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Pinnacle 3701 Accident Investigation Update

Accident investigators know that few, if any, accidents result from a single cause. They like to say that a chain of events leads to the accident; break one link in the chain, and you prevent an accident. Happens every day, in fact.

Another popular model of accident causation comes from Dr. James Reason, a British professor who's studied accident causation and prevention for decades. Dr. Reason likes to use the analogy of the causal factors being like slices of Swiss cheese with their characteristic holes; only when holes in all of the stacked slices match up can an accident occur.

The Pinnacle Airlines Flight 3701 accident on Oct. 14, 2004, in Jefferson City, Mo., appears to have happened that way. Both engines on the CRJ-200 flamed out after the pilots leveled off at FL410 during a night repositioning flight. Unable to restart either engine, despite several tries, they crashed in a residential area a few miles short of the airport in Jefferson City.

The National Transportation Safety Board held a public hearing on its investigation of the Pinnacle accident June 13–15 in Washington, D.C. As a full party to the investigation, ALPA was present in force.

Accident investigators prepare

"In preparing for the public hearing," explains Chris Baum, manager of the Engineering and Accident Investigation unit of ALPA's Engineering and Air Safety Department, "we looked at all of the relevant issues, as we always do, from the standpoint of whether we want to bring these issues forward in a public forum. We brought in not only our accident investigation resources—both the Accident Analysis Group and the Accident Investigation Board—but also the resources of ALPA's Aircraft Design and Operations Group and our Human Factors and Training Group.

"The ALPA Accident Analysis Group," Baum continues, "is the ALPA counterpart of the IFALPA Accident Analysis Group. Unlike the IFALPA version, however, ALPA's Accident Analysis deals not only with accident investigation, but dangerous goods and accident survival as well.

"The ALPA Accident Investigation Board is made up of senior ALPA accident investigators—ALPA pilot members with considerable experience in accident investigation. The chairman of the AIB is chosen by the ALPA Executive Air Safety Chairman. The AIB philosophically sets the course for accident investigations in which ALPA participates.

"In the case of Pinnacle," Baum explains, "we had a pilot group that had never experienced an accident, so we

dispatched a senior AIB member—Capt. Lindsay Fenwick (Northwest) to be their advisor. He also served as the ALPA party spokesman—that is, the member of the group who questions witnesses—during the public hearing.

"By ALPA policy, the MEC 'owns' the accident investigation. The ALPA accident investigation and air safety structure is here to support them, in a manner satisfactory to the MEC. At all times during the months and years of an airline aviation accident investigation, the accident investigation team is tied in to the pilot group on a continuing and real-time basis. There is a balance between the MEC interests and the collective experience of the AIB."

During the months that elapsed between the field investigation in October 2004 and the NTSB public hearing, the ALPA accident team stayed in contact to discuss the issues that the fact-finding phase of the investigation had revealed.

During the week of the public hearing itself, the ALPA team—Pinnacle pilots serving on the several NTSB technical groups established during the field investigation; the ALPA AIB's Capt. Fenwick; First Officer Mark Solper (America West), Accident Investigation Board chairman; Capt. Terry McVenes (US Airways), ALPA's Executive Air Safety Chairman; Capt. Rory Kay (United), ALPA's Executive Air Safety Vice-Chairman; Capt. Jack Hamlin (Northwest, Ret.), Critical Incident Response Program volunteer; Pinnacle MEC chairman, Capt. Wake Gordon; and supporting staff from ALPA's Engineering and Air Safety, Communications, and Legal Departments—met each evening in a hotel room to discuss the day's testimony and to fine-tune questions for the next day's witnesses.

The many hours of work showed: Capt. Fenwick, backed up by this superb team of experts, asked the overwhelming majority of questions of witnesses during the public hearing. Some of the other parties to the investigation asked no questions at all.

Communicating ALPA's message

Months before the hearing, the ALPA accident investigation team began working with ALPA's Communications Department to create a dynamic outreach strategy. ALPA worked to ensure that all the factors that could have played a role in the accident, including pilot training, Pinnacle Airlines' safety culture, flight crew performance, and engine design, were presented in news media coverage of the NTSB public hearing.

"We needed a strong outreach campaign to make sure that the airline, federal agencies, and the flying public knew what actions were necessary to prevent an accident like this from happening again," Capt. McVenes explains.

The accident investigators also wanted to let the Pinnacle pilots know about the details—and constraints—of ALPA’s status as a party to the NTSB investigation. Pinnacle MEC chairman, Capt. Gordon, and the MEC accident investigators worked with ALPA communications specialists to craft several e-mail messages to the Pinnacle pilots to underscore that the Safety Board would not determine the probable cause of the accident during this hearing, to describe the issues that the ALPA accident investigation team had focused on, and to highlight the critical importance of respecting the NTSB’s guidelines for communication about the incident so as to safeguard ALPA’s status as a party to the investigation.

Another ALPA communications goal was to help inoculate against the potential for incomplete reporting about the cause(s) of the accident in the news media. While the NTSB would not officially determine the cause(s) of the accident during the public hearing, ALPA’s team knew that some facts that would come out during the hearing might lead journalists to cite pilot error as the accident’s sole cause.

The communications and accident investigation teams developed a set of message points that highlighted the fact that most aviation accidents are the result of a combination of causal factors. The points described ALPA’s interest in improving the “safety culture” and safety reporting programs at Pinnacle, laid out the facts behind engine core lock, and described the pilot training deficiencies that also could have contributed to the accident. With the message points in hand, the communications team conducted an in-depth training program to position Capts. Gordon and McVenes to serve as ALPA media spokesmen.

ALPA’s team worked to communicate its position to journalists in a broad range of ways, both in advance of the hearing and on site at the NTSB public hearing in Washington, D.C. Capts. Gordon and McVenes gave interviews to *USA Today*, the Associated Press, *The Washington Post*, the *Minneapolis Star-Tribune*, *The St. Louis Post-Dispatch*, *The New York Times*, *Aviation Week & Space Technology*, and *Air Safety Week*. An ABC News television reporter also interviewed Capt. McVenes for *World News Tonight*. The interview didn’t air, but ALPA’s message about the need for one level of safety in the U.S. airline industry came through loud and clear in the announcer’s comments.

Nearly all the print, wire, and broadcast stories on the hearing mentioned pilot training as an accident factor. Much of the coverage carried ALPA’s “one level of safety” message and supported ALPA’s desire to work with Pinnacle to improve its safety culture and voluntary safety reporting systems.

“The news coverage coming out of the Pinnacle Flight

3701 hearing,” Capt. Gordon notes, “will help us set the stage for our pilot group to bring up training in future contract negotiations and position us to push management to put much-needed safety reporting programs in place.”

Legal support

Also present during the NTSB public hearing on the Pinnacle Flight 3701 accident investigation was Jim Johnson, supervising attorney in ALPA’s Legal Department. Johnson, who’s provided legal support for more than 10 airline accident investigations involving flight crews represented by ALPA, said the Pinnacle Flight 3701 investigation generated “nothing unusual” regarding legal issues.

However, ALPA’s longstanding practice has been to make legal support from the Association’s Legal Department available to the affected flightcrew members, their MEC, and the accident investigators and other pilot safety representatives and staff involved in the investigation.

“We provide legal support to the flight crew after the accident and throughout the subsequent investigation,” Johnson explains. “We’re available to assist the technical representatives and spokespersons, and to help in formulating questions for witnesses interviewed as part of the NTSB public hearing. And we usually review the ALPA submission to the Safety Board before ALPA submits it.”

Next steps

The public hearing usually marks the end of the fact-finding phase of an NTSB investigation. Since the NTSB public hearing on the Pinnacle Flight 3701 accident investigation, however, the systems group and the powerplant group, both with ALPA representatives, have continued testing several aircraft components and systems. When the engine testing is completed, the Safety Board will schedule its “tech review,” a meeting that usually lasts half a day or less as a sort of “quality control” to review what the Safety Board and the parties to the investigation consider to be the facts of the investigation.

At the tech review, the NTSB sets the deadline for party “submissions” to the Board—i.e., the parties’ formal analyses of the facts, their conclusions, and their recommendations. Some months after receiving the party submissions and entering them into the public docket, the NTSB will schedule a public “sunshine meeting,” at which the Board members and senior NTSB staff will discuss the draft “blue cover” report on the investigation. At the end of the “sunshine meeting,” the Safety Board will issue its finding of probable cause(s) of the accident and all the safety recommendations the NTSB has generated as a result of the accident investigation. 🌐