
**NATIONAL TRANSPORTATION SAFETY BOARD**

Office of Aviation Safety
Washington, D.C. 20594

January 20, 2022

**Group Chairman's Factual Report**

# AIR TRAFFIC CONTROL

DCA21FA174

## A. ACCIDENT

Location: Honolulu, Hawaii
Date: July 2, 2021
Time: 0145 Hawaii standard time (HST)[1]
1145 coordinated universal time (UTC)
Airplane: B737-200, N810TA, Rhoades Aviation Inc, dba TransAir Flight 810

## B. AIR TRAFFIC CONTROL GROUP

| | |
|---|---|
| Group Chairman | Charles Olvis<br>National Transportation Safety Board<br>Washington, District of Columbia |
| Group Member | John Wennes<br>Federal Aviation Administration<br>Maui, Hawaii |
| Group Member | Amy Huschka<br>National Air Traffic Controllers Association<br>Minneapolis, Minnesota |
| Party Coordinator | Sarah Owens<br>National Air Traffic Controllers Association<br>Olathe, Kansas |

## C. DETAILS OF THE INVESTIGATION

On July 2, 2021, at about 0145 local, Rhoades Aviation Inc, dba TransAir, flight 810, a B737-200, N810TA, reported engine anomalies in both engines and subsequently ditched into Mamala Bay shortly after takeoff from Daniel K. Inouye International Airport (HNL), Honolulu, Hawaii. The two flight crew members were rescued, and the airplane was substantially damaged. The flight was operating under 14 *Code of Federal Regulations* Part 121 as a cargo flight from HNL to Kahului International Airport (OGG), Kahului, Hawaii.

The air traffic control (ATC) workgroup formed on July 4, 2021, and proceeded to the Hawaii Control Facility (HCF) to begin data collection and receive an in-brief from the air traffic manager Wayne Coley. Others in attendance at the in-brief included Matt Picciotti, Office of General Counsel; Robin Koleszar, Event Investigations Manager; Jacob Kamakahi, HCF NATCA Facility Representative; and David Sakasegawa, Support Manager. After the in-brief, the workgroup reviewed certified audio of the accident, as

[1] All times are HST unless otherwise noted.

provided by HCF, and reviewed the MEARTS[2] replay of the accident as depicted on the radar display available to the air traffic controller working the accident flight. The workgroup reviewed the FAA 3120-1 Training and Proficiency Records[3] for the controllers to be interviewed. Additionally, the workgroup toured the control tower cab and documented the location of the equipment used by the air traffic controllers.

On July 5, 2021, the workgroup reconvened at the HCF to review landline communications between the air traffic controller and the Operations Manager in Charge (OMIC), State of Hawaii ramp, Hickam Air Force Base (AFB) ramp, and the United States Coast Guard (USCG). The workgroup conducted interviews with the OMIC and the air traffic controller working the control tower while in a terminal radar approach/control tower configuration (TRACAB)[4]. The workgroup completed interviews and attended the nightly progress meeting held by the investigator in charge (IIC).

On July 6, 2021, the workgroup reconvened and completed fieldnotes. Additionally, the workgroup chairman contacted the duty manager of the HNL airport to inquire about the availability of noise abatement recordings that may have captured the accident airplane as it departed runway 8R from HNL. The recordings were provided prior to the workgroup departing but did not yield any information on the accident.

## D. FACTUAL INFORMATION

### 1.0 History of Flight

During the overnight shift with reduced traffic, the HCF combined approach control positions and the HNL ATCT combined positions were worked by one person at the local control (LC) position in the tower cab. This is known as a TRACAB configuration.

At about 0040:56, the HNL LC issued the pilots of RDS810[5] a clearance to OGG airport via the Palay 3 standard instrument departure procedure (SID)[6], see figure 3. The pilot acknowledged and read back the clearance.

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[2] Micro-En Route Automated Radar Tracking System (MEARTS) is a radar processing system implemented with commercial off-the-shelf (COTS) equipment, for use in the air traffic control environment. It provides single sensor and a mosaic display of traffic and weather using long- and short-range radars as well as Automatic Dependent Surveillance-Broadcast (ADS-B) surveillance.
[3] FAA 3120-1 Training and Proficiency Records is the document that records all air traffic controller training.
[4] TRACAB is an acronym for Terminal Radar Approach Control in Tower Cab.
[5] RDS810 is the FAA 3 letter identifier for Rhoades Express flight 810 dba TransAir Flight 810.
[6] Standard Instrument Departures are air traffic control (ATC) procedures printed for pilot/controller use in graphic form to provide obstruction clearance and a transition from the terminal area to the appropriate en route structure.

At about 0123:05, the pilot of RDS810 contacted the HNL LC with the current Automated Terminal Information Service (ATIS)[7] of "Kilo" and requested taxi instructions for departure. The HCF controller taxied the airplane to runway 8 right (8R).

At about 0132:22, the HCF controller cleared RDS810 for takeoff from runway 8R; the pilot acknowledged and read back the clearance.

At about 0134:32, an unidentified transmission over the local control position stated "unintelligible…on a two twenty heading".

At 0134:36, the HCF controller transmitted "rhoades express eight ten radar contact fly heading of ah one zero zero to join victor two resume own navigation climb and maintain one three thousand". There was no reply by the pilot of RDS810.

At 0135:16, the HCF transmitted "rhoades express eight ten radar contact turn left heading zero nine zero join victor two resume own navigation climb and maintain one three thousand say altitude". There was no reply by the pilot of RDS810.

At 0135:26, the pilot of RDS810 requested a radio check with the HCF controller. The HCF controller replied "rhoades express eight ten loud and clear how do you hear turn left heading one eight zero"

At 0135:35, the pilot of RDS810 replied "okay rhoades eight ten we have lost an engine we are on a two twenty heading". The HCF controller responded by cancelling the approach clearance for RDS809 that was inbound to HNL.

At 0135:55, the HCF controller cleared RDS810 for the visual approach to runway 4 right (4R) and advised the pilot they could turn toward the airport.

At 0136:00, the pilot requested a delay vector so the crew could "run a checklist". The HCF controller responded "rhoades express eight ten roger continue on the two twenty heading and ah just keep me advised and maintain ah two thousand if that's the altitude you would like". The pilot responded that 2,000 feet was good and that they would "stay around fifteen miles from the airport".

At 0136:48, the HCF controller transmitted "and rhoades express eight ten ah when you get a chance ah can i get ah the nature of the emergency i know you said an engine out but which one ah how many souls on board and fuel". The crew advised they would get the information "in a little bit".

[7] The continuous broadcast of recorded non-control information in selected terminal areas.

At 0138:43, the pilot of RDS810 advised the HCF controller that they could take a turn in toward the airport, but they were not ready to land. The HCF controller turned the flight toward HNL on a 050° heading; the crew read back the heading.

At 0139:18, the pilot of RDS810 advised they would like to proceed into the airport. The HCF controller turned the flight to a 020° heading and asked if they still had the airport in sight. The pilot responded they did not have the airport or the beacon in sight. The HCF controller reiterated the 020° heading and asked if the crew wanted to intercept the localizer or would they like a vector. The pilot responded they would like vectors "straight to the airport".

At 0140:03, the HCF controller transmitted "and rhoades express eight ten ah is it two souls on board and also how much fuel remaining". The pilot responded "ah rhoades eight ten stand by".

At 0142:06 the pilot of RDS810 transmitted "okay rhoades eight ten we have lost number one engine and we are coming straight to the airport we are going to need the fire department there is a chance we are going to lose the other engine too its running very hot and ah speed is ah we are pretty low on speed it doesn't look real good up here you might want to let the coast guard know as well and we don't have any hazmat and ah fuel is about two hours of fuel". The HCF controller clarified that there were 2 people on board and asked if the pilot had the airport in sight; the pilot responded "negative".

At 0142:54, the HCF controller advised the pilot of a low altitude alert and asked the pilot if they could climb. The pilot responded they could not climb. The controller responded by telling the pilot "rhoades express eight ten roger proceed direct to the airport and you are cleared to land any runway". The pilot advised they needed a heading and the controller responded with a 060° heading.

At 0143:14, the HCF controller advised the pilot that the "trucks" were rolling. The pilot responded "you want you want to let the coast guard know as well"; the controller advised she would let the United States Coast Guard (USCG) know as well.

At 0143:56, the HCF controller advised the pilot that the USCG was on the way; the pilot acknowledged.

At 0144:02, the HCF controller cleared the airplane to land on any runway. The crew responded that they would like to land on the closest runway. The HCF controller asked the pilot if they would like to land at Kalaeloa airport at their 9 to 10 o'clock position and about 3 miles. The pilot asked how far away the airport was, the HCF controller responded "ah rhoades express eight ten ah the airport is about a three one zero heading from you"; the pilot acknowledged.

At 0145:25, the HCF controller transmitted "rhoades express eight one zero they may need the lights may need to be on one three two point six ah they may be pilot controlled". There was no response from the pilot of RDS810.

The final Automatic Dependent Surveillance-Broadcast (ADS-B) target was at 0145:17; there were no more communications from the pilot.

## 2.0 Air Traffic Control Surveillance Data

ADS-B data is aircraft global positioning system (GPS) derived position reports and other aircraft information transmitted by the airplane and received through a ground infrastructure and shared with other users within the national airspace system (NAS). Air traffic controllers across the nation are able to monitor aircraft using either ground-based radar or ADS-B.

To improve the consistency and reliability of ADS-B and radar returns, airplanes are equipped with transponders. For ADS-B equipped airplanes, the transponders are assigned a unique Mode S[8] address for each airplane. The RDS810 assigned Mode S transponder address was AB0B06 and the accident airplane was assigned an ATC transponder beacon code of 2107. The ADS-B data for this report was obtained from the FAA and was of good quality.

Figure1 illustrates the entire flight by the accident airplane and includes the ground taxi. The data begins at 1122:23 UTC before the airplane begins to taxi and ends at 1145:17 UTC.

[8] Mode S is a secondary surveillance and communication system which supports Air Traffic Control (ATC). Each Mode S transponder equipped aircraft is assigned a unique address code. Using this unique code, interrogations can be directed to a particular aircraft and replies can be unambiguously identified.

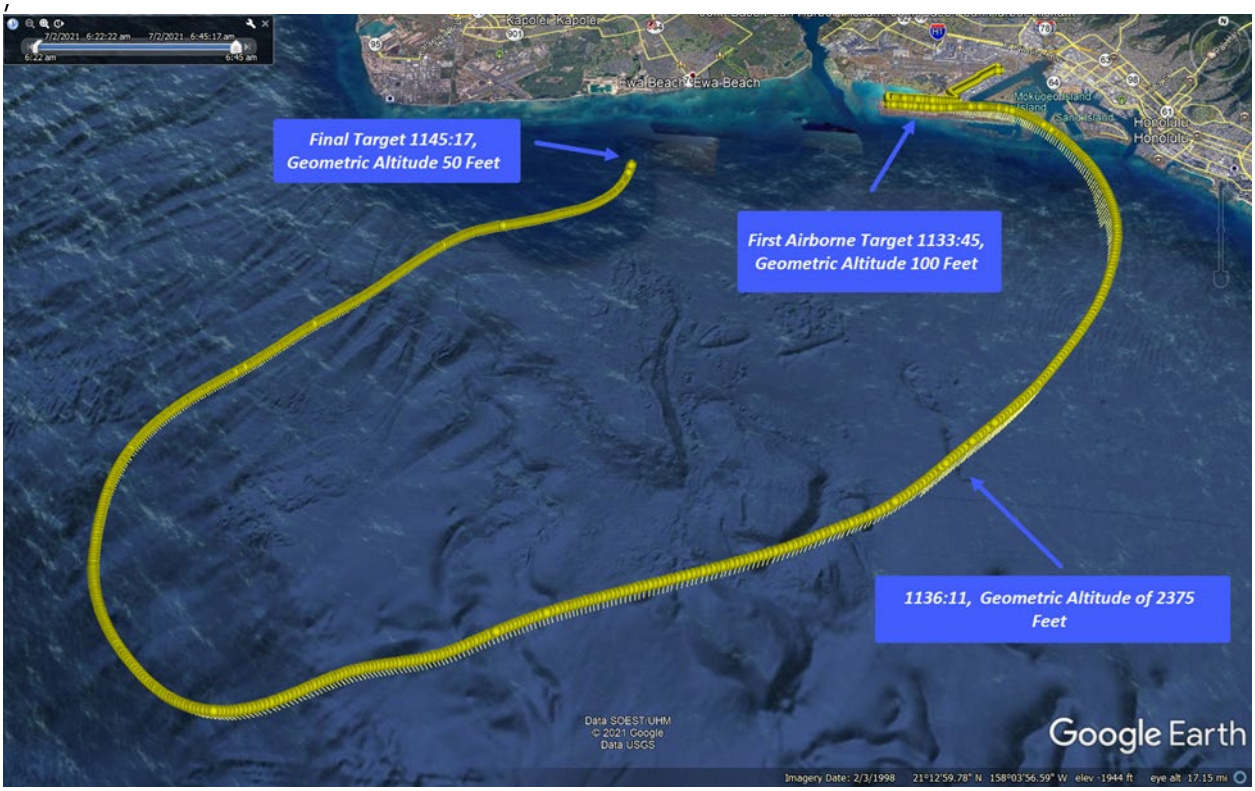


**Figure 1:** Graphic depicting the entire flight from start of taxi to the accident site.

Figure 2 illustrates the final segment of flight by the accident airplane and includes the final ADS-B target at 1145:17 UTC.

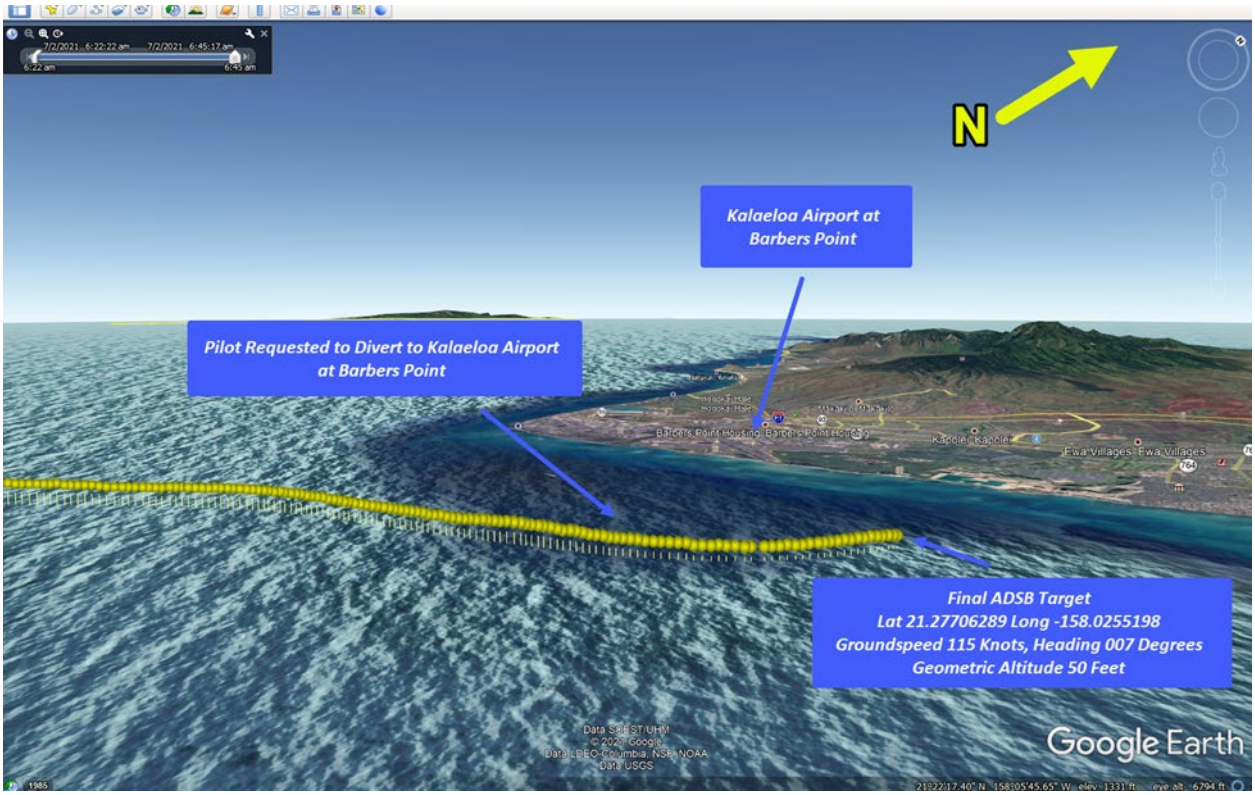


**Figure 2:** Graphic depicting the final segment of flight.

## 3.0 Weather Information

ATIS is the continuous broadcast of recorded non-control information in selected terminal areas. Its purpose is to improve controller effectiveness and to relieve frequency congestion by automating the repetitive transmission of essential but routine information. The ATIS at the time of the accident was information Kilo (K) and was current as of 1053 UTC. The ATIS was broadcasting the weather as wind 060 degrees at 10 knots, few clouds at 2,500 feet, 4,500 feet scattered clouds, temperature 26°, dew point 18°, altimeter 30.04, runways 4 and 8 ILS or visual approaches in use, LAHSO[9] in effect. Additionally, the ATIS included a statement of increased bird strike hazard for all runways.

## 4.0 Air Traffic Control Clearance

The accident airplane was issued a clearance by the air traffic control tower. The route of flight issued was via the "Palay 3 Departure Lanai transition then as filed on departure fly heading 155 maintain 5,000 expect ah 13,000 departure frequency 118.3 squawk 2107". Figure 3 illustrates the Palay3 Departure.

[9] Land and Hold Short Operations is an air traffic control procedure for aircraft landing and holding short of an intersecting runway or point on a runway, to balance airport capacity and system efficiency with safety.

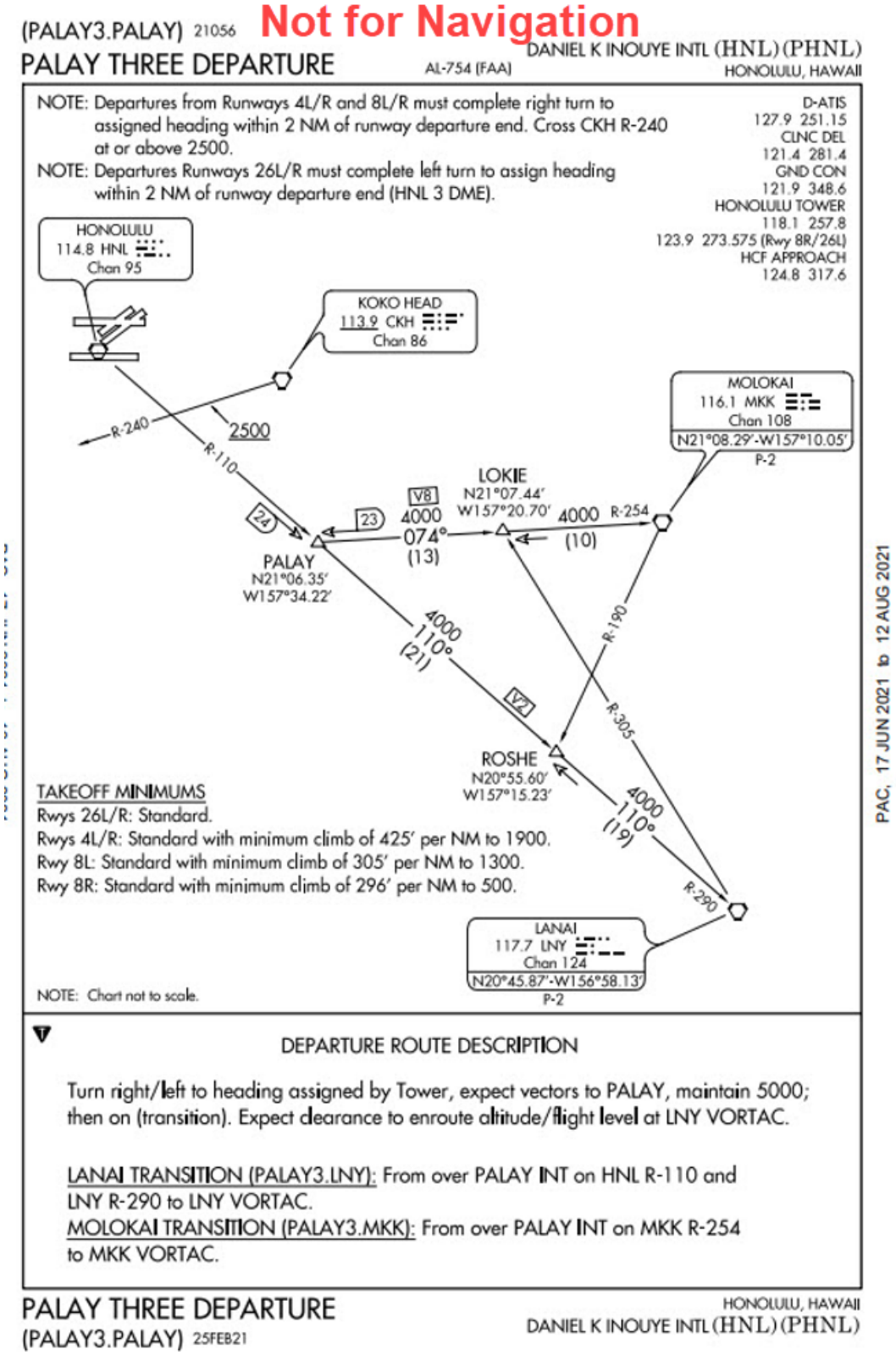


**Figure 3:** Graphic depicting PALAY Three Departure.

## 5.0 Air Traffic Control Crash Phone Circuit

During interviews with air traffic control personnel (see attachment 1), it was discovered that the HCF crash phone circuit was unreliable and had been logged as out of service since 2016. Alternate procedures to address the condition were adopted on September 11, 2020 and included the responsibility by air traffic control personnel to alert both the State of Hawaii ramp personnel and Hickam AFB ramp personnel through separate and distinct phone calls. See attachment 3.

## 6.0 Air Traffic Control Directives

## 6.1 Federal Aviation Administration Job Order (FAA JO) 7110.65Z

FAA JO 7110.65Z, "Air Traffic Control," paragraph 1-1-1 "Purpose of This Order", prescribe "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".

### 6.1.1 Chapter 2 General Control

Chapter 2, Section 1, *General Control,* addresses the purpose and priority of the air traffic control services provided to airplanes operating in the National Airspace System (NAS).

Paragraph 2-1-1 addresses ATC Service and states the primary purpose of the air traffic control system. It states [in part]:

**2−1−1 ATC SERVICE**

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.

Paragraph 2-1-2 addresses ATC Duty Priority and states the operational priority of providing air traffic control services. It states [in part]:

**2−1−2 DUTY PRIORITY**

a. Give first priority to separating aircraft and issuing safety alerts as required in this order. Good judgment must be used in prioritizing all other provisions of this order based on the requirements of the situation at hand.

### 6.1.2 Chapter 7 Visual

Chapter 7, Section 4, *Approaches,* addresses the definition of a visual approach and requirements necessary for air traffic controllers to clear an airplane for a visual approach to an airport.

Paragraph 7-4-1, *Visual Approach*, addresses the application of visual approaches by air traffic controllers and states [in part]:

**7−4−1 VISUAL APPROACH**

A visual approach is an ATC authorization for an aircraft on an IFR flight plan to proceed visually and clear of clouds to the airport of intended landing. A visual approach is not a standard instrument approach procedure and has no missed approach segment. An aircraft unable to complete a landing from a visual approach must be handled as any go−around and appropriate IFR separation must be provided until the aircraft lands or the pilot cancels their IFR flight plan.

a. At airports with an operating control tower, aircraft executing a go−around may be instructed to enter the traffic pattern for landing and an altitude assignment is not required. The pilot is expected to climb to pattern altitude and is required to maintain terrain and obstruction clearance. ATC must maintain applicable separation from other aircraft.

Paragraph 7-4-3, *Clearance for Visual Approach*, addresses the requirements needed for air traffic controllers to issue a visual approach clearance and states [in part]:

**7−4−3 CLEARANCE FOR VISUAL APPROACH**

ARTCCs[10] and approach controls may clear aircraft for visual approaches using the following procedures:

**NOTE−** Towers may exercise this authority when authorized by a LOA with the facility that provides the IFR service, or by a facility directive at collocated facilities.

a. Controllers may initiate, or pilots may request, a visual approach even when an aircraft is being vectored for an instrument approach and the pilot subsequently reports:

1. The airport or the runway in sight at airports with operating control towers.

2. The airport in sight at airports without a control tower.

b. Resolve potential conflicts with all other aircraft, advise an overtaking aircraft of the distance to the preceding aircraft and speed difference, and ensure that weather conditions at the airport are VFR or that the pilot has been informed that weather is not available for the destination airport. Upon pilot request, advise the pilot of the frequency to receive weather information where AWOS/ASOS is available.

### 6.1.3 Chapter 10 Emergencies

Chapter 10, Section 1, *General,* addresses the determination and general requirements by air traffic personnel while working airplanes that may be experiencing an emergency situation.

Paragraph 10-1-1 addresses *Emergency Determinations* and states the primary methods for an air traffic controller to determine that an emergency situation exists and states [in part]:

**10−1−1. EMERGENCY DETERMINATIONS**

a. An emergency can be either a Distress or an Urgency condition as defined in the "Pilot/Controller Glossary."

[10] Air Route Traffic Control Center

b. A pilot who encounters a Distress condition should declare an emergency by beginning the initial communication with the word "Mayday," preferably repeated three times. For an Urgency condition, the word "Pan-Pan" should be used in the same manner.

c. If the words "Mayday" or "Pan-Pan" are not used and you are in doubt that a situation constitutes an emergency or potential emergency, handle it as though it were an emergency.

d. Because of the infinite variety of possible emergency situations, specific procedures cannot be prescribed. However, when you believe an emergency exists or is imminent, select and pursue a course of action which appears to be most appropriate under the circumstances and which most nearly conforms to the instructions in this manual.

Paragraph 10-1-2 addresses *Obtaining Information* and states the requirement for an air traffic controller to obtain enough information to handle an emergency intelligently and states [in part]:

**10−1−2. OBTAINING INFORMATION**

Obtain enough information to handle the emergency intelligently. Base your decision as to what type of assistance is needed on information and requests received from the pilot because he/she is authorized by 14 CFR Part 91 to determine a course of action.

Chapter 10, Section 2, *Emergency Assistance,* addresses the actions taken by air traffic personnel while working airplanes that may be experiencing an emergency situation.

Paragraph 10-2-1 addresses *Information Requirements,* and states what information an air traffic controller should obtain when an emergency situation exists and states [in part]:

**10−2−1. INFORMATION REQUIREMENTS**

a. Start assistance as soon as enough information has been obtained upon which to act. Information requirements will vary, depending on the existing situation. Minimum required information for inflight emergencies is:

**NOTE−** In the event of an ELT signal see Paragraph 10−2−10, Emergency Locator Transmitter (ELT) Signals.

1. Aircraft identification and type.

2. Nature of the emergency.

3. Pilot's desires.

## 7.0 Air Traffic Control Personnel

### 7.1 Honolulu Operations Manager in Charge (OMIC)

The OMIC began working for the FAA in September 2006 as a Collegiate Training Initiative (CTI) hire from Mt. San Antonio College and reported to the FAA Training Facility, Oklahoma City, OK. She graduated from the training facility in November 2006 and reported to Atlanta Terminal Radar Approach Control (A80 TRACON). In July 2014 she departed A80 and reported to where she worked in the Island Specialty sector. In February 2015 she accepted a position as a Front-Line Manager where she has remained.

The OMIC's medical certificate was current with an eye correction exemption. She was wearing contacts at the time of the accident. She did not hold any other aeronautical licenses and was certified in the Island Specialty and proficient on the Maui Approach sector.

### 7.2 Honolulu Local Controller (LC)

The LC began working for the FAA in January 1992 as a direct hire from the FAA Training Facility, Oklahoma City, OK. She graduated from the training facility in May 1992 and reported to Hilo, HI (ITO) air traffic control tower (ATCT). In January 1996 she departed ITO and reported to Santa Barbara, CA (SBA) ATCT. In August 2000 she departed SBA and reported to HCF. She was qualified on all operating positions in the tower and TRACON and was designated a Controller in Charge (CIC).

The LC's medical certificate was current with an eye correction exemption. She was wearing contacts at the time of the accident. She did not hold any other

aeronautical licenses. At the time of the accident the LC was working with all TRACON and ATCT positions combined in a TRACAB configuration in the control tower.

## E. LIST OF ATTACHMENTS

Attachment 1 Interview Summaries
Attachment 2 NTSB Communications Transcript
Attachment 3 Control Sheet Honolulu Control Facility 20-09-036, Crash Phone Back Up Procedures

Submitted by:

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Senior Air Traffic Control Investigator