Log 2404

National Transportation Safety Board

Washington, D.C. 20594

Safety Recommendation

Date: February 19, 1993

In reply refer to: A-93-8 through -14

Mr. Joseph M. Del Balzo
Acting Administrator
Federal Aviation Administration
Washington, D.C. 20591

On April 22, 1992, about 1553 Hawaiian Standard Time, Scenic Air Tours (SAT) flight 22, a Beech Model E18S (BE-18), N342E, collided with mountainous terrain on the Island of Maui, Hawaii, while on an air tour flight from Hilo, Hawaii, to Honolulu, Hawaii. The flight was conducted as an on-demand air taxi operation under the provisions of Title 14 Code of Federal Regulations (CFR) Part 135 and under visual flight rules (VFR). As a result of the accident, the pilot and eight passengers on board sustained fatal injuries. The airplane was destroyed by impact forces and a postcrash fire.[1]

The National Transportation Safety Board determines that the probable cause of this accident was the captain's decision to continue visual flight into instrument meteorological conditions (IMC) that obscured rising mountainous terrain and his failure to properly use available navigational information to remain clear of the Island of Maui.

Contributing to the accident was the failure of Scenic Air Tours to conduct substantive pilot preemployment background screening, and the failure of the

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[1]For more detailed information, read Aircraft Accident Report--"Tomy International, Inc., d/b/a Scenic Air Tours, Flight 22, Beech Model E18S, N342E, In-flight Collision With Terrain, Mount Haleakala, Maui, Hawaii, April 22, 1992" (NTSB/AAR-93/01)

Federal Aviation Administration (FAA) to require commercial operators to conduct substantive pilot preemployment screening.

The Safety Board believes that the judgment of the captain to continue VFR flight into IMC rather than to practice appropriate weather avoidance techniques resulted in a collision with obscured mountainous terrain. This decision demonstrates a lack of appropriate aeronautical judgment skills and is a reflection of insufficient professional training and experience.

The circumstances of this accident and the Safety Board's previous accident investigation experience have demonstrated the consequences of poor judgment and poor decision making by pilots. The FAA and other aviation industry organizations have supported projects that have resulted in the development of Aeronautical Decision Making (ADM) training materials aimed at improving a pilot's ability to recognize and control hazardous thought processes and situations.

In December 1991, the FAA issued Advisory Circular (AC) 60-22 on the subject to provide a systematic approach to risk assessment and stress management in aviation and to illustrate how personal attitudes can influence decision making and how those attitudes can be modified to enhance safety in the cockpit. In addition to the promotion efforts by accident prevention program managers, the FAA added ADM publications to the reference list of publications in each edition of the Practical Test Standards.

The facts and circumstances of this accident raise the question of whether the issuance of AC 60-22 is adequate. The Safety Board believes that the FAA should aggressively encourage all commercial operators to adopt comprehensive ADM training programs through the issuance of guidance to Principal Operations Inspectors (POIs). The guidance should require that the POIs encourage the development of ADM programs for commercial operators.

The Safety Board's investigation disclosed that the captain had significantly misrepresented his professional credentials concerning his flight experience, training, and employment on resumes and employment applications. As a result, several employers dismissed or rejected the captain when his aeronautical skills failed to meet qualifications and/or performance standards for various pilot positions.

SAT used an employment application and a resume, which contained false information, to evaluate the captain's professional background and experience and

did not attempt to verify the information provided. At the time the captain was employed, he did not meet SAT's criteria of 2,500 total hours and 1,000 multiengine hours of flight experience for a pilot position. Furthermore, the captain had not met these requirements at the time of the accident. SAT's failure to verify the previous employment experience contributed to the accident because it led to the employment of a pilot who was not qualified, under SAT's own employment criteria, for the position.

The Safety Board has previously addressed preemployment screening of pilots following the investigation of the crash of Continental Airlines flight 1713 (under 14 CFR Part 121) at Denver, Colorado, on November 11, 1987,[2] and following the crash of Aloha IslandAir flight 1712 (under 14 CFR Part 135) at Molokai, Hawaii, on October 28, 1989.[3] As a result of the Denver investigation, the Safety Board issued the following recommendation to the FAA:

> Require commercial operators to conduct substantive background checks of pilot applicants, which include verification of personal flight records and examination of training, performance, and disciplinary and other records of previous employers, the Federal Aviation Administration safety and enforcement records. (Class II, Priority Action) (A-88-141)

The FAA agreed with the intent of the recommendation but did not believe that the benefits derived from such a regulatory change would outweigh the costs of promulgating and enforcing it, and placed the scope and standards for such screening entirely upon the voluntary efforts of operators. The Safety Board classified the recommendation as "Closed--Unacceptable Action/Superseded" and issued the following recommendation with additional language following the commuter accident in Hawaii:

> Require commercial operators to conduct substantive background checks of pilot applicants, which include verification of personal flight records and examination of training, performance, and disciplinary and other records of previous employers, the Federal Aviation Administration safety and enforcement records, and the National Driver Register. (Class II, Priority Action) (A-90-141)

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[2]NTSB Aircraft Accident Report, NTSB/AAR-88/09.
[3]NTSB Aircraft Accident Report, NTSB/AAR-90-05.

The FAA responded in February 1991, and stated that it did not yet believe that a requirement for pilot screening was necessary. It pointed out that the Secretary of Transportation, in a 1988 letter to the chief executive officers of all air carriers, had encouraged the use of FAA data bases to verify the validity of an applicant's certificate and safety history. The FAA said that it had issued FAA Action Notice 8430.26, which instructed principal operations inspectors to provide a copy of the notice to all carriers to remind them of their responsibilities in this area and to increase surveillance of pilot certification records during routine inspections. It issued an Air Carrier Operations Bulletin (ACOB) to reiterate the content of the Secretary's letter and the action notice and to include information on the availability and use of the National Driver Register. The Safety board classified the response as "Closed--Unacceptable Action."

Following the investigation of the 1989 commuter accident in Hawaii,[4] the Safety Board also issued a recommendation to the airline involved, Aloha IslandAir, urging it to implement a substantive preemployment screening policy. The airline subsequently did so and, during the course of this accident investigation, the Safety Board learned that the captain of SAT 22 had applied for a pilot position with Aloha IslandAir. His application was rejected, based upon preemployment screening by Aloha IslandAir, when it was discovered that the captain had misrepresented his employment history.

The Safety Board believes that this example underscores the importance of substantive preemployment screening practices and further demonstrates the need for the FAA to require commercial operators to implement such programs. The Safety Board has urged the FAA to do so following three recent accident investigations involving a major airline, a scheduled commuter airline, and this accident involving a nonscheduled, on-demand operator.

During the on-scene investigation, an attempt was made to quantify the size and scope of the air tour industry in Hawaii, as well as to develop an operational overview. Although definitive data were not available, the Safety Board investigators were able to collect information that suggests that the air tour industry serves approximately 1,000,000 passengers within Hawaii annually. Sightseeing operations are conducted under both 14 CFR Parts 135 and 91 using fixed and rotary wing aircraft. The regulatory differences for the various operations generally

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[4] ibid.

pertain to required levels of pilot experience, minimum training requirements and standards for aircraft maintenance.

The Safety Board's inquiry established that the policies and practices of the air tour operators varied considerably and that the industry appears to lack structure. Although a professional association of helicopter operators exists in Hawaii, participation is voluntary. The Hawaii State Department of Aviation does not regulate or provide oversight of air tour operators. The FAA's oversight is conducted through its standard certification and inspection processes with no particular emphasis placed on air tour operators, regardless of the size, scope or nature of their operations. The extent of FAA surveillance of the operators also varies depending on the type of operation and the regulatory rules pertaining thereto.

The absence of specialized oversight of these air tour operators by the FAA is of concern to the Safety Board. Air tour route and altitude separation is neither monitored, nor required to be monitored, under current FAA regulations. Air traffic counts near the major tourist sights have not been undertaken. Although helicopter operators in Hawaii do broadcast some of their movements on a common frequency, fixed wing pilots do not participate in this program.

The FAA does not possess nationwide statistical data revealing the specific flying activity of the air tour industry. Operators are not required to report flying hours, flight segments or passengers carried. Therefore, the Safety Board cannot compare the accident rates of the air tour operators with the rates of commuter and on-demand air taxi operators. However, the accident history in the State of Hawaii and the Grand Canyon, and other recent occurrences, indicate that the air tour industry has a need for greater FAA attention than it now receives. This industry currently transports approximately 2,000,000 passengers annually according to estimates by air tour industry spokespersons.

Currently, many of these operations, such as scenic tours conducted within 25 nmi of the departure point, are conducted under the provisions of 14 CFR Part 91, which is less stringent than the rules governing commuter and on-demand air taxi operations. Although the differences in these operating rules were not a factor in the subject accident since SAT was required to meet the provisions of Part 135, the Safety Board recognizes a need to address the adequacy of the regulations pertaining to, and the FAA oversight of, the nationwide air tour industry. Following a midair collision over the Grand Canyon in 1986, the Safety Board issued the following safety recommendation:

Require all revenue air tour flights, regardless of the distance flow, to be subject to the regulatory provisions of 14 CFR Part 135, and not 14 CFR Part 91. (A-87-93)

The FAA replied to this safety recommendation in October 1987 and advised the Safety Board that it was in the process of reviewing the feasibility of amending the appropriate Federal Aviation Regulations (FARs). Special Federal Aviation Regulation (SFAR) 50-2, Special Flight Rules in the Vicinity of the Grand Canyon National Park, Arizona, went into effect May 27, 1988. The Safety Board views the special provisions of SFAR 50-2 as a positive and effective improvement in the Grand Canyon area.[5] However, those provisions affect only the local area, are temporary, and must be renewed on a regular basis. The Safety Board remains concerned about the majority of the air tour operations that are not covered by SFAR 50-2.

The Board believes that the FAA should review the nature and structure of the air tour industry and assess the risks posed by air tour operators based on geographical, environmental, operational, air traffic and passenger enplanement considerations. For example, many operators conduct relatively short flights and thus accrue an abnormal ratio of flight cycles to flight hours that should require special consideration in their aircraft maintenance programs. Weather conditions unique to the geographical area of operation should be considered when evaluating pilot and aircraft instrument flight capabilities. Further consideration should be given to the structured flow of traffic, flight following requirements and radar coverage in areas where high density air tour operations can result in potential collision situations. Air tour operators should have operations specifications and operations manuals that address these concerns. Clearly, operators that carry high volumes of passengers on multiple daily flights or that have ground and flight operations that exhibit characteristics typically associated with Part 135 commuter operations, including daily flight frequency, advertised schedules, standard tour routes, formalized reservation or ticketing procedures, terminal buildings and passenger waiting areas, should be subject to a greater degree of regulation and oversight than that provided to more typical on-demand air taxi operations. However, the Safety Board also believes that the smaller air tour operators that fly only a few short routes and carry few passengers in noncomplex aircraft also require greater FAA guidance, standards, and surveillance than currently exists.

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[5] A special FAA Grand Canyon Certificate Management Unit (CMU) began operation in May 1992.

Staff discussions between Safety Board investigators and FAA Flight Standards and Air Traffic personnel have focused on the appropriateness of the existing federal regulations that govern these types of operators and the need to establish an increased level of safety through the application of specific standards that address the unique aspects of air tour operations. The Safety Board recognizes that the existing FAR 135 requirements and the FAA Air Transportation Inspector's Handbook 8400.10, in particular Handbook Bulletin 92-01 issued January 17, 1992, provide standards and guidance for the operator and the Principal Operations Inspector. However, these regulations do not completely address many of the unique characteristics and safety needs of air tour operations. The Safety Board believes the FAA can enhance the level of safety of these operations either by expanding the existing regulatory framework (Part 135), or by creating a new part for commercial air tour flights.

The Safety Board believes that the FAA should identify airspace that is subject to commercial air tour activity and that may require special air traffic procedures for environmental protection or to reduce the potential for midair collision. The Grand Canyon SFAR area is an example of a VFR airspace that requires specific authorization in the operator's Part 135 operations specifications through the approval of the local Flight Standards District Office (FSDO). The Safety Board believes that the State of Hawaii qualifies for this action due to the unusual geography, unique weather conditions, abundance of air tour attractions, presence of numerous airports, and the intermix of helicopter and fixed wing air traffic.

The Safety Board believes that the FAA must be prepared for this added regulatory role. It should ensure that the regulatory basis and surveillance resources are in place to regulate and oversee the operations, equipment, airmen, and airspace associated with the implementation of a "commercial air tour operator" program. This should be accomplished by evaluating its management, staffing and enforcement effectiveness in those offices responsible for the oversight of commercial air tour operations.

The Honolulu FSDO surveillance of SAT was insufficient to discover numerous deficiencies found by the FAA Regional Aviation Safety Inspection Program and the Safety Board's investigation. The surveillance activities appeared to be hampered by understaffing, a continuing problem at the Honolulu FSDO.

Following its investigation of Aloha IslandAir flight 1712,[6] the Safety Board recommended that the FAA:

> Perform a special study of the adequacy of Flight Standards District Office staffing considering the availability of work hours, the geographic area of responsibility, and the size and complexity of the assigned operations. (Class II, Priority Action) (A-90-136)

This safety recommendation remains classified as "Open--Acceptable Response" as a result of a response from the FAA Acting Administrator dated February 11, 1992, which states in part:

> The contractor is currently tabulating the results of approximately 100 interviews with field aviation safety inspectors. When this effort is completed, the contractor will present the FAA with revised staffing standards.

Several inquiries were made by Safety Board staff regarding the results of the staffing study; however, the results were not available as of the end of 1992. The Safety Board continues to support the need for more stringent FSDO surveillance and reiterates a recommendation to the FAA to act promptly on this issue.

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

> Revise the Federal Aviation Regulations as needed to create a specific classification for, and operating rules governing, commercial air tour operators based on the complexity of flight operations, aircraft flown, flight frequency, number of passengers carried, air traffic densities in the areas of operation, and other relevant factors. (Class II, Priority Action) (A-93-8)

> Establish comprehensive Operations Specifications and Operations Manual requirements for the certification of commercial air tour operators under a new or revised regulatory category. (Class II, Priority Action) (A-93-9)

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[6]NTSB Aircraft Accident Report, NTSB/AAR-90/005.

Identify airspace which warrants special protection due to the presence of commercial air tour operations. Create special operating rules for such airspace to reduce the potential for midair collisions and other accidents commensurate with meteorological and terrain considerations. (Class II, Priority Action) (A-93-10)

Ensure that the regulatory basis and surveillance resources are in place to oversee the operations, equipment, airmen, and airspace associated with any selective attention directed toward commercial air tour operations. (Class II, Priority Action) (A-93-11)

Devise a method for collecting data from air tour operators regarding flight hours, flight segments, and passengers carried that can be included in civil aviation exposure information for aviation industry comparisons. (Class II, Priority Action) (A-93-12)

Issue an Air Carrier Operations Bulletin instructing all Principal Operations Inspectors to aggressively encourage all commercial operators to incorporate comprehensive Aeronautical Decision Making (ADM) training in their pilot training programs. (Class II, Priority Action) (A-93-13)

Require commercial operators to conduct substantive background checks of pilot applicants, which include verification of personal flight records and examination of training, performance, and disciplinary and other records of previous employers, the Federal Aviation Administration safety and enforcement records, and the National Driver Register. (Class II, Priority Action) (A-93-14)

In addition, the National Transportation Safety Board reiterates the following safety recommendation to the Federal Aviation Administration:

Perform a special study of the adequacy of Flight Standards District Office staffing considering the availability of work hours, the geographic area of responsibility, and the size and complexity of the assigned operations. (Class II, Priority Action) (A-90-136)

Also, the Safety Board issued Safety Recommendation A-93-15 to Tomy International, Incorporated, d/b/a Scenic Air Tours, Hawaii.

Chairman VOGT, Vice Chairman COUGHLIN, and Members LAUBER, HAMMERSCHMIDT and HART concurred in these recommendations. Member Lauber did not concur in the probable cause, as adopted.

By: Carl W. Vogt
Chairman