



National Transportation Safety Board

Washington, D.C. 20594

Safety Recommendation

Date: November 7, 2007

In reply refer to: A-07-89- through -92

The Honorable Robert A. Sturgell
Acting Administrator
Federal Aviation Administration
Washington, D.C. 20591

On September 20, 2003, about 1238 mountain standard time, an Aerospatiale AS350BA, N270SH, operated by Sundance Helicopters, Inc., crashed into a canyon wall while maneuvering through Descent Canyon, about 1.5 nautical miles east of Grand Canyon West Airport (1G4) in Arizona.¹ The pilot and all six passengers on board were killed, and the helicopter was destroyed by impact forces and postcrash fire. The air tour sightseeing flight was operated under the provisions of 14 *Code of Federal Regulations* (CFR) Part 135. The helicopter was transporting passengers from a helipad at 1G4 (helipad elevation 4,775 feet mean sea level [msl]) to a riverside helipad designated “the Beach”² (elevation 1,300 feet msl) via Descent Canyon.³

Background

Interviews with passengers who flew on a tour flight with the accident pilot at 1000 on the date of the accident, as well as photographic evidence from that flight and videotape evidence from a flight with the accident pilot in 2001, indicated that it was not unusual for the accident pilot to fly the helicopter close to canyon walls and at bank angles, pitch attitudes, and airspeeds that far exceeded those allowed by company policy, safety guidelines, and some Federal regulations. Also, the investigation revealed that the company had previously received at least two safety-related complaints from passengers about the pilot’s flying practices but did not follow through with disciplinary action.

The National Transportation Safety Board determined that the probable cause of this accident was the pilot’s disregard of safe flying procedures and misjudgment of the helicopter’s proximity to terrain, which resulted in an in-flight collision with a canyon wall. Contributing to the accident was the failure of Sundance Helicopters and the Federal Aviation Administration (FAA) to provide adequate surveillance of Sundance’s air tour operations in Descent Canyon.

¹ The brief of this accident, LAX03MA292, can be found on the National Transportation Safety Board’s Web site at <<http://www.ntsb.gov/publictn/2007/AAB0703.pdf>>.

² Sundance designated names for each of its helipads. The Beach helipad is located next to the Colorado River.

³ Descent Canyon is a tributary canyon to the Grand Canyon and is located outside of Grand Canyon National Park.

Two years before the Sundance accident, on August 10, 2001, a Eurocopter AS350B2, N169PA, impacted steep terrain during an uncontrolled descent near the Grand Canyon about 4 miles east of Meadview, Arizona.⁴ The helicopter was operated by Papillon Airways, Inc., as a 14 CFR Part 135 air tour flight. The pilot and five passengers were killed, one passenger sustained serious injuries, and the helicopter was destroyed by impact forces and postcrash fire.

The investigation of that accident revealed that the Papillon pilot also exhibited unsafe flying practices on previous tour flights, such as flying the helicopter toward terrain while deliberately keeping his head turned toward the back of the cabin until the passengers screamed for him to turn around. In addition, the accident site was located in an area where the pilot was known to perform high-speed, diving descents during tours to show passengers what it might be like to drive a car off a cliff.

The Safety Board determined that the probable cause of the Papillon accident was the pilot's decision to maneuver the helicopter in a flight regime and in a high-density altitude environment, which significantly decreased the helicopter's performance capability, resulting in a high rate of descent from which recovery was not possible. Factors contributing to the accident included the pilot's decision to maneuver the helicopter in proximity to precipitous terrain.

The investigative findings from the Papillon and Sundance accidents revealed safety issues related to the FAA's en route surveillance of air tour operations in the Grand Canyon area, the handling of passenger complaints regarding unsafe tour pilot behavior, the documentation of passenger contact information, and operator surveillance of air tour routes. Specifically, the Safety Board notes that some high-volume Grand Canyon-area air tour routes are not receiving periodic en route surveillance by FAA inspectors, that there is no mechanism for the FAA to become aware of safety-related passenger complaints received by air tour operators about their pilots, and that there are no requirements for documenting air tour passenger contact information. Further, the Board notes that independent safety program audits serve as valuable safety resources that could potentially assist operators with addressing reports of safety-related pilot issues and with performing pilot flight checks on repetitively flown commercial air tour routes in the Grand Canyon area. The Board has issued three safety recommendations to the Tour Operators Program of Safety (TOPS)⁵ regarding these issues.

Discussion

FAA Surveillance of Grand Canyon-Area Air Tour Operations

The accident flight routes flown by the Sundance and Papillon pilots are outside of the airspace designated by Special Federal Aviation Regulations (SFAR) No. 50-2,⁶ and both

⁴ The brief of this accident, LAX01MA272, can be found on the Safety Board's Web site at <<http://www.nts.gov/publicn/2004/AAB0402.pdf>>.

⁵ TOPS is a voluntary, independent industry organization formed in 1996. According to its literature, its mission is to enhance and promote air tour safety and to "provide the public with access to scenic areas while in the care of good, safe, and professional air tour operators."

⁶ SFAR 50-2 contains special flight rules for flights in the vicinity of Grand Canyon National Park to reduce the impact of aircraft noise on park visitors. SFAR 50-2 delineates the dimensions of the flight rules area, flight-free zones, and flight corridors; establishes reporting requirements for commercial sightseeing air carriers operating in

accident sites are located in class G, or “uncontrolled,” airspace⁷ outside the boundaries of Grand Canyon National Park. FAA inspectors from the Las Vegas Flight Standards District Office (FSDO), Las Vegas, Nevada, were responsible for oversight and surveillance of all operations for both Sundance and Papillon, regardless of where those operations took place.

During a postaccident interview, the principal operations inspector (POI) for Sundance stated that he was authorized to conduct flight and line checks on any route at any time. However, because of workload and time constraints, he limited his activities to the SFAR 50-2 routes over Grand Canyon National Park, which are subject to additional rules for air tour operators that do not apply to the class G airspace in the vicinity of the Grand Canyon, and to routes to and from Las Vegas. He also stated that he conducted on-site surveillance at 1G4 about three times a year but that he had never flown with the operator down the Descent Canyon route. The POI for Papillon stated that he had not performed any direct surveillance of Papillon pilots on the accident route in the year before the accident.

The POI for Sundance stated he did not know how many flights the operator conducted annually on the Decsent Canyon route. Although Sundance kept records of the flight numbers, Grand Canyon-area tour operators are not required to report tour flight frequency for routes outside the SFAR 50-2 airspace. During postaccident interviews, the POI stated that, if Sundance were conducting more than 1,000 flights per year on the Descent Canyon route, he would have conducted surveillance of the operator’s routes there. Safety Board investigators found that, in 2002, Sundance conducted about 11,400 flights on the Descent Canyon route between 1G4 and the Beach helipad, and, between January 1, 2003, and the date of the accident, the operator had conducted about 11,000 flights on this route. During the investigation of the Papillon accident, Safety Board investigators found that Papillon also conducted thousands of flights annually on routes outside the SFAR 50-2 airspace. Typically, tour flights on these routes consist of one segment of a tour package that may include flights to, from, or around the Las Vegas area and that may include landing sites near the Colorado River to drop off passengers for picnics or rafting excursions.

The Safety Board notes that the FAA’s national work program for surveillance provides broad authority for POIs and FSDO managers to use their knowledge, skills, and experience to identify appropriate and specific surveillance unique to the operators that they are assigned to oversee. Therefore, it was incumbent upon the Las Vegas FSDO managers and POIs to become aware of the frequency and exposure risk associated with all of Sundance and Papillon’s commercial routes, regardless of the type of airspace in which they were performed. The Safety Board is concerned that the accident tour routes, which were flown repetitively by Sundance and Papillon outside the SFAR 50-2 airspace, were not subjected to adequate surveillance despite the high volume of tour flights on these routes and the inherent risks associated with those routes.

As recently as February 27, 2007, the Safety Board issued several safety recommendations as a result of its investigations of two air tour helicopter accidents in Hawaii

the special flight rules area; prohibits commercial sightseeing operations during certain time periods; and limits the number of aircraft that can be used for commercial sightseeing operations.

⁷ According to the FAA *Aeronautical Information Manual*, chapter 3-3-1, class G airspace is “uncontrolled” airspace that “has not been designated as” class A, B, C, D, or E airspace.

that involved pilots who engaged in risk-taking flying practices with regard to adverse weather.⁸ One recommendation, Safety Recommendation A-07-21, asked the FAA to “develop a permanent mechanism to provide direct surveillance of commercial air tour operations in the State of Hawaii and to enforce commercial air tour regulations.” In its May 17, 2007, response, the FAA promoted the effectiveness of its work program, which consists of “baseline, required inspections for each air tour operator.” The FAA further stated that “required inspections are prescribed by the national program office and may be supplemented by the local district office based on perceived, potential risks. The work program is prioritized based on available resources. When noncompliance is detected, enforcement investigations are initiated.”⁹

The Safety Board notes, however, that without direct surveillance of all repetitively flown Grand Canyon-area tour routes, including those routes located outside the SFAR 50-2 airspace, the Las Vegas FSDO would have difficulty obtaining the information needed to accurately perceive the potential risks and prioritize its resources. Specifically, without direct knowledge of each tour route, the number of tours flown on each route, and the manner in which the pilots fly each route, FSDO inspectors would not have complete information when determining how to best focus their en route surveillance activities.¹⁰

Although pilots may perform more professionally and safely when an inspector is on board the aircraft, en route surveillance provides inspectors the opportunity to observe operations as they take place on a day-to-day basis and to detect deficiencies before they progress into accident factors. Tour operators would likely foster better adherence to pilot professionalism standards and safety regulations if they knew that the FAA would be conducting periodic en route surveillance of all tour routes. Without such surveillance, however, no opportunity existed for FAA inspectors to identify and correct the manner in which the accident flights were conducted. The Safety Board concludes that, if the FAA had provided direct en route surveillance of Sundance and Papillon’s repetitively flown air tour routes located outside of the SFAR 50-2 airspace, the risky flying practices exhibited by the accident pilots might have been detected, which could have resulted in action to improve the safety of the flight operations. Therefore, the Safety Board believes that the FAA should require periodic en route surveillance of all repetitively flown commercial air tour routes in the Grand Canyon area, including those routes located outside of the SFAR 50-2 airspace.

⁸ For more information, see (a) National Transportation Safety Board, *Weather Encounter and Subsequent Collision into Terrain, Bali Hai Helicopter Tours, Inc., Bell 206B, N16849, Kalaheo, Hawaii, September 24, 2004*, Aviation Accident Report NTSB/AAR-07/03 (Washington, DC: NTSB, 2007); and (b) National Transportation Safety Board, *Weather Encounter and Subsequent Crash into the Pacific Ocean, Heli-USA Airways, Inc., Aerospatiale AS350BA, N355NT, Haena, Hawaii, September 23, 2005*, Aviation Accident Brief NTSB/AAB-07/01, (Washington, DC: NTSB, 2007).

⁹ The Safety Board is currently evaluating the FAA’s response.

¹⁰ The Safety Board notes that, at the time of the Papillon accident, the FAA delineated broad inspection guidelines for FAA inspectors in FAA Order 1800.56B, “National Flight Standards Work Program Guidelines,” and that revision 1800.56C was in effect at the time of the Sundance accident. These respective revisions of the order contained no specific requirements for FAA inspectors to conduct en route inspections on any specific routes or flights under Part 135. However, the Board notes that the current revision of this order, 1800.56G, effective September 26, 2006, contains a new section under “Special Emphasis Items” that cites specific requirements for certain segments of the aviation industry, such as Part 135 helicopter emergency medical services operations, certificated flight instructors, 14 CFR Part 129 operations, and other items that the FAA has recently deemed worthy of additional and specific requirements.

Response to Safety-Related Complaints About Tour Pilots

During the investigation of the Sundance accident, Safety Board investigators learned that some tour passengers had previously complained to the company about the accident pilot's flying practices. On July 5, 2001, Sundance received a fax from a passenger who had taken a Descent Canyon flight with the accident pilot on June 1, 2001. The passenger stated that, "being a heart patient with ... a very dangerous pilot in charge of the helicopter, I thought I was about to die. He flew so fast and dangerous, I could not believe his behavior." No evidence was found indicating that the company had taken action against the pilot in response to this fax.

In a memorandum dated August 17, 2001, Sundance's chief pilot informed the director of operations that disciplinary action was to be taken against the accident pilot because of an additional customer complaint about his flying. The memo stated that the owner of Air Vegas¹¹ took a ride from 1G4 to the Beach helipad and reported "that he was asked if he wanted a helicopter ride or an 'E' ticket ride."¹² He received a ride that included abrupt banks¹³ and that did not meet the standards [of TOPS]."¹⁴ The memo concluded that "this type of flying is not tolerated at Sundance Helicopters and is grounds for disciplinary action." The company provided the pilot a written reprimand that called for a 1-week suspension without pay; however, the company never enforced the suspension. The director of operations stated that the suspension was not put into effect immediately because "at that time we were short of pilots" and that "after a couple of months, when the activity slowed down, the chief pilot and I forgot to enforce the suspension." No evidence was found indicating that company management took steps to correct the accident pilot's flying habits in Descent Canyon. Additionally, the POI was unaware of the complaints.

The investigation further revealed that some former Sundance employees and employees of other tour operators were concerned about the accident pilot's flying habits; however, it is not known if these employees voiced their concerns to company management. Following the accident, Sundance implemented a "zero-tolerance" policy with regard to pilot actions that break company rules. According to the Sundance chief executive officer (CEO), company employees participate in providing management with information about observed pilot rulebreaking, and any one instance of intentional rulebreaking is grounds for dismissal.¹⁵

¹¹ Air Vegas flew passengers to 1G4 to take tours with Sundance.

¹² An "E" ticket ride refers to a classification formerly used by Disneyland® Park for the most thrilling ride attractions.

¹³ During a postaccident interview, the Air Vegas chief executive officer stated that the "descent was a little too fast and too showy" and that he was concerned that Sundance would get complaints from passengers about such "hot rod" flying. He stated that he was uncomfortable during the ride, even with his previous Air Force aviation experience, and that he recalled "feeling too close to the right side [of the canyon]."

¹⁴ Sundance is a member of TOPS. The TOPS guidelines specify, in part, that tour flights be conducted with bank angles of no more than 30°, pitch angles of no more than 10°, smooth flight transitions, and a maximum speed of 120 knots.

¹⁵ In a July 6, 2007, statement, the CEO stated that, in the preceding 3.5 years, five pilots were fired under the zero-tolerance policy. He stated all of the dismissals resulted from reports to management by other Sundance pilots or employees or from a violation that was witnessed directly by management.

During the investigation of the Papillon Airways accident, several passengers who had taken flights with the accident pilot about 1 month before the accident provided information about their experiences. According to some passengers, about 20 minutes into a tour flight, the pilot turned his head toward the back of the helicopter and was talking to the passengers as the helicopter flew toward a cliff. The passengers in the back were trying to get the pilot's attention and point out that he was flying toward a cliff, but he seemed to pretend he did not understand what they were saying. One passenger stated that she finally picked up the microphone and said, "they are really scared ... turn around and pull up the helicopter," and that he did so. One passenger stated that, at another point in the flight, the pilot asked the passengers if they wanted to know what it was like to drive a car off a cliff. She stated that they all responded, "no," but that the pilot proceeded to fly very fast toward the edge of the cliff and then dove the helicopter as it passed the edge. The passenger provided a videotape of the flight that supported the passengers' accounts of these events.¹⁶ The Safety Board could not determine if any complaints were provided to Papillon; however, no evidence indicated that the accident pilot had ever received any disciplinary action.

The Safety Board is concerned that air tour operators may not be taking appropriate actions, such as remedial training and enforced reprimands, in response to complaints from passengers or other sources regarding unsafe and unprofessional pilot behavior or to ensure that their pilots fly in accordance with company safety standards. Additionally, because company managers are under no obligation to report complaints about their pilots to the POI for review, the FAA has no opportunity to ensure that appropriate action is taken, either by the operator or the FAA, in response to safety-related complaints. Therefore, the Safety Board believes that the FAA should require all commercial air tour operators to maintain records of all safety-related complaints and complaint correspondence regarding pilot performance, document what actions the company took to address each complaint, and make the records available to the POI for periodic review.

Maintaining Passenger Information for Investigative Purposes

Commercial air tour operators are not required to install flight recorders on their aircraft, and neither the Sundance nor the Papillon accident helicopters were so equipped.¹⁷ In the

¹⁶ Safety Board investigators reviewed the videotape supplied by the passenger. The two episodes referenced by the passengers were on the recording. No voices could be discerned due to the engine and rotor noise. In the first event, the pilot was observed turning his head toward the rear seat passengers as the helicopter approached a clifflike terrain feature about 50 to 100 feet below the top. The passengers were observed to be gesturing up and then the pilot turned around and initiated a climb. The helicopter appeared to clear the top by 50 to 100 feet. Regarding the diving event, the video recording showed a view of the helicopter flying an estimated 100 feet over Grand Wash Cliff plateau. Just past the cliff edge, the pilot initiated a diving descent. The amount of nose pitch down was estimated to be in the range of 10° or less. Observations of the sound change in the engine and rotor noise were consistent with a lowering of the collective and unloading of the rotor system during this maneuver.

¹⁷ On December 22, 2003, the Safety Board issued Safety Recommendation A-03-63, which asked the FAA to "amend the current regulations for 14 [CFR] Parts 91, 135, and 121 operations to require all turbine-powered, nonexperimental, nonrestricted-category aircraft that have the capability of seating six or more passengers to be equipped with an approved 2-hour cockpit voice recorder that is operated continuously from the start of the use of the checklist (before starting engines for the purpose of flight), to completion of the final checklist at the termination of the flight." On that same date, the Safety Board also issued Safety Recommendation A-03-64, which asked the FAA to "require all turbine-powered, nonexperimental, nonrestricted-category aircraft that are manufactured prior to

absence of recorder data, Safety Board investigators must frequently rely on the statements of passengers who previously flew with the accident pilot for information. Locating and interviewing these passengers helps investigators ascertain the pilot's flying habits, attitude, and skill level. Further, such information helps investigators identify operational issues or recurring safety concerns that may be related to the accident.

Tour passengers are often allowed to fly in the cockpit with the pilot and directly observe the flight operations. However, unlike commercial airline operators, tour operators are not required to record and retain the names and contact information of its passengers; thus, investigators may miss opportunities to obtain valuable information from passengers who have directly observed the flight operations of an accident pilot. For example, during the Sundance accident investigation, Safety Board investigators attempted to obtain the names and contact information for all of the passengers who flew with the accident pilot on the flights before the accident flight; however, Sundance did not record this information. Further, most of the tours had been booked through brokers and/or casino hotels in the Las Vegas area, which are also not required to retain records. Despite numerous subpoenas issued by the Safety Board and attempts to obtain passenger contact information, investigators were provided the contact information for only a few of the passengers. And, although the investigators often use local news sources to broadcast requests for witnesses, many commercial air tour passengers are vacationers who do not reside in the local area and are often from other countries.

The Safety Board concludes that being able to contact passengers who have flown with an accident pilot on previous air tour flights would assist investigators in determining the causes and factors related to accidents. Therefore, the Safety Board believes that the FAA should require all commercial air tour operators to maintain the names and contact information of all passengers, along with the respective flight's identification number, for at least 30 days following the flights.

Proactive Monitoring of Tour Operations

During the investigation of the Sundance accident, photographs from a previous tour with the accident pilot and a video taken during a flight with him in 2001 documented multiple instances of the pilot flying in a manner that was not in compliance with company policy, safety guidelines, and Federal regulations. Also, a videotape provided by a passenger who flew on a tour with the Papillon accident pilot about 1 month before that accident documented instances of the pilot exhibiting questionable behavior, including diving the helicopter at the very location where the accident occurred.

In addition, interviews with and photographs from passengers who had flown on tours with the accident pilots from the two previously mentioned Hawaii air tour accidents indicated that those pilots had previously flown in a manner that some passengers had considered unsafe and that was not in compliance with Federal safety regulations. A Safety Board review of air tour accident data revealed that most air tour accidents that resulted in fatalities involved human

January 1, 2007, that are not equipped with a cockpit voice recorder, and that are operating under 14 [CFR] Parts 91, 135, and 121 to be retrofitted with a crash-protected image recording system by January 1, 2007." As of the date of this letter, both safety recommendations are classified "Open—Unacceptable Response" because the FAA has taken no specific action in response to the recommendations.

performance issues.¹⁸ Cameras, flight recorders, pilot reports, and passenger feedback can all provide important information about pilot practices. Although such information can be useful to investigators following an accident, it can also be used by operators to systematically monitor flight operations on a routine basis and, thus, identify and remediate unsafe practices.

For example, following the Sundance accident, the operator took several initiatives to enhance its safety program. Among these were the installation of on-board video imaging equipment and periodic reviews of video recorded during tour flights.¹⁹ According to the CEO, the cameras were installed to help management better monitor the pilots' performance during tours; however, Sundance also sells the videos recorded during tours to passengers for souvenirs, which helps offset the costs of the program. The CEO stated that the pilots are not able to turn off the cameras once the system is running; thus, the cameras continually record raw data for review. The director of operations hired after the date of the accident stated that the company routinely reviews selected videos, which assists in evaluating the pilots' performance. The CEO stated that one pilot was dismissed after a review of recorded data revealed "inappropriate flying."

The director of operations stated that another method the company uses to track pilot performance is through a survey card available to each passenger to fill out. He stated that any responses relating to safety of flight issues are immediately evaluated and that the CEO reviews all survey cards received. The CEO stated that management personnel contacts all passengers who indicate concerns on the cards. He also stated that the company implemented a policy directive so that employees, particularly the marketing department and tour coordinators, understand how various types of customer complaints are to be handled and by whom. For example, the directive states that complaints pertaining to safety issues are to be reported immediately to the director of operations, chief pilot, an owner, or the designated operations duty officer.

The CEO stated that the company also implemented a "Ride-A-Long" program in which passengers with a piloting background are placed on flights free of charge and incognito for observation purposes. He stated that the Ride-A-Long participants are provided an in-depth survey to complete after the flight. He stated that company pilots are aware of the program but are not aware when they are selected for an observation flight. He stated the company attempts to do one Ride-A-Long flight each quarter. The director of operations indicated that the use of the survey cards, videos, and other in-house safety programs are valuable tools in monitoring tours, maintaining the company's quality of service, and ensuring pilot compliance with company policy and safety practices.

¹⁸ In a recent assessment of 143 air tour accidents from the period 1996 to 2005, the Safety Board found that the pilot was cited more frequently as a cause or factor in the accident than any other aircraft or environmental factor. Of the 76 air tour helicopter accidents examined in the assessment, 75 percent cited the pilot as a cause or factor, followed by the powerplant, which was cited as a cause or factor in 31 percent of the accidents, and terrain, which was cited in 20 percent of the accidents.

¹⁹ According to Sundance's CEO, all but one of the company's helicopters was equipped with the video cameras. He stated that one helicopter did not have the equipment installed because Sundance acquired it on a short-term lease.

The Safety Board notes that, like Sundance's helicopters today, cameras are already installed in many tour operators' aircraft. Also, recent technology has allowed for additional flight-data recording options. For example, affordable, self-contained flight data recording devices and data analysis tools could permit even small operators to implement effective flight data monitoring programs. These data would be particularly useful in comparing daily operations to specific parametric operational standards, such as bank angle, pitch attitude, and airspeed limitations. In addition, periodic review of video recordings from tour flights would provide information on aircraft proximity to terrain and weather and could assist in evaluating pilot performance.

The Safety Board concludes that the systematic monitoring of recorded flight data and images from actual tour flights could provide company management with objective information regarding the manner in which its pilots conduct tours and that a periodic review of such information, along with other available information, such as pilot reports and passenger feedback, can assist operators in detecting and correcting unsafe deviations from company operating practices. Therefore, the Safety Board believes that the FAA should encourage commercial air tour operators to establish a structured flight operations monitoring program that incorporates routine reviews of all available sources of information to ensure that pilots are conducting flights in accordance with company operating practices.

Therefore, the National Transportation Safety Board recommends that the Federal Aviation Administration:

Require periodic en route surveillance of all repetitively flown commercial air tour routes in the Grand Canyon area, including those routes located outside of the Special Federal Aviation Regulations No. 50-2 airspace. (A-07-89)

Require all commercial air tour operators to maintain records of all safety-related complaints and complaint correspondence regarding pilot performance, document what actions the company took to address each complaint, and make the records available to the principal operations inspector for periodic review. (A-07-90)

Require all commercial air tour operators to maintain the names and contact information of all passengers, along with the respective flight's identification number, for at least 30 days following the flights. (A-07-91)

Encourage commercial air tour operators to establish a structured flight operations monitoring program that incorporates routine reviews of all available sources of information to ensure that pilots are conducting flights in accordance with company operating practices. (A-07-92)

The Safety Board also issued three safety recommendations to the Tour Operators Program of Safety.

Please refer to Safety Recommendations A-07-89 through -92 in your reply. If you need additional information, you may call (202) 314-6177.

Chairman ROSENKER, Vice Chairman SUMWALT, and Members HERSMAN, HIGGINS, and CHEALANDER concurred with these safety recommendations.

[Original Signed]

By: Mark V. Rosenker
Chairman