. This altitude is calculated from the international standard pressure datum of 1013.25 hPa (29.92 inches of mercury), the average sea-level pressure, and therefore is not necessarily the same as the aircraft's true altitude either above msl or agl.

conditions in bold for emphasis). The same AIRMETs for moderate turbulence below FL180 and LLWS were reissued at 1913 PST.

WAUS46 KKCI 280245
WA6S
-SFOS WA 280245
AIRMET SIERRA FOR IFR AND MTN OBSCN VALID UNTIL 280900

AIRMET IFR...CA AND CSTL WTRS
FROM HEC TO 50S TRM TO 20S MZB TO 30SW LAX TO 30NNW LAX TO HEC CIG
BLW 010/VIS BLW 3SM PCPN/BR. CONDS CONTG BYD 09Z ENDG 09-12Z

AIRMET MTN OBSCN...CA
FROM 50SE OED TO 40SSE LKV TO 40S FMG TO 70WSW BTY TO 20S HEC TO 40WSW BZA TO 20S MZB TO 20NW LAX TO 30SSE EHF TO 20NNE EHF TO RBL TO 50SE OED
MTNS OBSC BY CLDS/PCPN/BR. CONDS CONTG BYD 09Z THRU 15Z.

WAUS46 KKCI 280245
WA6T
-SFOT WA 280245
AIRMET TANGO FOR TURB AND LLWS VALID UNTIL 280900

AIRMET TURB...CA NV AZ AND CSTL WTRS
FROM SAC TO EHF TO PGS TO 30S TUS TO BZA TO 30SE MZB TO 60WSW RZS TO 40SW OAK TO SAC
MOD TURB BLW FL180. CONDS CONTG BYD 09Z THRU 15Z.

LLWS POTENTIAL...CA NV AZ AND CSTL WTRS
BOUNDED BY 80NNW FMG-70NNE FMG-BTY-PHX-90SSW PHX-BZA-20WSW MZB50NNE SAC-80NNW FMG
LLWS EXP. CONDS CONTG BYD 09Z ENDG 12-15Z.

WAUS46 KKCI 280245
WA6Z
-SFOZ WA 280245
AIRMET ZULU FOR ICE AND FRZLVL VALID UNTIL 280900

AIRMET ICE...CA AND CSTL WTRS
FROM 140WSW FOT TO 40SSW FMG TO 20S BTY TO 20SSW EED TO 40E MZB TO 60WSW MZB TO 140SW SNS TO 140WSW FOT
MOD ICE BTN FRZLVL AND 170. FRZLVL SFC-050. CONDS CONTG BYD 09Z THRU 15Z.

3.3 SIGMETs

There were no Convective Significant Meteorological Information (SIGMET[13]) advisories active for the accident location at the accident time. At 1912 PST, the

[13] SIGMET – Significant Meteorological Information - A weather advisory issued concerning weather significant to the safety of all aircraft. SIGMET advisories cover severe and extreme turbulence, severe icing, and widespread dust or sandstorms that reduce visibility to less than 3 miles.

following SIGMET was issued for an area that included the accident location at the accident time and advised of occasional severe turbulence below 12,000 feet (pertinent conditions in bold for emphasis).

WSUS06 KKCI 280312
WS6Q
-SFOQ WS 280312

SIGMET QUEBEC 1 VALID UNTIL 280712
CA AND CSTL WTRS
FROM 60WSW LAS TO EED TO BZA TO MZB TO EHF TO 60WSW LAS
OCNL SEV TURB BLW 120. RPTD BY C56X and CRJ2. CONDS CONTG BYD 0712Z

4.0 Interviewed Air Traffic Control Personnel

There were two controllers present in the tower at the time of the accident. The LC controller, and the CIC who was working the Ground Control (GC), Clearance Delivery (CD), and Flight Data (FD) positions combined. Both controllers were interviewed and declined to be recorded. Basic information is provided below, and interview summaries are provided in attachment 1. The AATM was also interviewed and was recorded, and a transcript was provided by Free State Reporting, Inc.[14]

4.1 Local Control

The LC providing services at the time of the accident had been employed by the FAA in April 2010, and after initial training at the FAA Academy, began working at SEE ATCT in July 2010. He had certified on all LC positions in April 2011.

He was 42 years old, held a current medical clearance certificate at the time of the accident and had received his last air traffic control physical on March 26, 2021. Neither post-accident drug nor alcohol testing ordered or conducted. In the terms of excellent, good, fair, or poor; he described his health as excellent. His working hours for the week leading up to and including the day of the accident were:

Day	Date	Shift	Hours	Overtime
Tuesday	Dec 21	Day	0855-1700	None
Wednesday	Dec 22	Day	0735-1545	None
Thursday	Dec 23	Day	0645-1445	None
Friday	Dec 24	Off	None	None
Saturday	Dec 25	Off	None	None
Sunday	Dec 26	Swing	1305-2115	None
Monday	Dec 27	Swing	1315-2145	None

[14] Summaries of non-recorded interviews and certified transcript of the recorded interview, are included in Attachment 3: Interview Summaries and Transcript.

4.2 Controller In-Charge

The CIC providing general supervision at the time of the accident had been employed by the FAA in May 2018, and after initial training at the FAA Academy, worked at Livermore (LVK) ATCT until March 2020 when he transferred to SEE ATCT. He had certified on CIC in March 2021.

He was 33 years old, held a current medical clearance certificate at the time of the accident and had received his last air traffic control physical on September 3, 2021. Neither post-accident drug nor alcohol testing ordered or conducted. In the terms of excellent, good, fair, or poor; he described his health as excellent. His working hours for the week leading up to and including the day of the accident were:

Day	Date	Shift	Hours	Overtime
Tuesday	Dec 21	Off	None	None
Wednesday	Dec 22	Day	0645-1445	None
Thursday	Dec 23	Day	0645-1445	None
Friday	Dec 24	Off	None	None
Saturday	Dec 25	Off	None	None
Sunday	Dec 26	Off	None	None
Monday	Dec 27	Swing	1200-2145	None

4.3 Air Traffic Manager - Acting

The AATM at the time of the accident had been on detail into the position for only a couple of months at the time of the accident. He had been employed by the FAA in September 1997, and worked at Champagne (CMI) ATCT until August 2001. After that he worked at Cleveland (CLE) ATCT from August 2001 to November 2004, Chicago Terminal Radar Approach Control (C90 TRACON) from November 2004 to September 2009, Milwaukee (MKE) ATCT-TRACON from September 2009 to April 2012, and Southern California (SCT) TRACON from April 2012 until he accepted the detail to SEE ATCT in October 2021.

5.0 Air Traffic Control Procedures

5.1 FAA Order JO 7110.65Z, Air Traffic Control

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.

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.

Chapter 2, Section 6, Weather Information, paragraph 2–6–1, Familiarization, stated in part:

Controllers must become familiar with pertinent weather information when coming on duty and stay aware of current and forecasted weather information needed to perform ATC duties.

NOTE− Every phase of flight has the potential to be impacted by weather, and emphasis must be placed on gathering, reporting and disseminating weather information.

Chapter 2, Section 6, Weather Information, paragraph 2–6–3, Reporting Weather Conditions, stated in part:

c. Forward current weather changes to the appropriate control facility as follows:

1. When the official weather changes to a condition:

(a) Less than a 1,000−foot ceiling or below the highest circling minimum, whichever is greater.

(b) Where the visibility is less than 3 miles.

(c) Where conditions improve to values greater than those listed in (a) and (b).

2. When changes which are classified as special weather observations during the time that weather conditions are below 1,000−foot ceiling or the highest circling minimum, whichever is greater, or less than 3 miles visibility.

Chapter 2, Section 6, Weather Information, paragraph 2–6–5, Disseminating Official Weather Information, stated in part:

TERMINAL. Observed elements of weather information must be disseminated as follows:

a. General weather information, such as "large breaks in the overcast," "visibility lowering to the south," or similar statements which do not include specific values, and any elements derived directly from instruments, pilots, or radar may be transmitted to pilots or other ATC facilities without consulting the weather reporting station.

b. Specific values, such as ceiling and visibility, may be transmitted if obtained by one of the following means:

1. You are properly certificated and acting as official weather observer for the elements being reported.

NOTE − USAF controllers do not serve as official weather observers.

2. You have obtained the information from the official observer for the elements being reported.

3. The weather report was composed or verified by the weather station.

4. The information is obtained from a FAA approved automation surface weather system.

c. Differences between weather elements observed from the tower and those reported by the weather station must be reported to the official observer for the element concerned.

Chapter 2, Section 9, Automatic Terminal Information Procedures, paragraph 2–9–2, Operating Procedures, stated in part:

Maintain an ATIS message that reflects the most current arrival and departure information.

a. Make a new recording when any of the following occur:

1. Upon receipt of any new official weather regardless of whether there is or is not a change in values.

NOTE –

2. Pertinent conditions are those that have a clear decisive relevance to the safety of air traffic. As noted in paragraph 2–1–2, Duty Priority, there are many variables involved that make it virtually impossible to develop a standard list of changes that are classified as relevant to every conceivable situation. Each set of circumstances must be evaluated on its own merit, and when more than one action is required, controllers must exercise their best judgment based on the facts and circumstances known to them.

Chapter 2, Section 10, Team Position Responsibilities, paragraph 2–10–3, Tower Team Position Responsibilities, stated in part:

a. Tower Team Concept and Intent: There are no absolute divisions of responsibilities regarding position operations. The tasks to be completed remain the same whether one, two, or three people are working positions within a facility/sector. The team, as a whole, has responsibility for the safe and efficient operation of that facility/sector.

b. Terms: The following terms will be used in terminal facilities for the purpose of standardization.

1. Tower Cab: The area of control responsibility (delegated airspace and/or airport surface areas) of the tower team, and the team as a whole.

2. Tower Position(s) (LC or GC): That position which is in direct communications with the aircraft and ensures separation of aircraft in/on the area of jurisdiction.

c. Primary responsibilities of the Tower Team Positions:

1. Tower Position(s) (LC or GC):

(a) Ensure separation.

(b) Initiate control instructions.

(c) Monitor and operate communications equipment.

(d) Utilize tower radar display(s).

(e) Utilize alphanumerics.

(f) Assist the Tower Associate Position with coordination.

(g) Scan tower cab environment.

(h) Ensure computer entries are completed for instructions or clearances issued or received.

(i) Ensure strip marking is completed for instructions or clearances issued or received.

(j) Process and forward flight plan information.

(k) Perform any functions of the Tower Team which will assist in meeting situation objectives.

Chapter 3, Section 10 Arrival Procedures and Separation, paragraph 3–10–5, Landing Clearance, stated in part:

a. When issuing a clearance to land, first state the runway number followed by the landing clearance. If the landing runway is changed, controllers must preface the landing clearance with "Change to runway" followed by the runway number. Controllers must then restate the runway number followed by the landing clearance.

NOTE – The purpose of the "change to runway" phraseology and restating the runway number is to emphasize to the pilot that they are being cleared to land on a runway other than what they were expecting.

Chapter 4, Section 2, Clearances, paragraph 4–2–10, Cancellation of IFR Flight Plan, stated in part:

b. Respond to a pilot's cancellation of his/her IFR flight plan as follows:

PHRASEOLOGY– (Call sign) IFR CANCELLATION RECEIVED.

Chapter 4, Section 7, Arrival Procedures, paragraph 4–7–12, Airport Conditions, stated in part:

b. TERMINAL. On first contact or as soon as possible thereafter, and subsequently as changes occur, inform an aircraft of any abnormal operation of approach and landing aids and of destination airport conditions that you know of which might restrict an approach or landing. This information may be omitted if it is contained in the ATIS broadcast and the pilot states the appropriate ATIS code.

Chapter 4, Section 8, Approach Clearance Procedures, paragraph 4–8–1, Approach Clearance, stated in part:

a. Clear aircraft for "standard" or "special" instrument approach procedures only.

NOTE –

1. Clearances authorizing instrument approaches are issued on the basis that, if visual contact with the ground is made before the approach is completed, the entire approach procedure will be followed unless the pilot receives approval for a contact approach, is cleared for a visual approach, or cancels their IFR flight plan.

2. Approach clearances are issued based on known traffic. The receipt of an approach clearance does not relieve the pilot of his/her responsibility to comply with applicable Parts of Title 14 of the Code of Federal Regulations and the notations on instrument approach charts which levy on the pilot the responsibility to comply with or act on an instruction; for example, "Straight-in minima not authorized at night," "Procedure not authorized when

glideslope/glidepath not used," "Use of procedure limited to aircraft authorized to use airport," or "Procedure not authorized at night" or Snowflake icon with associated temperature.

Chapter 5, Section 15, Standard Terminal Automation Replacement System (STARS), paragraph 5–15–7, Inhibiting Minimum Safe Altitude Warning (MSAW), stated in part:

a. Inhibit MSAW processing of VFR aircraft and aircraft that cancel instrument flight rules (IFR) flight plans unless the pilot specifically requests otherwise.

5.2 FAA Order JO 7210.3CC, Facility Operations and Administration

Chapter 2, Section 9, Weather/Visibility, paragraph 2–9–2, Receipt and Dissemination of Weather Observations, stated in part:

a. Facility air traffic managers must establish a means by which the receipt of weather observations are immediately known to facility personnel responsible for dissemination to other facility functions and that these functions are made aware of changes as they are posted. In addition, facility managers must establish procedures through the facility SOP that will ensure all positions of operation receive and acknowledge any change in reportable visibility value when the tower has the responsibility for visibility reporting. This may be accomplished by means of an alerting device, location of weather receiving equipment at positions so that any change of data is recognized, or any other means which may be best suited to the facility work environment.

b. To the extent possible, facility air traffic managers must establish procedures to acknowledge receipt of weather observations. Where possible, establish an agreement with the appropriate weather source to share the responsibility for ensuring the receipt of the observation. Automated Surface Observing System(s) (ASOS), Automated Weather Observing System(s) (AWOS), and Automatic Weather Information System (AWIS) locations are not required to acknowledge receipt of observations.

d. AWOS towers with LAWRS certified controllers should disable the AWOS long−line communications capability during facility operating hours and use the AWOS data when representative of airport conditions to generate a manual METAR/ SPECI observation. If AWOS is able to provide METAR/SPECI observations (for example, FAA AWOS−C) and allows augmentation and backup entries, the AWOS may be used the same as ASOS.

Chapter 10, Section 1, General, paragraph 10-1-2, Tower/Radar Team Concepts, stated in part:

There are no absolute divisions of responsibilities regarding position operations. The tasks to be completed remain the same whether one, two, or three people are working positions within a tower cab/facility/sector. The team, as a whole, has responsibility for the safe and efficient operation of the tower cab/facility/sector.

5.3 SEE ATCT Order 7232.1, Standard Operating Procedures

Section 9, Facility Equipment and Procedures, Part e., Aeronautical Information System – Replacement (AIS-R), stated in part:

(1) Aeronautical Information System Replacement (AIS-R) is a web-enabled program used to collect and disseminate weather information such as Aviation Routine Weather Report (METAR), Pilot Report (PIREP), Notice to Airmen (NOTAM) messages, flight plan data and other operational information to all Federal Aviation Air Traffic facilities. https://www.aisr.nas.faa.gov/AISR/.

(2) Anytime METAR, Aviation Selected Special Weather Report (SPECI) or PIREPs are recorded, it must be disseminated via manual entry in the AIS-R.

(3) Username and password for AIS-R are located in cab.

(4) If the system is down then disseminate METARs, PIREPS to Los Angeles Center (ZLA) Flight DATA until issue is resolved.

(5) If you experience any issues with the system, contact the NAIMES Help Desk at (XXX) XXX-XXXX.

(6) The OS/CIC must ensure hourly reports AIS-R hourly reports are entered, accurate and accepted.

F. FIGURES

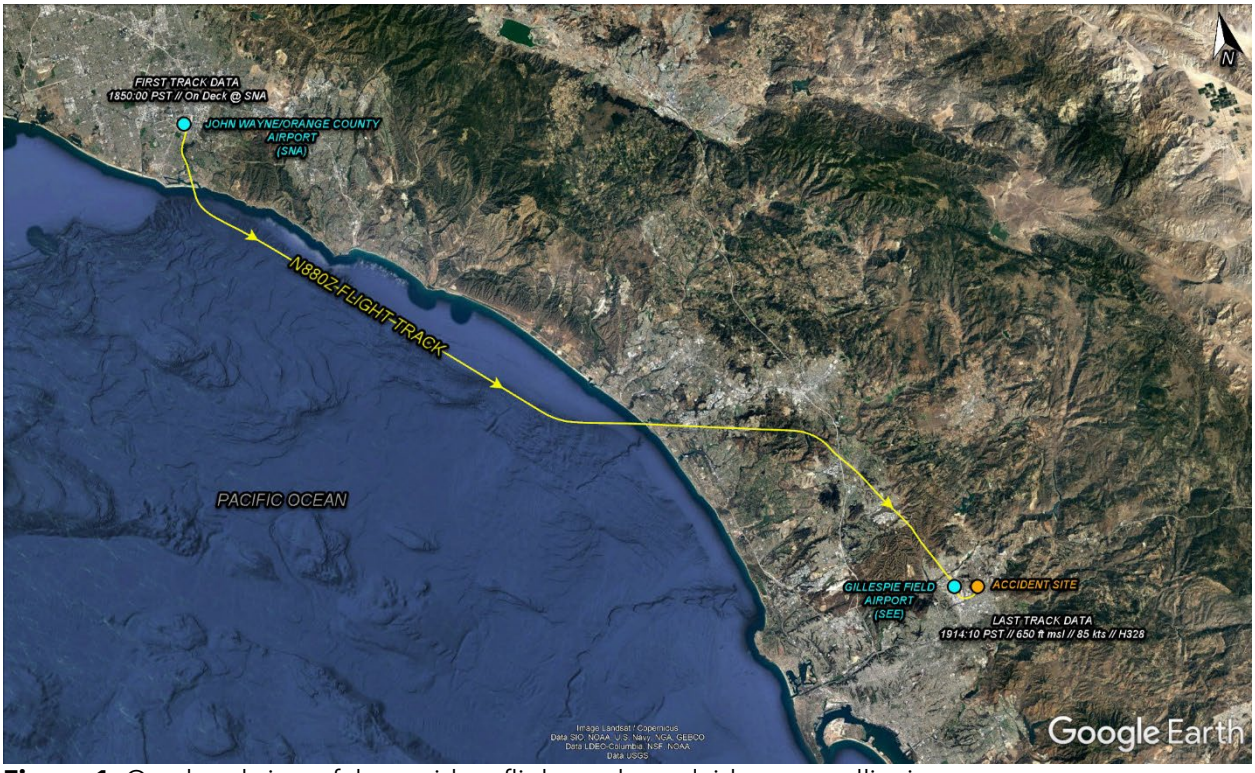

Figure 1. Overhead view of the accident flight track overlaid onto satellite imagery.

Figure 2. Profile view of the final segment of the accident flight overlaid onto satellite imagery.

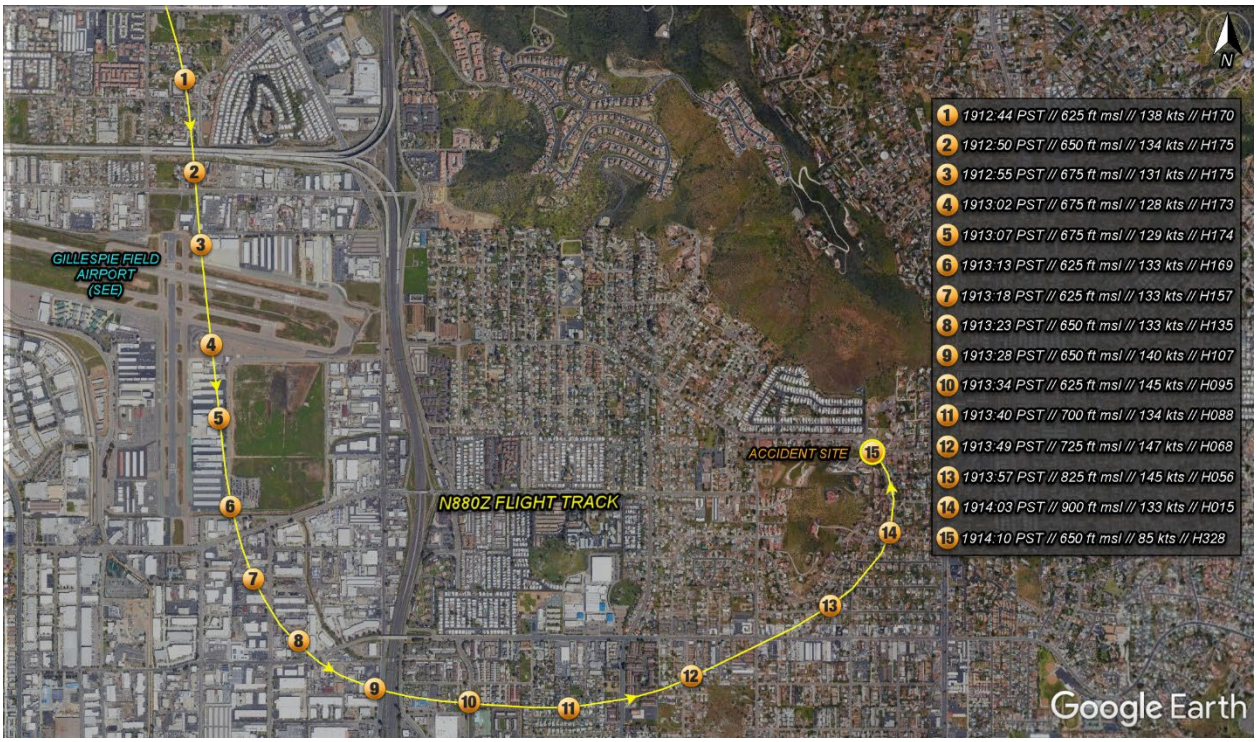

Figure 3. Overhead view of the final segment of the accident flight with time, altitude, ground speed, and heading information provided and overlaid onto satellite imagery.

G. LIST OF ATTACHMENTS

Attachment 1: ATC Audio Partial Transcript
Attachment 2: ADS-B Data
Attachment 3: Interview Summaries and Transcript
Attachment 4: SEE ATCT Facility Records and Documentation

Submitted by:

Brian Soper
Lead Air Traffic Control Investigator