Log 2549

National Transportation Safety Board

Washington, D.C. 20594

Safety Recommendation

Date: April 3, 1995

In reply refer to: A-95-35 through 37

Honorable David R. Hinson
Administrator
Federal Aviation Administration
Washington, D.C. 20591

On June 18, 1994, about 0625, a Transportes Aereos Ejecutivos, S.A. (TAESA) Learjet 25D, XA-BBA, crashed 0.8 nautical miles south of the threshold of runway 1R at Dulles International Airport (IAD), Chantilly, Virginia, during an instrument landing system (ILS) approach in instrument meteorological conditions. All 10 passengers and both crewmembers aboard were killed. The airplane was destroyed by impact, and there was no fire.[1]

The flight was operating under Title 14 Code of Federal Regulations (CFR), Part 129, which regulates the operation of foreign air carriers within the United States. Part 129.11 (a) requires that operations specifications be issued for the carrier by the Federal Aviation Administration (FAA) and that the flight operate in accordance with the Standards and Recommended Practices contained in Part I (International Commercial Air Transport) of Annex 6 (Operation of Aircraft) of the International Civil Aviation Organization (ICAO). TAESA's operations specifications indicate that this type of flight operates in the United States in accordance with applicable parts of Title 14 CFR Part 91.

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[1]For more detailed information, read Aircraft Accident Report--"Controlled Collision with Terrain, Transportes Aereos Ejecutivos, S. A. (TAESA), Learjet 25D, XA-BBA, Dulles International Airport, Chantilly, Virginia, June 18, 1994" (NTSB/AAR-95/02)

The National Transportation Safety Board determines that the probable causes of the accident were the poor decision-making, poor airmanship, and relative inexperience of the captain in initiating and continuing an unstabilized instrument approach that led to a descent below the authorized altitude without visual contact with the runway environment. Contributing to the cause of the accident was the lack of a ground proximity warning system (GPWS) on the airplane.

As indicated in the probable cause statement, the airplane involved in this accident was not equipped with a GPWS, and, under 14 CFR Part 91, it was not required to be equipped with this system. Nonetheless, based on the analysis of the airplane's flightpath, the Safety Board believes that if a GPWS had been installed on the airplane, an aural mode 5, Descent Below Glideslope, warning would have been issued approximately 64 seconds prior to initial impact, at an altitude of 1,200 feet mean sea level (msl), and that the warning would have continued until the end of the flight. A Mode 1, Excessive Sink Rate, warning would have been issued at 700 feet msl. A Mode 1, a Mode 5, or both warnings would have been active in the last 64 seconds. With a GPWS on board, there would have been constant warnings and cues to the flightcrew of their proximity to terrain. The warnings would have provided adequate time to allow the flightcrew to take the appropriate evasive actions to avoid impact with the terrain.

As a result of a Beechjet 400 accident on December 11, 1991 near Rome, Georgia, the Safety Board issued Safety Recommendation A-92-055 to the FAA:[2]

> Require all turbojet-powered airplanes that have six or more passenger seats to be equipped with a ground proximity warning system.

The FAA issued a response dated October 13, 1992, in part, as follows:

> The FAA does not agree with this safety recommendation. All turbine-powered airplanes with 10 or more passenger seats operated under 14 CFR Part 135 were required to be equipped with an operating ground proximity warning system (GPWS) by April 1994. This rule which was adopted in April 1992, came after extensive

[2]See Aircraft Accident/Incident Summary Report--"Controlled Flight Into Terrain, Bruno's Inc., Beechjet, N25BR, Rome, Georgia, December 11, 1991" (NTSB/AAR-92/01/SUM)

> study of the controlled flight into terrain issue and included the influence of air traffic programs, cockpit instrumentation, and flight operations procedures on the issue. In making the determination not to include all turbojet-powered airplanes with six or more seats, the FAA considered, among other factors, the operating environment most prevalent for turbojet-powered airplanes, the extent of radar service in the air traffic control system, and the employment of the minimum safe altitude warning system. The FAA will work with corporate flight departments on cockpit management and altitude awareness issues and will publicize the facts of this accident in appropriate trade journals and magazines.

On January 6, 1993, the Safety Board issued a follow-up letter, in part, as follows:

> The Safety Board is disappointed that the FAA does not agree with this recommendation and does not plan to require the GPWS. The Board continues to believe that the recent accidents underscore the need to equip turbojet-powered airplanes carrying six or more passengers and operating under the provisions of 14 CFR Part 91 or 135 with the GPWS. Therefore the Board classifies recommendation A-92-055 "Closed--Unacceptable Action."

ICAO Standards, Annex 6, Part I, recommends a GPWS for turbine-powered aircraft having a certificated takeoff weight of 15,000 kilograms (33,069) pounds or more, or 30 passenger seats. On February 17, 1995, the Air Navigation Commission issued a working paper to the ICAO Council recommending the adoption of Amendment 16 to Annex 6, Part II (General Aviation) which states, in part:

> All turbine engine aeroplanes of a maximum certificated take-off mass in excess of 5,700 kilograms (12,566 pounds) or authorized to carry more than nine passengers shall be equipped with a ground proximity warning system....

The effective date will be 1 January, 4 years after adoption.

In view of the circumstances of this accident, and the review by ICAO concerning its GPWS standards, the Safety Board continues to believe that

turbojet-powered airplanes carrying six or more passengers should be equipped with an operating GPWS.

The investigation revealed that some of the pages of TAESA's operations specifications, required under 14 CFR 129, were dated 1975. About 5 years ago, the FAA implemented an automated Operations Specifications Subsystem to provide standards and control of paragraphs, symbology, and procedures for amending standard paragraphs, but it did not include standardized material for Part 129 operators.

The operations specifications did not address which visibility value, prevailing visibility or runway visual range (RVR) took precedence in establishing a minimum for landing. Part C, page 2, of the operations specifications (the effective date of the page was June 1, 1977) contained the table that specified TAESA's instrument flight rules (IFR) landing minima for straight-in approaches. In this case, with the approach light configuration at IAD, the minimum DH [decision height] was 200 feet HAT [height above touchdown (or threshold)]; no value for the prevailing visibility was prescribed. The RVR value of 1,800 feet was authorized. The prevailing visibility of 1/2 mile or 2,400 feet RVR was also approved for lesser approach light configurations.

Although the FAA has established that RVR values, when reported, take precedence over prevailing visibility, this information was not contained in the TAESA operations specifications or in its operating manual. However, the captain in this accident should have complied with the minimums on his approach chart, and with the applicable provisions of Parts 91 and 97. In this case, based on the very specific runway 1R visibility reports, and on his own previous observations, the captain should have held for improvements in the weather, requested the runway 19L ILS approach, or diverted to his alternate. The RVR values were well below his authorized minimums and definitely beyond his experience level and qualifications.

The absence of the definitive statement that RVR, when available, is controlling, represents an oversight by the FAA in the approval of the operations specifications. Based on the comments of the principal operations inspector, who was interviewed during the investigation of this accident, it appears that other Part 129 operators may also be operating with inappropriate or outdated operations specifications. Therefore, the Safety Board believes that the FAA should confirm that foreign operators in the United States are operating with current operations

specifications, including the provision that RVR is controlling in establishing minimums.

The airplane involved in this accident was not equipped with a flight data recorder (FDR). 14 CFR Part 91.609 (c) requires an FDR on all U. S.-registered, multiengine, turbine-powered aircraft, having 10 passenger seats or more, that were manufactured after October 11, 1991. Because it had only eight passenger seats, XA-BBA would not have required an FDR by U. S. regulations.

The International Standards and Recommended Practices issued by ICAO, Annex 6, Part I, Chapter 6.3.5.1, requires a 5-parameter FDR for all turbine-powered aircraft with a maximum certificated takeoff weight of 5,700 kilograms (12,566 pounds) or more, with airworthiness certificates issued before January 1, 1987. TAESA was technically required to comply with ICAO Annex 6 standards, which, in this case, are more stringent than the U. S. rules. However, no FDR was installed.

In addition, the International Standards and Recommended Practices issued by ICAO, Annex 6, Part I, Chapter 6.2.2 (c), prescribes that an airplane shall be equipped with:

1) a seat or berth for each person over an age to be determined by the State of the Operator.

2) a seat belt for each seat and restraining belts for each berth...

TAESA was required to meet this standard while operating in the United States. However, the flight did not meet this requirement because there were 10 passengers and only 8 seats.

The fact that this flight did not meet the specifications of ICAO Annex 6 reflects poorly on the oversight of this operator by TAESA management. In view of the FAA's role in overseeing Part 129 operators, the Safety Board believes that the FAA should formally bring the circumstances of this accident and the deviations from approved procedures and regulations to the attention of the Mexican authorities.

Therefore, as a result of its investigation of this accident, the National Transportation Safety Board recommends that the Federal Aviation Administration:

Require within 2 years that all turbojet-powered airplanes equipped with six or more passenger seats have an operating ground proximity warning system installed. (Class II, Priority Action) (A-95-35)

Require that all Operations Specifications of Part 129 operators be reviewed to ensure that they are current, and contain specific language that establishes RVR, when reported, as controlling for purposes of establishing visibility minimum. (Class II, Priority Action) (A-95-36)

Formally notify the Mexican Director General Civil Aviation of the circumstances of the accident, with particular emphasis on the lack of adherence to pertinent regulations and requirements of the United States, Mexico and ICAO. (Class II, Priority Action) (A-95-37)

Chairman HALL, Vice Chairman FRANCIS, and Member HAMMERSCHMIDT concurred in these recommendations.

By: Jim Hall
Chairman