



National Transportation Safety Board

Washington, D.C. 20594

Safety Recommendation

(CORRECTED COPY)

Date: February 24, 2010

In reply refer to: A-10-35

Lieutenant Colonel Charles A. Tomke
U.S. Air Force Rescue Coordination Center
650 Florida Avenue (Stop 73)
Tyndall Air Force Base, Florida 32403

The National Transportation Safety Board (NTSB) is an independent federal agency charged by Congress with investigating transportation accidents, determining their probable cause, and making recommendations to prevent similar accidents from occurring. We are providing the following information to urge your organization to take action on the safety recommendation in this letter. The recommendation addresses the need for clearer communication between the Federal Aviation Administration (FAA) and the Air Force Rescue Coordination Center (AFRCC) during search and rescue (SAR) activities.

The NTSB is vitally interested in this recommendation because it is designed to save lives. The NTSB would appreciate a response from you within 90 days describing the actions you have taken, or intend to take, to implement our recommendation.

This recommendation to the AFRCC stems from the NTSB investigation of SAR activities following the crash of a Piper PA-38-112, N9247T, into trees and rising mountainous terrain on April 26, 2007, about 1430 eastern daylight time, at Amicalola Falls State Park in Dawsonville, Georgia. Evidence indicates that the certificated commercial pilot, who was the sole occupant, likely survived the accident and activated an emergency transponder code but died before the airplane was located. The flight was operated as a personal flight under the provisions of 14 *Code of Federal Regulations* Part 91, and no flight plan was filed. Instrument meteorological conditions prevailed near the accident site. The flight originated from Habersham County Airport, Cornelia, Georgia, about 1400, destined for Lunken Field, Cincinnati, Ohio.¹

Shortly after the crash, controllers at the FAA's Atlanta Air Route Traffic Control Center (ZTL) noticed an unidentified stationary radar target about 50 nautical miles north of Atlanta.²

¹ Additional information about this accident, NTSB case number ATL07FA081, can be found on the NTSB's website at <<http://www.nts.gov/ntsb/query.asp>>.

² According to a review of recorded radar data, between 1409 and 1422, an aircraft on transponder code 1200 was tracking westbound toward the crash site. During that period, the aircraft descended from 3,000 feet to 2,500 feet above mean sea level. The aircraft's target disappeared until 1424, when it reappeared on a northeasterly

Beginning about 1534, the target transmitted transponder code 7700, which is a dedicated emergency code reserved for use by aircraft in distress, and its use by the accident pilot caused a special flashing "EMRG" alert to appear on ZTL radar displays.³

About 1552, the ZTL traffic management coordinator (TMC) notified the AFRCC of emergency locator transmitter (ELT) reports⁴ and observation of the 7700 code.⁵ During the call, the TMC stated that there were "numerous ELT reports...north of Atlanta" and that he did not believe that an incident number had been assigned. The AFRCC controller replied that an incident had been reported south of Atlanta. The TMC noted that the reports he was calling about were north of Atlanta and that "...we actually show an emergency beacon flashing north of the airport." (In using the term "emergency beacon," the TMC was attempting to communicate the observation of a 7700 emergency transponder signal, which provides more specific location information than ELT reports and indicates more definitively that an emergency has actually occurred.) At the AFRCC controller's request, the TMC provided the information in the ELT reports, and the call concluded.

The AFRCC controller did not provide an incident number to the TMC, which would have indicated that she understood that the TMC's report indicated a new incident. Rather, she associated the report with the incident south of Atlanta. Once the report for the incident south of Atlanta was closed, that also ended any activity related to the ELT reports and radar observations north of Atlanta provided by ZTL's TMC.

A SAR effort for N9247T began only after family members reported the accident airplane missing the following day. As there was evidence that the pilot survived the crash, this was a critical SAR failure. Based on the family's report of the missing airplane, the Dayton, Ohio, Flight Service Station issued an Alert Notice (ALNOT)⁶ about 1247. According to the AFRCC's mission log, the AFRCC began attempting to locate the airplane immediately upon receipt of the ALNOT. Air searchers located the airplane about 49 hours after the accident, and the ground team arrived shortly afterward. The team reported that the pilot was deceased.

During the search, the AFRCC activated Civil Air Patrol (CAP) wings in four states, coordinated information gathering activities with numerous FAA air traffic control (ATC) and Lockheed flight service facilities, and obtained radar analysis assistance from CAP and U.S. Air Force air defense personnel. The extensive effort was necessary mainly because the AFRCC controller did not understand the TMC's communication about the existence and location of the 7700 emergency signal being transmitted by N9247T.

track at 3,000 feet. The aircraft continued northeast, climbing to 3,200 feet, until 1429. The aircraft's target then stopped moving. The transponder continued to function on code 1200 until 1455.

³ Between the time of the accident and 0058 the next day, when the target disappeared, the transponder code changed from 1200, to 1100, to 7701, to 7700, to 7701, and back to 7700, indicating that the transponder controls were being manipulated by the pilot.

⁴ Controllers requested that other aircraft in the area monitor emergency frequency 121.5 to check for ELT signals. Several pilots did report that ELT signals were detected.

⁵ Per FAA Order 7110.65, "Air Traffic Control," ATC facilities are required to report ELT signals and 7700 emergency transponder codes to the AFRCC.

⁶ An ALNOT indicates that an aircraft is missing and possibly needs SAR action.

In postaccident discussions, AFRCC management said that the AFRCC controller who took the call from the TMC believed that the reports being provided were related to the existing incident reported south of Atlanta, so she did not open a new incident in response to the TMC's call.⁷

The lack of standard phraseology for communications between FAA and AFRCC personnel about particular observations, such as the observation of an emergency 7700 transponder code, clearly hindered the SAR effort in this event. For example, the AFRCC controller also did not understand that the TMC's report of "an emergency beacon flashing north of the airport" indicated that ZTL was observing a 7700 emergency code on radar. If the AFRCC controller had understood that ZTL was forwarding not only ELT reports, but also a radar observation of an emergency 7700 code north of Atlanta, she likely would have recognized that two separate events were occurring and assigned a new incident number to the emergency 7700 code instead of associating the new information with the previous ELT reports south of Atlanta.

Other types of ATC communications, such as those with pilots, use standard phraseology to reduce the possibility of misunderstanding. The NTSB concludes that the use of standard phraseology concerning observation of ELT signals and emergency beacon codes will reduce the likelihood of misunderstanding between the FAA and AFRCC when initiating a SAR effort.

Therefore, the National Transportation Safety Board makes the following recommendation to the Air Force Rescue Coordination Center:

Work with the Federal Aviation Administration to develop specific phraseology for communicating about the location, time, and nature of emergency locator transmitter signals and emergency beacon codes and revise your procedures to reflect that phraseology. (A-10-35)

The NTSB has also issued nine recommendations about SAR activities to the FAA.

In response to the recommendation in this letter, please refer to Safety Recommendation A-10-35. If you would like to submit your response electronically rather than in hard copy, you may send it to the following e-mail address: correspondence@ntsb.gov. If your response includes attachments that exceed 5 megabytes, please e-mail us asking for instructions on how to use our secure mailbox. To avoid confusion, please use only one method of submission (that is, do not submit both an electronic copy and a hard copy of the same response letter).

⁷ To have ELT reports for one incident occur over a wide area, for example, both north and south of Atlanta, is common because ELT transmissions are radio broadcasts that can be received by aircraft located many miles from the source.

Chairman HERSMAN, Vice Chairman HART, and Member SUMWALT concurred in this recommendation.

[Original Signed]

By: Deborah A.P. Hersman
Chairman