



Interagency Aviation Lessons Learned



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Subject: Management and Aeronautical Decision Making

Area of Focus: Flight Safety

Distribution: All Aviation Operations

Discussion: Earlier this year, a Department of Interior (DOI) Cessna 185F sustained substantial damage from an impact with mountainous terrain. The DOI pilot suffered severe injuries as a result of the accident.

The flight from Kotzebue, Alaska to Nome, Alaska was initiated to pick up two DOI employees and take them to Shishmaref, Alaska where they were to participate in a local meeting. The flight departed Kotzebue, Alaska at approximately 0810 with an initial route of flight planned to be over Kotzebue Sound. The Sound was mostly frozen over except for the last 5 to 6 miles, which was free of ice.



The weather forecast for the area called for marginal visual flight rules. The forecast weather for Nome was 1,900 foot ceilings with visibility of 5 statute miles. Enroute, the pilot decided to perform an overflight of an area located west of his anticipated route of flight. While maneuvering through an area of mountainous terrain, he observed deteriorating weather conditions in the direction of his destination. The pilot was flying at an altitude of approximately 600 feet above ground level (AGL) when he momentarily looked at the onboard GPS unit to check a navigation point. When he looked up, he realized that he had inadvertently entered Instrument Meteorological Conditions (IMC). In an attempt to turn around and return to Visual Meteorological Conditions (VMC), he initiated a level right turn. Immediately thereafter, the airplane impacted snow covered terrain. According to Alaska Rescue Coordination Center records, a 406 MHz emergency locator transmitter (ELT) signal was received at 0904. A rescue mission was coordinated with the Alaska Air National Guard (AANG) but adverse weather conditions in the area delayed rescue until about 1800. The rescued pilot was transported to a medical facility in Anchorage for treatment. The aircraft was recovered approximately two months later when weather conditions were more favorable.



The major lessons learned from this accident fall into two categories - human factors and management.

Human Factors

Aeronautical Decision Making (Risk Management):

Flight over open water: While not prohibited by Departmental or Forest Service policy for a single piloted aircraft with no one else onboard, operating well beyond gliding distance from land at low altitude with the water temperature averaging only 30 degrees Fahrenheit poses a significant and unnecessary risk. Sound risk management for operating over frigid water would include selecting an alternative route closer to/over land or operating at a higher altitude that would place the aircraft within gliding distance to land.

Continuing VFR flight into deteriorating weather conditions:

Inadvertent IMC prevention begins long before takeoff. It is important to pair weather forecasts with terrain when operating in mountainous areas. It is also important to recognize the initial indications of deteriorating weather and either divert or turn around before entering, as inadvertent IMC often results in spatial disorientation. If policy limits your options for recovery from inadvertent IMC (as in this accident), remember that in an emergency, the pilot can undertake any action they deem necessary to maintain safety of flight.

FAR 14CFR 91.3 Responsibility and authority of the pilot in command.

- (a) The pilot in command of an aircraft is directly responsible for, and is the final authority as to, the operation of that aircraft.
- (b) In an in-flight emergency requiring immediate action, the pilot in command may deviate from any rule of this part to the extent required to meet that emergency.

Management

Inadequate supervision:

Both DOI and USFS policy contain responsibilities and training requirements for supervisors to ensure they are engaged in aviation operational decision-making. Knowing your role and ensuring your bench strength contains personnel who know to ask (and answer) the appropriate questions are crucial components of a sound operation. Don't be afraid and to ask questions about the mission or play the "what if" game.

Inappropriate policy application (local and Department level):

Operating altitudes, "VFR on top" limitations, and other policies can affect flight operations. Policy can drive the mission but so can the type of equipment, or aircraft. If your aircraft is not IFR capable, beware of accepting weather minimums of 500 foot ceilings with 2 miles visibility simply because policy allows it. It can lead you into a very undesirable and unforeseen situation.

Training:

Training must be continuous. Whether CFIT avoidance training, inadvertent IMC recovery training or instrument flight training, it must be reoccurring and extensive enough to ensure skills are developed or maintained at a sufficient level. A simple 15-minute refresher is often unable to achieve that.

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