



Poor Management Decisions, Inadequate Flight Crew Training and Inexperience Cited in Fatal Commuter Crash

When an inadequately prepared captain, flying his first unsupervised revenue flight for a commuter airline, was paired with a low-time first officer, a fatal error chain was established. A U.S. National Transportation Safety Board report said the tragedy underscored several critical safety issues.

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by

Capt. Thomas A. Duke

On June 8, 1992, at 0852 hours local time, GP Express Airlines Flight 861, a Beechcraft C99, crashed into a hillside at an elevation of 1,800 feet (545 meters) 7.5 miles (12 kilometers) northeast of the Anniston Metropolitan Airport at Anniston, Alabama, U.S. The captain, 29, and two passengers were killed in the crash. The cause of death for the captain was determined to have been asphyxia, secondary to smoke inhalation. Blunt force impact trauma was the cause of death for the two passengers. The first officer, 24, and two other passengers were seriously injured. The aircraft was destroyed by impact and postcrash fire. At the time of the accident, the area near the accident site was enveloped in fog and low

clouds. The cloud ceiling at the airport was reported to be 1,500 feet (454 meters).

It was the captain's third leg of his first working day as a commuter airline pilot. It was the first day of southern operations for the captain, the first officer and the airline. The captain and the first officer had not flown together before the day of the accident. The day's scheduled flights were to be from Tuscaloosa, Alabama, to Atlanta, Georgia, and return to Tuscaloosa, with intermediate stops in Anniston.

The U.S. National Transportation Safety Board (NTSB) concluded that the flight crew lost situational awareness

in clouds as they maneuvered for an instrument landing system (ILS) approach while not in a radar environment. In its accident report, the NTSB said that all maneuvering during the descent occurred northeast of the airport, although the approach called for a procedure turn five to 10 miles southwest of the airport.

But the NTSB also noted that among the probable causes of this accident “were the failure of senior management of GP Express to provide adequate training and operational support for the start-up of the southern operation, which resulted in the assignment of an inadequately prepared captain with a first officer relatively inexperienced in revenue passenger service, and the failure of the flight crew to use approved instrument flight procedures, which resulted in a loss of situational awareness and terrain clearance.”

According to the NTSB, the “president and chief pilot of GP Express did not consider the possible consequences of pairing a captain and first officer, with no experience and minimum experience in air carrier operations, respectively, on their first day of duty in the airline’s new southern route structure.”

The report added that “inadequate crew coordination and role reversal on the part of the captain and the first officer” were also factors.

The NTSB report said a ground-proximity warning system (GPWS) would have provided sufficient warning for the flight crew to have pulled up and overflown the terrain at the crash site. In 1987, following several commuter controlled-flight-into-terrain (CFIT) accidents, the NTSB had recommended GPWS for commuter aircraft. In April 1992, the U.S. Federal Aviation Administration (FAA) issued a final rule requiring all turbine-powered airplanes that have 10 or more seats and are operated under U.S. Federal Aviation Regulations (FAR) Part 135 to be equipped with GPWS by 1994.

The accident aircraft was equipped with a cockpit voice recorder (CVR), which began recording about two minutes before the flight’s departure from Atlanta and ended with impact at 0852 hours. Investigators were able to gather important details of the flight and the events leading to the crash by interviewing the first officer. Because radar coverage at low altitude was not available, and there was no flight data recorder (FDR), the flight path during the 10 minutes before the crash was calculated based on aircraft performance, first officer testimony and CVR conversations.

The takeoff was routine for the return flight from Atlanta at 0822. Flight 861 was vectored toward Anniston at 6,000 feet (1,818 meters). CVR conversations indicated that the crew had difficulty understanding each other’s remarks and instructions because of a noisy intercom system. The first officer was also distracted by battery and autofeather problems.

At 0840:57, Atlanta Center cleared the flight to “... descent pilot’s discretion, maintain five thousand.” The captain then asked the first officer, “Does he want us to resume own navigation?” The first officer said “ah.” The captain then stated, “I heard him say that. As far as I’m concerned, I’m still on vectors two eight zero.” The first officer replied, “Yeah, two eight zero’s fine. Because we’re on course anyway, so let’s just hold it.”

The captain noted that they were drifting off course, and there was some confusion as to what was the proper course. Based on the first officer’s testimony to the NTSB, the flight continued to proceed on the vectored heading. The crew did not ask air traffic control (ATC) for clarification, and they flew north of the inbound course for approach to runway 05 at Anniston.

The first officer gave the captain a reciprocal heading of 085 degrees for the inbound course, which may have confused the captain’s plan for the approach. The NTSB said the flight crew seemed to be anticipating a radar vector to the final approach course at Anniston, which they had that day on their first approach

to Anniston from Tuscaloosa. There was no comprehensive verbal briefing of the approach plan at this point or later during the checklist.

At 0842:44, Atlanta Center stated, “... radar service is terminated contact Birmingham Approach At 0843:42, Birmingham cleared them to 4,000 feet (1,212 meters) and “continue direct Talladega” Approach continued by giving the weather as 1,500 feet (454 meters) scattered, five miles (8 kilometers) visibility, light rain and fog.

At 0844:13, the first officer reported, “Okay we’re out of five at this time for four thousand for the possible visual and ah if we don’t see it we’ll let you know for the ILS” He then told the captain that he was setting the radios for the approach. At 0844:42, the captain noted he was now “... trackin’ direct to the Talladega VOR [very high frequency omnidirectional radio range].”

“... GP Express did not consider the possible consequences of pairing a captain and first officer, with no experience and minimum experience in air carrier operations, respectively, their first day of duty”

The first officer asked the captain if he wanted to “go around for the ILS?” At 0848:10, before the captain could respond, approach told Flight 861 to “proceed direct Bogga maintain four thousand til Bogga cleared localizer ... ILS runway five approach.”

The captain said, “Ask him distance from-” but he was interrupted by the first officer who said, “From Bogga?” The captain said, “That’s okay I’ll just” and the first officer said, “We’re ah. Minus six point one. We’re five miles from Bogga.”

The NTSB said that the first officer apparently made a mental computation of the aircraft’s location rather than contact the controller, who could have confirmed that radar contact was lost and that the crew needed to confirm their position with on-board equipment. The comments, said the NTSB, also suggested that an ILS approach briefing was not conducted nor had the captain reviewed the approach chart.

The first officer apparently sensed that the captain was confused. The captain called for flaps as the aircraft was configured for landing, and the first officer commented, “Didn’t realize you’re going to get this much on your first day, did ya?”

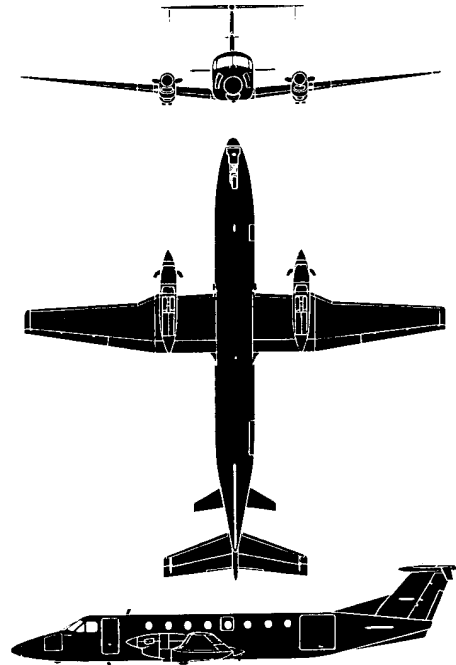
The captain responded, “Well, it’s all kind of ganged up on me a little fast.” The NTSB said that the captain’s comment indicated a loss of situational awareness, but neither pilot asked for assistance from ATC. The report also noted that the crew’s workload was compounded by the “inability of the first officer to expeditiously tune the navigational radios to the correct frequencies for the approach.”

The report said at 0849:02, the captain asked the first officer, “Got the localizer in?” The first officer replied, “Workin’ on it.” The captain said, “Think we’re goin’ to go through it.” The first officer stated, “There you go.” The captain agreed, “Yup went right through it.” Then the first officer asked, “Can you go around for it?” The captain said, “I bet you. I think we’re right over the outer-” and the first officer interjected, “We’re right over Bogga. He kept us in real tight. I mean God we’re — we’re four and a half out. That was uncalled for. Go ahead and drop your gear, speed checks.” The captain said, “The glide slope isn’t even alive” and moments later asked, “What’s the minimum altitude I can descend to ‘til I’m established.” The first officer answered, “‘Til established. Twenty two hundred.” The time was 0850:03.

“In actuality, the airplane was north of the airport, flying away from runway 05,” said the report. Flight 861 had intercepted the back course localizer signal for the ILS approach. Also, the NTSB could not determine why the

crew believed that it had crossed over Bogga, the initial approach fix.

“Collectively, these [crew] statements indicate that, even though neither flight crew member was certain of the airplane’s position, they each tried to reinforce the other’s erroneous assumption that they could accomplish a safe approach from their current position,” said the report. The NTSB also determined that if they had been in the proper position they “would have had very little time and distance in which to reduce the airplane’s altitude.”



Beechcraft C99 Airliner

The 1399, the predecessor of the C99, first flew in 1966 and deliveries began in 1968. A large main cargo door allowed the aircraft to be used for either all-cargo or cargo/passenger operations. The C99, with increased power and systems refinements, was first delivered in 1981. It has a service ceiling of 28,080 feet (8,560 meters) and a range of 910 nautical miles (1,686 kilometers).

The C99 was certified for operation with one pilot, but U.S. Federal Aviation Regulations require two pilots in commuter air carrier operations. There are about 23 C99s in operation in the United States and about 52 operating in other countries.

The accident aircraft was configured to accommodate 15 passengers. It was equipped with two Pratt & Whitney PT6A-36 engines.

Source: The U.S. National Transportation Safety Board and Jane's All the World's Aircraft

Cockpit Voice Recording of Flight 861's Intercom Communications

| Time | Source | Content | Time | Source | Content |
|---|--------|---|---------|--------|---|
| 0850:41 | FO | <i>okay, here it comes.</i> | 0851:31 | Capt. | <i>okay we're on our way.</i> |
| 0850:46 | FO | <i>I'm thinkin'.</i> | 0851:33 | Capt. | <i>there's the glide slope.</i> |
| 0850:53 | Capt. | <i>ah we gotta go missed on this.</i> | 0851:34 | FO | <i>okay watch your airspeed. One fifteen on the airspeed.</i> |
| 0850:55 | FO | <i>just a minute — there you go — here you're gonna' shoot right through it again — there you go see.</i> | 0851:36 | FO | <i>we're inside — through twenty-two we can continue our descent on down. we're way high.</i> |
| 0851:08 | FO | <i>that's why I was kinda' wonderin' you know.</i> | 0851:43 | Capt. | <i>okay is the glide slope working?</i> |
| 0851:12 | FO | <i>okay we gettin' inclose keep 'er goin'.</i> | 0851:45 | FO | <i>nope I'm not gettin' any.</i> |
| 0851:16 | FO | <i>you're okay.</i> | 0851:48 | FO | <i>so with no glide slope, we' down to eleven hundred.</i> |
| 0851:17 | Capt. | <i>hopin' no one on here's a pilot.</i> | 0851:50 | Capt. | <i>you got your right frequency in there?</i> |
| 0851:20 | FO | <i>well one guy got on with a helmet bag.</i> | 0851:51 | FO | <i>five hundred-one eleven five double check yup.</i> |
| 0851:23 | FO | <i>okay there you go. roll out. you're kosher.</i> | 0852:13 | Capt. | <i>what's our missed approach point now?</i> |
| 0851:26 | FO | <i>see you had about a ninety degree intercept there I was kinda' like whoa.</i> | 0852:15 | FO | <i>missed approach at the middle marker ah-.</i> |
| 0851:30 | FO | <i>through twenty two we're".</i> | 0852:20 | FO | <i>eleven hundred but we need to add hundred so twelve hundred.</i> |
| ** unintelligible word | | | 0852:24 | FO | <i>comin' up.</i> |
| Source: U.S. National Transportation Safety Board | | | 0852:25 | | (sound of impact — end of recording) |

Approach called at 0850:06 and advised, "... weather's south of ... Bogga is moving northbound, and the leading edge appears to be about two miles southwest of Bogga." The first officer, apparently convinced they were already at Bogga and completing the procedure turn responded, "... we're out of four thousand for the localizer at this time and we're inside of Bogga."

Approach asked them to "advise procedure turn inbound." The first officer responded, "Ah, procedure turn inbound complete." At this time the flight was well north of the field and slightly east of the extended localizer path.

There was no contact with approach control by Flight 861 in the final two minutes of flight.

The NTSB investigation focused on flight crew awareness, crew performance, crew resource management (CRM) training, management culture and FAA surveillance. The NTSB obtained extensive information on the 72-hour history of the flight crew before the accident, company instrument approach training procedures and company

preparations for its rapid expansion and initiation of the recently awarded southern operations. The aircraft, systems, engines, certification and weather were not factors in the accident, according to the report.

When GP Express was awarded routes in Alabama, Georgia and Mississippi on March 26, 1992, its management set up a schedule that would allow the airline to commence operations on June 6, 1992.

To accomplish this, GP Express needed to hire and train additional pilots. The company decided to use FlightSafety International's (FSI) Airline Training Program. FSI screened applicants in a two-day evaluation program, paid for by applicants. After successfully completing the program, applicants were placed on FSI's list of qualified candidates. GP Express also contracted the C99 training to FSI, which allowed airline management to concentrate on overseeing the new operation and continuing their normal duties. Contracted training would save the company about US\$40,000, said GP Express.

According to the original company plan, only first officers were to receive training by FSI. However, GP Express later determined that one captain's position needed to be filled from the group of newly hired pilots.

The NTSB said that the new hires were screened and the captain of Flight 861 was selected by GP Express "to be hired directly as a captain, rather than a first officer" based on his "flight experience in aircraft that required two pilots, his maturity and his experience as an instrument flight instructor in the geographic area to be serviced."

The captain had accrued 1,611 flight hours in helicopters before he was released in September 1991 from active duty as a U.S. Army captain. He instructed in the UH-60, a twin-engine, turbine-powered helicopter. From the time of his release until May 1992, he was a self-employed flight instructor near Enterprise, Alabama, and instructed in light general aviation aircraft, including the Piper PA-44 Seminole and Beechcraft Duchess 76, both light twin-engine aircraft. He had landed once at the Anniston airport.

When he was interviewed by GP Express on May 16, 1992, the ATP-certificated pilot stated that he had no fixed-wing turboprop or jet experience. He reported that he had a total of 701 hours in reciprocating-engine aircraft, of which 370 hours were in multi-engine aircraft. As a flight instructor, he had logged 450 hours, of which 370 were in multi-engine aircraft.

According to the company's operating manuals, GP Express required captains to have an ATP certificate, 1,500 hours of flight time and 750 hours of multi-engine time, which met FAA requirements. In a multi-engine turbine-powered aircraft, the FAA also required a minimum of 20 hours of experience in the make and basic model to be flown.

Initially, the NTSB said, the FSI training instructor expressed concern to GP Express management about training a person to be captain with relatively few hours in fixed-wing aircraft and no experience in fixed-wing turbine-powered aircraft. After a discussion with the airline's management, FSI agreed to continue the training, which included additional training for the captain. The FSI instructor reported that during the training, he "told the captain that he must use and listen to his first officer," after two occasions when the captain did not use the first officer as a resource. The captain satisfactorily completed the training, which included 48 hours of C99 ground training and 11.1 hours of C99 flight training; the captain was required to pay for the training. A flight check and initial operating experience (IOE) added an additional 14.5 hours

of C99 flight time, which were all conducted on the midwest route structure.

The last entry in the captain's logbook on May 29, 1992, showed only his civilian flight time. It showed a total of 857.2 hours of flight time, including 38.2 hours of actual instrument time, 76 hours of simulated instrument time, 391.3 hours in reciprocating -engine, fixed-wing airplanes and 17.6 hours in turbine-powered, fixed-wing multi-engine airplanes.

After completing his training on June 5, 1992, at the GP Express facility in Grand Island, Nebraska, the captain returned to his home in Enterprise. He was scheduled to report to Tuscaloosa on June 8 to prepare for a flight on June 9. He spent June 6 and June 7 with his family.

According to the captain's wife, he received a telephone call at home from GP Express on the evening of June 7. He was asked to fly the next day and he was told that he would be paired with the first officer with whom he had arranged to share an apartment in Tuscaloosa. The captain's wife said that he "telephoned the first officer and expressed his concern about not flying with the regional chief pilot" because he and the first officer were new to the southern route structure.

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Prior to being hired by GP Express, the first officer had been a general aviation flight instructor in single-engine fixed-wing aircraft on a part-time and full-time basis from August 1988 to November 1990.

GP Express records showed that on Aug. 17, 1991, the first officer had completed 50 hours of GP Express ground training for the C99, but he was furloughed and rehired on April 30, 1992. By then, he had accumulated 1,100 hours, of which 115 hours were in multi-engine aircraft, 25 hours were in actual instrument conditions and 55 hours were in simulated instrument conditions. On April 27, 1992, he completed 5.3 hours of flight training in the C99. He held a commercial pilot certificate.

On April 28, 1992, GP Express records showed that the first officer failed a competency/proficiency check for the second-in-command position. The check was .9 hours and the pilot was found deficient in steep turns, approaches to stalls, rejected landings, landings from circling approaches, emergencies, instrument procedures for circling approaches, judgment, and crew coordination. A satisfactory 1-hour proficiency check was completed on April 30. During April and May of 1992, he flew 90.5 hours within the GP Express midwest route structure.

The first officer had arrived in Tuscaloosa on June 4, 1992, and spent two days in a hotel while he made arrangements for an apartment. On June 5, he drove to Muscle Shoals, Alabama, to pick up a pilot who had ferried an airplane there, and he did not return to Tuscaloosa until 2200 hours. He spent June 6 moving into the apartment, and on June 7 he unpacked his belongings and ran errands.

GP Express's director of operations had proposed five days of route qualification flights for flight crews before they started flying the southern operations. The company's chief executive officer (CEO) turned down the request and said, "When pilots fly charter, they do not perform a dry run." He added that the IOE on existing northern routes provided sufficient line operations experience. Consequently, the only experience on the southern route system was obtained on goodwill familiarization flights by management pilots who passed on information to the captains at special briefings and by information packages about each airport and route of flight.

GP Express had planned to have the regional chief pilot fly as captain with the accident-flight first officer on June 8 and as the accident-flight captain's first officer on June 9. However, on June 7, the regional chief pilot was the only pilot available to fly a ferry flight for maintenance. This forced him to cancel his flight with the first officer because he would have exceeded his flight time limits for a seven-day period.

The chief pilot, the crew scheduler and the new GP Express president decided to schedule the new captain with the low-time first officer on the June 8 flight.

According to the first officer, the two pilots met at the apartment at 2100 hours the night before the flight. They went to bed at 2200, awakened at 0300, had a light breakfast and arrived at the airport at 0400 for an 0515 departure. Their first flight legs to Anniston and Atlanta were uneventful, with the captain doing the flying and the first officer doing the paper work.

The NTSB report noted that with only five hours of sleep, the flight crew could have been fatigued and that this could have contributed to their substandard performance during the approach. "The anticipation of moving to a new area and starting their careers could have masked any weariness felt by both crew members from their reduced hours of sleep or rest."

The report also stated that because the first two flights of the day were uneventful, the flight crew may have re-

laxed their vigilance on their return leg to Anniston. "The actions of the first officer, as recorded on the CVR, suggest a relaxed and almost casual approach to the flight environment," the NTSB said. "Likewise, the actions of the captain ... also indicate a passive acceptance of the first officer's 'coaching,' and resulted in his improper management of the flight."

The NTSB said it appeared that the captain began to lose command of the flight when he asked the first officer questions about their position after being told to contact Birmingham Approach Control and after leaving the radar environment.

"The flight crew's decision to try to lose excessive altitude in an attempt to make the landing is a further indication of the crew's poor judgment and decision-making process." The report said the crew commenced the approach from an excessive altitude and at a cruise airspeed without accomplishing the published procedure specified on the approach chart.

Each pilot continued to reinforce the other's erroneous assumption that they could accomplish a safe approach from their current position. From the CVR conversations, it was clear that the captain did not have an approach plate and that he had to trust unverified information from the first officer. The NTSB said these events "illustrated poor airmanship and judgment on the part of both pilots."

The first officer misstated their position as having completed the procedure turn and being inside Bogga. Later, when the captain said "We gotta go missed on this," the first officer talked him out of it by stating, "okay, we're gettin' close in, keep 'er goin' ... you're okay." The accident could have been prevented if the approach had been abandoned at this point.

"Each time that the captain was unsure of the airplane's position, even when he believed a missed approach should be accomplished, he yielded and continued to follow guidance from the first officer," the NTSB said. "The situation was compounded by the first officer's uncertainty about the position of the airplane and his continued assertion as to the next course of action. The first officer's eagerness to direct the flight and his overconfidence in his abilities were evident several times during the flight."

The report added: "Perhaps the most critical example was when both the [first officer] and the captain noticed that their respective glideslope indicators were not indicating a glideslope signal. Rather than consider that the airplane

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was out of position, the first officer erroneously assumed that the ground facility must have been out of order.”

Neither pilot checked with ATC to determine if the glide slope was operating normally.

The NTSB noted that the ILS approach to the Anniston Metropolitan Airport “was not complex or unusual” and said that “independently, either pilot could have satisfactorily performed the approach.” By not positively determining their position prior to commencing the approach, the crew set in motion the chain of events that led to loss of situational awareness, the NTSB said.

As flight instructors, both pilots should have known the importance of stabilized approaches, the NTSB said. The report said GP Express operations and training manuals “lacked information on stabilized approach criteria.” It added, “The nonstabilized approach flown by the flight crew ... strongly indicates that this critical safety -of-flight information is not being adequately disseminated or followed.”

Despite the confusion, the flight crew extended the landing gear and continued the approach.

The NTSB recommended that the FAA require all Part 135 carriers to have operational guidance and training criteria for stabilized approaches and to provide their crews with two sets of navigational charts and approach plates.

The NTSB said that the GP Express practice of having only one approach plate in aircraft requiring two pilots “increases pilot workload during the approach and increases the potential for the miscommunication of critical information, as in this accident.”

Noting the difficulties the captain had with his first day on the job, the NTSB also recommended that Part 135 be amended “to require that the pilot-in-command of a commuter air carrier flight that requires two crew members have at least 100 hours of flight time or an equivalent level of training in commuter air carrier operations requiring two pilots.”

In addition, the NTSB recommended again that the FAA establish minimum experience levels for captains and first officers and prohibit pairing pilots who do not meet minimum experience levels.

The flight crew had received CRM training in accordance with the GP Express training program. However, it consisted mainly of handout material, a short class lecture and a 13-question test as part of their final exam. The captain had received additional instruction during his training, but the NTSB report said this training was not comprehensive.

The report said the captain and first officer both failed to fully use all the resources available to them to assure safety of flight on several occasions during the approach.

The NTSB repeated a recommendation that the FAA require Part 135 air carriers to develop and use CRM programs by a specific date, adding that the FAA should

develop criteria to ensure “that airline CRM training programs adequately address crew interaction, decisionmaking processes, information gathering, flight crew communication and leadership skills.”

According to the NTSB, the captain had been admonished twice by his FSI flight instructor for not using his first officer as a resource. The report said that these admonitions “may have increased the probability that the captain would be overly reliant on the judgment and opinion of the first officer” without thorough CRM training.

The NTSB noted that crew pairing recommendations made in 1986 (followed by FAA action a year later) cautioned commuter operations not to schedule crew members with limited experience on the

same flight. The Regional Airline Association (RAA) has encouraged its members to follow FAA guidance on this issue and has asked members to implement policies requiring that captains make all takeoffs and landings in adverse or marginal weather conditions.

The NTSB report said captain trainees should “receive additional flight instruction pertaining to the operating environment and procedures unique to the airline environment from an FAA-approved company check airman or instructor.”

GP Express evolved from a small, on-demand air taxi operation. At the time of the accident, the founder and past president remained as chairman of the board and CEO. The new president (30 days in the position) was mainly responsible for operations, marketing and finance, and had prior experience with other air operations. The director of operations was a former captain for a major airline and had considerable flight operations management experience.

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The chief pilot had considerable experience in the company's midwest operations.

"This mixture of varied experience and operational orientation appears to have been reflected in different views about proposed operational practices in the company," the NTSB said. "Moreover, the top management approach developed for a small air charter service does not appear to have been well suited to larger, more widely dispersed, scheduled passenger operations."

The director of operations' suggestion that each pilot have approach plates and five days of route familiarization, for example, was rejected as unnecessary by the CEO. In addition, there was little reluctance by management to hire a captain with no prior commuter airline experience.

The NTSB said, "When faced with an operational need to provide a crew for a scheduled flight, management abandoned an earlier plan to have the regional chief pilot fly with the newly hired captain and instead, paired the captain with a low-time first officer, even though neither pilot had previously flown these routes, and it was the captain's first unsupervised revenue flight."

According to the NTSB report, the GP Express CEO and president "made several decisions that, taken individually, were less than prudent from a safety standpoint, but taken collectively, they subsequently created an operational situation that seriously jeopardized flight safety."

The report added, "They [the GP Express CEO and president] overestimated the new captain's readiness for upgrade based on his FSI training and military and other flying experience. His background clearly did not provide

him with the consolidation of learning and the familiarity with company aircraft in its commuter operations that are essential to safely conduct a flight as an unsupervised captain in revenue passenger operations.

"The decisions made by GP Express management, specifically, the failure to provide each pilot with a set of approach charts, canceling the pilot route qualification experience prior to starting service in the southern region and hiring a pilot with no commuter air carrier experience for immediate upgrading to captain, created conditions that led to this accident."

The NTSB report concluded, "Had senior GP Express management followed the recommendations of its subordinate managers regarding southern region familiarization flights, and had it not abandoned its earlier plan to have the regional chief pilot accompany the new captain on his initial revenue passenger flight, the accident would have been averted." ♦

About the Author

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ACCIDENT PREVENTION

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