



National Transportation Safety Board

Washington, D.C. 20594
Safety Recommendation

Log 1960

Date: May 15, 1987

In reply refer to: A-87-61 and -62

Mr. Wayne A. Rosenkrans
President
Jeppesen Sanderson, Inc.
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Englewood, Colorado 80112-5498

About 2040 mountain standard time on March 27, 1987, a Gates Learjet model 24A (LR24A), N31SK, operated by Connie Kalita Flying Services, Inc., as Lifeguard LN31SK, collided into mountainous terrain at approximately 8,000 feet mean sea level (msl) about 4 miles northwest of the Eagle County Airport, Eagle, Colorado. The flight, operating on an instrument flight rules (IFR) flight plan, had been executing a circling approach to the airport following completion of the Localizer Type Directional Aid-Alpha (LDA-A) approach. The airplane was destroyed by impact forces and postcrash fire. The three crewmembers received fatal injuries. Visual meteorological conditions prevailed in the area at the time of the accident.

The flight had originated in Ypsilanti, Michigan, and had proceeded without reported difficulty to the Stapleton International Airport, Denver, Colorado, where it was refueled. The flightcrew had intended to fly to Aspen, Colorado, to pick up a medical patient for transport. However, while on the ground at Denver, the flightcrew received three separate weather briefings which reported adverse weather conditions for the Aspen area. The crew then filed an IFR flight plan to the Eagle County Airport. The medical patient at Aspen was transported by ground vehicle to the Eagle County Airport to meet the flight.

The flight departed Denver at 2019. At 2038, a crewmember on LN31SK reported to the Denver Air Route Traffic Control Center (ARTCC) that the flight was at the STUPE intersection at 15,000 feet and that it was established on the LDA-A approach course. At that time, the controller informed the crew that radar service was being terminated and directed the crew to cancel its IFR flight plan with the Eagle Flight Service Station (FSS) after landing. About the same time, a second crewmember reported to the Eagle FSS that the flight was 8 to 10 miles from the airport and that the weather was clear.

A witness reported that he saw the aircraft northwest of the airport flying in a westerly direction just over a ridge line north of Interstate Highway 70 (I-70) at a low altitude. He said that he continued to watch the aircraft for some time until he saw an intense fire on the mountain top.

The reported weather at the time of the accident was scattered clouds at 3,500 feet above ground level (10,000 feet msl). Witnesses reported that it was a dark, clear night with the stars clearly visible. There was no moon at the time of the accident.

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According to the airplane operator, the flightcrews use instrument approach charts published by Jeppesen Sanderson, Inc., of Englewood, Colorado, for the execution of all instrument approach procedures. Safety Board investigators reviewed the Jeppesen Sanderson LDA-A approach chart for the Eagle County Airport and noted that the circle depicting a 5-statute mile radius from the center of the airport lists only one terrain feature (obstruction) at an altitude of 6,947 feet msl. However, terrain rising to a height of 8,687 feet is situated within the 5-statute mile arc of the airport, but it is not depicted on the Jeppesen LDA-A approach chart.

The legend (approach plan view) accompanying the LDA-A approach chart defines the circle around the airport as, "A reference circle, 5 statute miles in radius, is centered on the airport to emphasize obstructions and other information close to the airport."

Under "Obstructions," the legend states that all obstructions are not charted and in areas of congestion, when a number of obstructions are in close proximity to one another, "only the highest of the obstructions is charted." The legend also states that pictorial symbols are used to locate "those obstructions which are 100' [feet] or higher above the airport elevation within the airport reference circle." The elevation of the Eagle County Airport is 6,538 feet msl.

Although the investigation of this accident is continuing, initial observations of Safety Board investigators at the accident site indicated that, with the absence of cloud conditions, the flightcrew should have had visual contact with the airport until about 1 to 3 seconds before the airplane collided into the ridge line. The airplane operator has advised the Safety Board that, as a result of this accident, flightcrews are no longer permitted to execute night instrument approaches to the Eagle County Airport and that the company has prohibited the use of night-circling approaches at all airports located in areas of known mountainous terrain.

The Safety Board is concerned that the failure to depict the highest terrain within the 5-statute mile reference circle may have misled the crew of LN31SK into believing that they would have been clear of terrain by maintaining a safe altitude above the referenced 6,947 feet msl depicted in the reference circle. Further, the Safety Board believes that the chart in its current condition could mislead other flightcrews, particularly since the guidance published for use of the chart indicates that the highest terrain within the 5-mile radius is depicted.

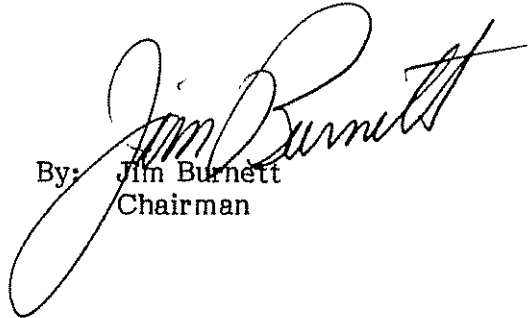
Therefore, the National Transportation Safety Board recommends that Jeppesen Sanderson, Inc:

Take immediate action to revise the Eagle County Airport, Eagle, Colorado, LDA-A instrument approach procedure to include the highest terrain obstruction (8,687 feet mean sea level) within a 5-statute mile radius of the airport. (Class I, Urgent Action) (A-87-61)

Conduct a review of all instrument approach procedures published by Jeppesen Sanderson, Inc., to ensure that the highest obstruction located within 5 statute miles of the airport is depicted within the reference circle. (Class I, Urgent Action) (A-87-62)

The National Transportation Safety Board is an independent Federal agency with the statutory responsibility ". . . to promote transportation safety by conducting independent accident investigations and by formulating safety improvement recommendations" (Public Law 93-633). The Safety Board is vitally interested in any action taken as a result of its safety recommendations. Therefore, it would appreciate a response from you regarding action taken or contemplated with respect to the recommendations in this letter. Please refer to Safety Recommendations A-87-61 and -62 in your reply.

BURNETT, Chairman, GOLDMAN, Vice Chairman, and LAUBER and NALL, Members, concurred in these recommendations.

By:  Jim Burnett
Chairman