



FLIGHT SAFETY FOUNDATION

# Accident Prevention

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*For Everyone Concerned with the Safety of Flight*

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## **Lack of Management Oversight Cited in Controlled-flight-into-terrain Accident of FAA Aircraft**

*Management had received frequent complaints about the pilot-in-command's performance before the accident but no action was taken by supervisors. Accident investigators found that eight out of 11 second-in-command pilots avoided flying with the accident pilot.*

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*Russell Lawton  
Aviation Consultant*

The crash of a Beechcraft Super King Air 300/F (BE-300/F) has resulted in recommendations by the U.S. National Transportation Safety Board (NTSB) that the U.S. Federal Aviation Administration (FAA) improve management oversight of its flight operations and remove from duty pilots who do not perform to standards. Three crew members, all FAA personnel, were killed in the October 26, 1993, accident.

The airplane, operated by the FAA Flight Inspection Area Office (FIAO) in Atlantic City, New Jersey, U.S., had just inspected the localizer approach facility at Winchester, Virginia, U.S. In their haste to reach the next destination before their workday expired, the crew departed the Winchester Regional Airport under visual flight rules (VFR), and attempted to obtain an instrument flight rules (IFR) clearance from air traffic control (ATC) once airborne, the NTSB report said.

After contacting ATC, the crew was told to maintain VFR and stand by because of a heavy controller workload. Eleven minutes later, the crew was told to change to a different frequency to obtain an IFR clearance. Before

the crew could acknowledge the frequency change, the airplane had crashed into a ridge line, about 15 miles south of the Winchester Regional Airport. Instrument meteorological conditions (IMC) prevailed at the time of the accident, the report said.

"The probable causes of this accident were the failure of the pilot-in-command to ensure that the airplane remained in visual meteorological conditions over mountainous terrain, and the failure of the Federal Aviation Administration executives and managers responsible for the FAA flying program to: (1) establish effective and accountable leadership and oversight of flying operations; (2) establish minimum mission and operational performance standards; (3) recognize and address performance-related problems among the organization's pilots; and (4) remove from flight operations duty pilots who were not performing to standards," the NTSB said.

The King Air (registered in the United States as N82) was scheduled to depart Atlantic City International Airport (ACY) on a Monday morning so the crew could inspect the localizer approach facility at the Winchester

Regional Airport. When they reported for duty at the Atlantic City FIAO, the airplane was not operational because of maintenance. The flight was rescheduled for the following day. On Tuesday morning, maintenance again delayed the flight.

The pilot-in-command (PIC) of the flight met with the FIAO manager in the late morning, and expressed a desire to complete the inspection that day. The manager approved one hour of overtime so the crew could complete the inspection and proceed to their next destination, which required an overnight stop. N82 departed ACY at 1332 local time on an IFR flight plan to Winchester.

The crew consisted of a PIC, second-in-command (SIC) and an electronic technician (ET). The normal operation for the ACY FIAO King Air was for the PIC to occupy the right cockpit seat and handle all radio communications, while the SIC occupied the left cockpit seat and flew the airplane. The ET sat in the passenger cabin and operated the flight check electronic equipment.

A U.S. National Weather Service inflight advisory Tuesday afternoon warned of occasional ceilings below 1,000 feet (305 meters) and visibilities below three miles (4.8 kilometers) in fog and precipitation along N82's entire route of flight, according to the NTSB report. The flight proceeded normally to the Winchester area. The PIC contacted Washington Dulles International Airport (IAD) approach control, which has responsibility for the approaches into Winchester.

"About 1430, the PIC of N82 canceled their IFR clearance and advised the controller, 'We're going to maintain 2,000 [feet] [610 meters] and [would] appreciate [it if you would] provide us VFR advisories at 2,000 feet going back and forth across the localizer.' The controller responded that he would comply with the request," the report said.

The report added: "About 1450, the PIC asked the controller, 'What's the lowest altitude IFR you can give us?' The controller responded with, 'The lowest there is 3,000 [feet] [915 meters] and ... that's only from where you are for a little while, most of where you, south of you, is 4,000 [feet] [1,220 meters], is my minimum vectoring altitude.' The PIC then requested, and the controller issued, an IFR clearance to 4,000 feet to complete the inspection of the ILS localizer."

While flying the approach, the PIC canceled their IFR clearance and told the controller that they would be landing at Winchester. The PIC then told the controller that they would be departing soon, and asked for an IFR clearance to their next destination. "The controller

acknowledged the request and advised, 'Affirmative, we'll put something in for you,'" the report said.

A ground technician at the Winchester Airport assisted N82 with the inspection. The technician observed the King Air land and taxi back to the runway threshold. The ground technician invited the flight crew for coffee in the airport terminal, but the PIC declined, stating that they were behind schedule and needed to continue to their next destination. The PIC told the technician to have a safe drive home, because the weather was deteriorating. Witnesses at the airport observed N82 depart the area and remain clear of the clouds, the report said.

Winchester Airport does not have a control tower, but does have a remote communications outlet (RCO) at the airport to provide direct contact with IAD approach control. The King Air crew did not immediately attempt to contact IAD approach control through the RCO frequency.

The report said: "The first record of an attempt by the flight crew of N82 to obtain an IFR clearance after departure was at 1541. The PIC contacted IAD approach control and advised, 'Just off of Winchester, see if you got ... anything you can give us heading on down towards Harcum.' The west arrival controller advised N82 to 'maintain VFR for right now, it's going to be about five minutes before I can get to you, I'm extremely busy at the moment.'"

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Transcripts indicated that there were subsequent attempts by the PIC to communicate with ATC, but these transmissions were unintelligible. "At 1549, the PIC reported, 'We're over Linden VOR [very high frequency omnidirectional radio range] at 2,000 [feet] [610 meters], can you get us a little higher, VFR on top and we'll be on our way,'" said the report. The Linden VOR is located on top of a mountain at 2,472 feet (754 meters) mean sea level (MSL), approximately 17 miles south-southwest of Winchester Airport.

The controller told N82 to stand by, because traffic was descending over the VOR. Apparently, N82 responded, but the response was unintelligible. "The controller then stated, 'Okay, thanks, stand by one, and I'll have an IFR clearance for you in just a moment,'" the report said. At 1552, the controller told N82 to maintain VFR and to contact IAD approach control on another frequency. No further transmissions were received from N82.

Several witnesses on the ground observed the King Air orbiting in and out of the clouds. "One witness reported that the tops of the hills in the area were covered with fog. A witness driving a truck very close to the accident site reported

that he heard a 'smooth' noise getting louder and coming closer, a 'swoosh' for three or four seconds, a loud 'whack,' and that he then saw explosions and parts flying," the NTSB report said.

"The airplane struck trees about 1552 [hours] in daylight conditions along a ridge line about 1,770 feet [540 meters] MSL and came to rest in a wooded area. ... Much of the airplane was destroyed by impact, and it was largely consumed in a postcrash fire. The value of the airplane was estimated at around four million [U.S.] dollars.

"The wreckage was scattered on a north-northeasterly path in descending terrain for a distance of about 1,300 feet [396 meters]. ... Both wings had separated from the fuselage, and both engines had separated from their respective wing attachments. The majority of the aircraft systems, the entire front part of the fuselage, the cockpit area and the main wing structures were consumed by fire. All of the airplane's flight control surfaces were found at the site. Small pieces of the aircraft located between the impact point in the trees and the main wreckage area did not have any evidence of fire or soot.

"The only readable cockpit instrument was the right side barometric altimeter, which indicated 1,900 feet [580 meters]. The engine control stand was sufficiently deformed and melted to preclude any control position determination. The landing gear system components were found in positions consistent with a flap extension setting of 15 degrees. The engines exhibited counter-clockwise torsional deformation and buckling consistent with power delivery at the time of impact or sudden stoppage. The propellers exhibited deformation consistent with [high-power] delivery at the time of sudden stoppage. The initial impact area contained many tree slashes, also consistent with propeller high power rotation," the report said.

The cause of death of all three crew members was multiple severe injuries. Their remains were severely burned in the postcrash fire. A toxicological analysis was conducted on specimens from each crew member. A blood specimen from the SIC contained 0.04 percent alcohol; however, this was believed to have resulted from exposure of the body to heat. No evidence of alcohol or drugs was found in the other crew members, the report said.

Investigators reviewed the airplane's maintenance records for any discrepancies. No irregularities were found. All engine, propeller and airframe inspection cycles and applicable airworthiness directives were current. Aircraft performance data were also calculated for the accident flight. The

weight and balance data for the airplane were reviewed and found to be within normal limits.

When reviewing the airplane's equipment list, investigators found that "the airplane was neither equipped with a cockpit voice recorder (CVR) or flight data recorder (FDR), nor was it required to be under FAA rules. Other airplane types in the FAA flight inspection fleet are equipped with flight recorders. During the early procurement stages of the King Air 300/F, recorders were included in the specifications. However, during subsequent revisions intended to reduce weight and costs, the requirement for flight recorders was eliminated by the FAA," the report said. In addition, N82 was not equipped with a ground-proximity warning system (GPWS).

The background and training of the pilots were reviewed. The PIC, age 55, held a U.S. airline transport pilot certificate for single- and multi-engine land, and was type-rated in the Jet Commander, BE-300, BE-300/F and the BE-1900. He also held an airspace system inspection pilot certificate. He held a flight instructor certificate for airplane single- and multi-engine land that had expired approximately two years before the accident. His total flying experience was about 6,700 hours, of which approximately 2,000 hours were in the BE-300.

The PIC was a retired U.S. Air Force noncommissioned officer. He had obtained commercial pilot and flight instructor certificates independent of his military duties. The report said: "He was hired by the FAA in 1983 as an air traffic assistant. In 1985, he attained his initial airman instrument-airplane rating. His first flight exam for the airline transport pilot (ATP) certificate was unsatisfactory, and he earned the ATP certificate in 1986. In October 1987, he was selected for a position as an airspace system inspection pilot in the ACY FIAO. This position in ACY was in the procedures section where, in addition to developing instrument procedures, he also served as a SIC for flight inspection."

The NTSB report added: "The PIC remained in the flight procedures section for about two and a half years. His supervisor stated that prior to upgrading to PIC, he had developed a maximum of 12 instrument procedures at the time of his upgrade. He added that the PIC was slow in developing the procedures and appeared uninterested in instrument procedures development work. The supervisor further stated that there were significant objections to his selection for the PIC position. Several of the SICs expressed a desire not to fly with him at that time."

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When investigators reviewed FAA airmen records, they found that the PIC had failed his first two attempts to obtain the BE-300 type-rating. The first attempt resulted in an unsatisfactory oral test, and the pilot reportedly received additional training. The second attempt resulted in unsatisfactory instrument procedures, and the pilot was allowed to attend the upgrade course again. The third attempt was satisfactory, and he was upgraded to PIC in the BE-300 in 1990, the report said.

The report continued: "During interviews at the Atlantic City FIAO, Safety Board investigators were told by flight crew members that the PIC involved in the accident had demonstrated poor judgment on previous flights. It was alleged that he had:

- "Continued on a VFR positioning flight into IMC;
- "Conducted VFR flight below clouds at less than 1,000 feet above the ground in marginal weather conditions;
- "Replied to an ATC query that the flight was in VMC when it was in IMC;
- "Conducted departures without the flight crew's knowledge of essential flight planning information, such as IFR/VFR/en route filing/weather briefing/ultimate destination or routing;
- "Departed on positioning flights without informing other crew members whether he had obtained weather information or filed an appropriate flight plan;
- "Disregarded checklist discipline on numerous occasions;
- "Refused to accept responsibility that his failure to adhere to a checklist had caused an engine damage incident in January 1993; and,
- "Performed a 'below glide path check' in IMC when VMC conditions were required by FIAO requirements, and refused to answer a SIC query regarding the reason for his alleged violation of VFR requirements in an incident two weeks before the accident."

The report added: "Following this [below glide path] incident, the SIC formally complained to the flight operations/scheduling [section] supervisor (FO/SS) for management resolution of this matter; however, no action was taken, and no one above the FO/SS was informed of the incident. Those interviewed indicated that other complaints were handled in a similar manner. Following some of these complaints, the FO/SS, in the most recent performance appraisal period, rated the PIC 'proficient' on his interpersonal skills and complimented him on his productivity and ability to 'get along with his fellow workers.'"

The NTSB investigation also reviewed the PIC's FAA medical records and found that he had two convictions for driving under the influence (DUI) of alcohol. His first conviction occurred in 1987. The PIC's second conviction, in 1991, resulted in the suspension of his New Jersey driver's license while he held the PIC position at the ACY FIAO.

"Although he reported this [his second] conviction correctly on his medical certificate application ... he did not report the conviction within 60 days to the FAA's Civil Aviation Security Division, as required under 14 CFR [Code of Federal Regulations] 61.15(c)," the report said. "The FAA could have denied his airman certification, and personnel action could have been taken against him as an FAA employee. The Safety Board was unable to determine why FAA action was not taken."

After the PIC's second conviction, the FAA Civil Aeronautical Medical Institute (CAMI) requested that he undergo an assessment from a substance abuse specialist. "The PIC complied with CAMI's request by submitting an evaluation letter from the specialist, who was a licensed physician (osteopathy) and a former aviation medical examiner. Based solely on his interview with the PIC, the specialist stated that he did not consider the PIC to be dependent on alcohol or drugs. The letter was sufficient for CAMI to reaffirm the PIC's eligibility for first class medical certification ..." the report said.

As a result of CAMI policy, neither the PIC's supervisor nor other FAA management personnel were aware of the PIC's DUI convictions or substance abuse evaluation. At the time of the accident, the PIC's driver's license had been under suspension for more than seven months for failing to comply with New Jersey's alcohol and drug countermeasures program, according to the report.

The background of the SIC, age 50, was also reviewed. He held an ATP certificate for airplane multi-engine land, with type ratings in the BE-300, BE-300F, BE-1900, and the Hawker Siddeley HS-125. He held commercial pilot privileges for airplane single-engine land and rotorcraft helicopter, instrument helicopter and glider aerotow. The SIC also held a current flight instructor certificate for airplane single- and multi-engine land, instrument airplane. His total flying experience was about 13,800 hours, of which approximately 1,000 hours were in the BE-300.

The SIC obtained his ATP certificate in 1973. The report said: "Thereafter, he worked as a corporate pilot and also flew for the National Guard. He was employed by the FAA in 1989 as an airspace system inspection pilot ... in the ACY FIAO. The primary duties of his position were to develop instrument procedures. He also served as a SIC for flight inspection. Within 30 months of employment, he had progressed to full performance level in the procedures

section. ... He also served as the ACY additional duty flight safety officer for more than one year during 1992 and 1993. The SIC's FAA medical records revealed that he had reported a DUI conviction [in] 1992."

The organization, staffing, job descriptions and management of the ACY FIAO were also reviewed. Each flight inspection crew member reported to a different supervisor. The PICs reported to the flight operations scheduling section (FO/SS) supervisor, who in turn reported to the FIAO manager. The SICs reported to the flight procedures inspection section (FPIS) supervisor, who reported to the FIAO manager. The ETs reported to an ET supervisor, who reported to the FO/SS supervisor.

The ACY FIAO was staffed with six PIC positions. Although the primary duty of a PIC was to fly the flight facilities inspection missions, a PIC also had management responsibilities. "In addition to flying, item number three of the PIC's position description required that he recommend selection of pilots for upgrading, and evaluate performance and recommend disciplinary action of SICs," the report said. "The PIC was required to write an end-of-the-week evaluation of SIC's performance."

The NTSB report said that at the time of the accident, "the ACY FIAO was authorized [to have] 20 procedures/SIC positions. Eleven of those positions were funded. The majority of the SIC duty days were spent in the design and review of published instrument procedures. Flying duties appeared as the last item on the job description and involved about 15 percent of the SIC's duty time.

"Investigators were told by unit pilots that the FIAO organizational structure provided an atmosphere that resulted in a breakdown of the professional flight crew concept. A SIC supervisor stated that when the current organization was put in place, it immediately became, 'us and them, PIC versus SIC,' due to different supervisor inputs. Investigators learned that the SIC, by virtue of the job description and responsibilities, was a secondary participant in the FIAO flight mission. The PIC role functioned at the unit level, to extend well past the flight operation and into administrative supervision, including appraisals, promotions, upgrade potential and reassignments," the report said.

Investigators interviewed the manager of the ACY FIAO about the problems uncovered with the PIC of the accident flight, and other personnel problems within the office. The manager had been assigned to the office seven months before the accident. The report said: "During this time, he stated that he had not yet reviewed the pilot personnel records and that he was not aware of any SIC

or ET complaints about this PIC. He was vaguely aware of [a] previous reprimand given to the PIC before the manager's assignment. He had not been informed of the ... incident of flying below the glide path in IMC until after the accident, when he was interviewed by Safety Board investigators. He stated that he conducted weekly meetings with all FIAO supervisors. He further stated that he 'did not wish to micro-manage.'"

The report added: "Investigators found that at the ACY FIAO, the FO/SS resolved complaints and grievances as part of his responsibilities for effective operations, standardization and regulatory compliance. Investigators learned of numerous deficiencies that were brought to the attention of the FO/SS; however, these issues and complaints were reportedly not resolved or brought to the attention of the FIAO manager. Some pilots believed that conflicts between flight crew members resulted in preferential scheduling by the FO/SS.

"Investigators found that eight out of 11 SICs avoided flying with the [accident flight] PIC. Complaints about this pilot had begun when he was selected as a PIC. More complaints were communicated to FIAO management about this PIC than any other flight crew member in the unit. Crew members told Safety Board investigators that a lack of action by the FO/SS or the FIAO manager discouraged flight crew members from expressing further concerns or complaints about the PIC or from reporting all incidents that involved him.

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"During FIAO interviews, one unit supervisor told Safety Board investigators that, 'Crew Resource Management (CRM) is nonexistent.' The FIAO manager said that although CRM training had been initiated at some time in the past, lack of funding [had] caused it to be incomplete. He stated that there was no active CRM program at the FIAO. When the [FAA Aviation System Standards] staff was queried about CRM, investigators were told that a program that would be suitable to the needs of the FIAO mission was still in the early stages of its development."

The ACY FIAO also had a flight safety officer (FSO) position, which was listed fourth in the ranking of organizational positions, behind the manager, assistant manager and the FO/SS. The FSO fulfilled his tasks through his normal line supervisor, instead of reporting to the FIAO manager.

The report said: "The FIAO manager stated that the ACY safety program was 'average to above average.' Safety Board investigators interviewed more than one-half of the

FIAO employees. In general, the ACY pilot staff stated that they believed the local flight safety program was intended to simply 'fill a square.' They said that informative meetings were not conducted and that incident reporting and evaluation were not entertained. They added that ACY management emphasis was on the 'mission priority.'"

The ACY FIAO had experienced a previous fatal accident in 1988 that involved a Rockwell Jet Commander 1121A. Following that accident, the FAA conducted a system safety survey that evaluated the FAA flight facilities inspection program, and the operational aspects policies and procedures in the remainder of the FAA flying program.

"Of a total of 409 findings of the survey, 159 findings were identified as 'safety or regulatory noncompliance,'" the report said. The survey identified problems that could be grouped into a few specific areas. The survey found, 'The AVN [FAA Aviation System Standards] organization is not following its own guidance for the establishment and conduct of a viable safety program.'"

A follow-up system safety survey was conducted in 1990. The NTSB report said: "This review found several instances in which AVN had considered the survey's findings to have been completed; however, the corrective actions were still in a draft or proposal form. The review stated that no interim guidance or actual changes to FAA Orders had been promulgated to the FIAOs. The review also found that safety standardization/check airmen programs had not been established, and a policy to implement the FARs had not been accomplished. In its conclusion, the report stated that the actual implementation of the survey's recommendations had been slow due to 'various problems including a lack of resources, reluctance to change, lack of interim guidance to the field, and the magnitude of the findings and recommendations.'"

The NTSB developed 21 findings as a result of its investigation. Some of the more pertinent findings were:

- "The second-in-command's participation in the captain's aeronautical decision making and other events of the flight could not be ascertained because the FAA eliminated the cockpit voice recorder from the procurement specifications of the airplane."
- "The pilot-in-command was the nonflying pilot, and he made a series of inappropriate decisions

to take off and secure an IFR clearance in the air while proceeding into an area of mountainous terrain during marginal visual meteorological conditions."

- "No formal or informal crew resource management program was in effect within the FAA flying operation."
- "The FAA did not equip the airplane with a [ground-proximity] warning system, thereby depriving the flight crew of the obvious advantages of such a system to avoid collision with terrain."
- "FAA management at both the local and AVN headquarters were aware of, but did not adequately address, repeated indications that the pilot-in-command's airmanship and judgment were deficient. These deficiencies continued to the time of the accident."

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- "AVN headquarters organizational structure purported to provide management of the FAA flying program similar to management of air carrier operations. However, at the headquarters level, critical positions of check airman, training captain, fleet manager/chief standardization and flight safety officer were subordinate to nonflying managers and at the operating units positions existed only as additional duties.

These organizational deficiencies precluded the application of functional oversight of flight operations and viable inputs regarding flight safety-related matters."

- "AVN management of the FAA flying program (which accumulated almost 50,000 flying hours in fiscal year 1993) was ineffective because: (a) the airplane fleet operated across the lines of authority of two executive directors, three associate administrators, nine regional division managers and numerous office/branch managers, and (b) the designated management organization, AVN, was, in actuality, one of the operative organizations."
- "The Certificate Management Office of the Flight Standards Service did not exercise its authority to approve operations specifications and manuals for the FAA flying program because the Director of AVN continued to maintain authority to select applicable FARs and to determine the acceptability of manuals within the AVN organization. Surveillance of FAA flying activity by Flight Standards inspectors did not exist."

- “The deficiencies identified after the FAA-owned Rockwell Jet Commander fatal airplane accident in 1988 were not corrected because management action was ineffective and oversight by senior executives was insufficient.”
- “FAA medical requirements neither stipulate the training or certification standards required of a substance abuse specialist nor specify the nature of the evaluation the specialist must provide to determine a potential substance abuse problem.”

Based on its findings, the NTSB made eight recommendations to FAA Administrator David R. Hinson before completing the investigation. In a letter dated November 1993, the NTSB urged the FAA to:

- “Require all AVN flight operations to file flight plans for all flights and to activate IFR flight plans before takeoff to the maximum extent possible.”
- Evaluate the use of a flight dispatch program “to assist in the management of FAA flight operations.”
- Institute cockpit resource management training, outlined in FAA Advisory Circular (AC) 120-51.
- Incorporate aeronautical decision making training techniques and skills, outlined in FAA AC 60-22.
- Evaluate the recommendations in the 1989 *System Safety Survey* “relating to the second-in-command’s responsibilities and flying proficiency, and establish duties as appropriate.”
- Implement an appropriate management/supervisor structure to “ensure that a method of resolving conflicts, grievances and incident reporting exists at the appropriate management level in each FIAO.”
- Elevate the Flight Safety Program requirements and the Senior Flight Safety Officer (SFSO) position within the organization to receive the priorities assigned by the Flight Inspections Operations Manual and FAA Order 4040.9D.
- Negotiate and implement, by an established date, “a surveillance system for FAA flight operations that is at least equal to that of the air carrier industry, as previously agreed to in 1990.”

Administrator Hinson responded to the NTSB’s recommendations in January 1994. Hinson outlined a number of new FAA procedures:

- An urgent change order was issued to all flight operations manuals, specifying that IFR flight plans be used to the maximum extent possible. When an IFR flight plan is not possible for the flight inspection mission, a visual flight plan must be filed and used. “The operations manual change also requires the use of ATC flight following and, when on the ground, the use of voice communications to secure IFR clearance before becoming airborne,” the FAA said.
- A centralized scheduling proposal under development will bring the flight dispatch program in line with those found in industry.

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flight operations that is at  
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• Training for CRM and aeronautical decision making techniques “is being developed by the FAA in concert with the FAA CAMI and industry. The results of this program will be implemented at each AVN flight operations unit and in the AVN aircrew training program.”

• A proposal under review would remove procedures development from the SIC position description, and “SIC duties would focus on flying responsibilities.”

• The FIAO management structure will be reorganized so that PICs and SICs “will be assigned to the same unit with the same supervisor.”

- “The senior FSO was reassigned to report directly to the Director of Aviation System Standards. This organizational change elevated the flight safety program within AVN, so that the program receives full support of senior management in AVN and at all other levels within the FIAO.”
- The Flight Standards Service and AVN have started an initiative that “will establish a surveillance system for FAA flight operations that is at least equal to that of the air carrier industry.”

After completing its investigation, the NTSB made the following additional recommendations to the FAA:

- “Provide direct line authority to the executives and managers responsible for the management and

oversight of the FAA flying program to ensure safety oversight and accountability of the program equal to that required of the air carrier industry by the FAA.

- “Establish minimum standards of operational experience for managers and executives who are identified as responsible for the management or oversight of the FAA flying program.
- “Establish inspection procedures of sufficient depth and scope that will reveal noncompliance with directives and the fundamental principles of flight safety. The procedures should include CMO-approved pilot flight check standards for the FAA flying program, overseen from the AVN Director’s level. Such a system should include a central pilot record repository and a central check airmen pool. Provide methodology and implement a plan to retrain, reassign or dismiss pilots who cannot meet the performance standards.
- “Improve criteria to specify the operational and maintenance-related incidents that are required to be reported to a central AVN authority; and implement procedures to verify that all incidents meeting such criteria are being reported as required.
- “Develop and implement a program guaranteeing that personnel who bring safety-related concerns to the attention of management can do so without fear of retribution, and with the assurance that such concerns will be addressed thoroughly and impartially.
- “Equip FAA-owned aircraft with state-of-the-art flight recorders and [ground-proximity] warning systems at the earliest practicable opportunity.

- “For the purpose of mission management, establish formal mission briefing and debriefing requirements for FAA flying operations that involve an operations supervisor, the PIC and all crew members.

The NTSB also recommended that the FAA outline specific training and certification standards for substance abuse specialists, and the procedures required for examinations by such specialists, “before [a specialist’s] evaluation will be accepted by the FAA in its decision to issue an airman medical certificate.” ♦

Editorial note: This article was adapted from *Aircraft Accident Report: Controlled Flight into Terrain, Federal Aviation Administration Beech Super King Air 300/F, N82, Front Royal, Virginia, October 26, 1993*, Report No. NTSB/AAR-94/03, prepared by the U.S. National Transportation Safety Board. The 105-page report includes illustrations and appendices.

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#### **ACCIDENT PREVENTION**

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