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Safety Standdown 2003

Bombardier-sponsored program reviews the human-factors side of flight safety

by Robert P. Mark

Crews are often matched for their aircraft-specific technical skills, one often less experienced than the other, but both are there for the same reason—to safely and efficiently see the aircraft from point A to point B. While technical skills are often difficult enough to measure, pilots' attitudes, personalities and ability to get along in the cockpit as they try to solve the daily problems that arise are next to impossible to gauge before they fly.

When arrogance, indifference and animosity appear because of a personality mismatch, however, professional training is often not enough as crews attempt to balance the personal side of cockpit life with daily flying chores. These individual problems can range in severity from arguments in the cockpit to passive behavior because one pilot is too intimidated or angry to speak up. Some pilots will simmer until they emotionally implode, an extreme that can also play itself out residually in the form of depression, sleep disorders or even substance abuse.

At issue, generally, is how to weed out those personality issues before a crash, as well as how to deal with those typically private problems once they're identified.

Why a Standdown?

Preventing a disaster by reviewing many often overlooked areas of human performance was the focus of the recent Bombardier-sponsored Safety Standdown 2003 in Wichita, held October 27 to 29. At the event, the expert consensus was that the things that make pilots good at what they do—such as keeping a cool head during a crisis, the ability to prioritize and a talent for keeping track of multiple issues at the same time—can make them pretty

difficult to get along with, a fact that will not emerge as a shocking surprise to most spouses of pilots.

Three-hundred-thirty people from 37 states and seven foreign countries registered for the Safety Standdown this year. Attendance last year was 180. Some 30 percent of companies at the forum were first-timers, while 60 percent of attendees were new.

Twenty-seven percent of those participants do not even operate Bombardier aircraft. The first Safety Standdown was held seven years ago with a handful of Bombardier pilots. The next year the factory test pilots heard about it and wanted to attend. Then, a few years later, the company offered it up for customers and later to anyone interested.

The goal of the seminar is to garner interest among participants, who afterward then spread the conference's unique safety gospel at their own companies, and encourage even more diverse participation the following year. No other aircraft manufacturer currently offers a similar kind of safety program.

Bob Agostino, Bombardier's director of flight operations for business aircraft, said, "Right now, we still train people on systems for the most part. If they are good to go on the systems, we think they are good to go, period." He believes there are many more factors involved

in operating a business aircraft safely, many of which are never touched during recurrent training. "Unfortunately, training in general is not as sophisticated as the aircraft we operate. And, personally, the most dangerous guy in this profession is one with a new title because he or she can be arrogant—a recipe for disaster. The pilot-error rate has been flat for quite a while." The focus of the conference is on knowledge-based training, not model specific. All that knowledge, however, Agostino added, "is useless unless you can apply it."

Bombardier bills the conference as everything *except* a marketing event and cautions everyone that attempting to sell anything to anyone is *verboten!* Standdown topics included applied aviation psychology sessions; high-altitude aerodynamics; aviation-induced stress; professional airmanship; fatigue countermeasures; and a full day of hands-on emergency medical and survival training. "This



Facts/Air Care's Judi Nelson briefs a corporate crew before their first flight aboard the Facts evacuation simulator.

PHOTOS: ROBERT P. MARK

is about networking,” one pilot said. “We all try to learn from each other.”

Through an alliance with Embry-Riddle Aeronautical University’s school of corporate training and professional development, all who attended are able to receive 2.5 continuing education units for their time. A new standdown focus is promoting an industry-wide mentoring program for flight department members and applicants.

Great Speakers Make a Difference

The credibility of conference speakers can easily promote or hinder the learning process. Agostino and his team made the conference a success, not simply because they engaged the help of a few famous pilots but because those aviators were prepared to share their own shortcomings that, had it not been for their technical agility and perhaps a hand on the shoulder from the Almighty, could well have cost them their lives.

One of the well publicized guests invited by Bombardier was Apollo 17 mission commander Gene Cernan. The Apollo and Gemini program veteran is best known as the last man on the moon, having commanded what became the final manned mission to our nearest satellite in 1972. Cernan, now a consultant for Bombardier and recently typed in the Learjet 45, stayed for the entire standdown.

During his dinner talk the second evening, Cernan made no bones about some of the mistakes he’d made during his flying career, beginning as a young naval aviator all the way through Apollo and his current corporate flying experience. While the effect on pilots in the room certainly varied by their flying experiences, listening to Cernan relate his experience of regaining control of a spinning Lunar Lander after someone flipped the wrong switch during blast-off from the moon, turned him into just another pilot like everyone else. Clearly, it’s not simply what happens in the cockpit, but how you deal with it as a team that counts.

“I haven’t done everything stupid possible in an airplane,” Cernan recalled, “but I’ve done a lot of it. We all have egos as pilots and we need that. But the very thing that makes us good as pilots can work against us. Until you realize you’re vulnerable, though, you won’t respect this training. We’ve built monsters that fly us now as high as 51,000 feet in a part of the atmosphere where God did not intend us to be. We’ve also made airplanes that do everything for us and are relatively simple to fly. Today, many pilots look no further ahead than the nose of the airplane and have little idea where they are in space.”

John Clark, NTSB’s director at the office of aviation safety, opened the academic sessions

with what he believes is a secret to the success of a program such as the standdown— that pilots and managers become students of safety. “We need to begin as safety advocates in our community. We need to reach out and spread this message. If you learn where the tools to develop that kind of culture can be found, it will improve your operation.”

The FAA has appointed safety counselors to small GA operations for years. It might be time to begin looking at a similar integration with the flight departments of larger aircraft, he said.

Clark also had a practical warning for the audience: “The subjects of human performance and communications are sort of touchy feely,” an issue not normally embraced by pilots. “But this kind of involvement will work at making you a better overall pilot. We all claim our operations are safe, but how do we really



Facts/Air Care’s evacuation simulator accurately recreates the interior of a typical business aircraft.

know? After the Wellstone crash, for example, many people came forward to tell stories about the PIC’s failings. But the chief pilot of the operation claims he’d not heard any of them. Are your lines of communication really as open as you think? How do you know?”

Reflecting on the Aspen GIII crash in March 2001, Clark asked, “How do we get people on the same page, on the same standard during an approach so they are smart enough to leave a bad approach earlier? We seem to be able to recommend fixes; we’re really good on the forensics side. But I don’t think we as pilots are very good with the ‘inside our heads’ stuff. And that is something pilots really need to develop.”

Pilots are probably more mental-health phobic than most people—and with good reason considering the strict guidelines set down by the FAA to maintain a medical certificate. The mental-health sessions presented at the standdown represent the first time many pilots have listened to this kind of content, much less discussed the topic. The rest of the conference focused on whether or not getting inside peo-

ple’s heads could actually be accomplished and, if so, how.

Safety Stats

Bob Breiling, of Robert E. Breiling Associates, is well known in the business aviation community as a safety statistics guru. He set the stage with safety numbers others would speak to during the next two days. “Part 91 flight departments have experienced no accidents [so far this year.]” Part 135s have not fared quite as well: “Accidents there continue at about the same rate as last year,” he said. Dramatizing the need for the conference, Breiling said, “Fully 70 percent of those accidents are attributable to pilot error, with 50 percent occurring in the last minute of flight before touchdown. Seventy percent are in VMC and nearly 80 percent occur on runways more than 5,000 feet long.”

Interestingly, perhaps because pilots are too relaxed at times, Breiling told the audience, “You’re five times more likely to have an accident on a ferry or positioning flight. Don’t drop your guard there. And when you have passengers on board, don’t follow the leader into a bad situation.” Echoing what would become another recurring theme, Breiling added, “The boss will understand if you can’t get him where he wants to go. If he doesn’t, you’re better off working for someone else anyway.”

U.S. Air Force Col. Don Wylie (ret.) reviewed aerodynamics. He began with some simple words: “We’re on a safety crusade today. If we can save one aircraft in the next five years because of the Safety Standdown, it will be worthwhile.” Wylie gave the audience a shortened version of his upset-training course, explaining some of the problems that occur “up in the rarefied air of high-altitude flying where thrust is limited.”

He discussed other tangential subjects, such as aircraft design, that have emerged over the years. “It is commonly understood in aircraft development that reducing drag-inducing negative lift on the tail improves overall performance,” Wylie said. “But the way this problem has been solved is by moving the center of gravity farther aft. And that’s bad for control issues.”

Maintaining aircraft control is also one of Wylie’s main points. He recalled a large-jet simulator session when the crew sought final altitude guidance from the FMS and then crept up to 41,000 feet and stalled the aircraft. Both pilots did their best to maintain altitude as the wings of the jet rocked from side to side. The aircraft eventually lost 1,000 feet before the crew stalled the aircraft a second time, losing even more altitude, before finally regaining control.

"If the crew had simply done what we teach everyone to do when they fly small aircraft and pushed the stick forward, they would have been flying again and probably not lost more than 500 or 600 feet total." Wylie added that it's time to stop worrying about ATC: "Declare an emergency if you have to, but make the airplane fly."

Another of his subject areas was VA, the maneuvering speed we all learned as students that will allow full and abrupt movement of the controls without breaking anything. "But pilots forget that even relatively minor excursions near VMO can part out the airplane," Wylie's euphemism for an in-flight break up. Wylie said we fly like we train, except that in training we don't train as we actually fly. Consider where we train for stalls—at 15,000 feet. How will we ever learn to handle a high-altitude stall if we never try one?

"Being out of control at high altitude is a mess. But do whatever you have to do to regain control—anything. Get the boards out, but don't just sit there." Wylie added a somber note: "Most people die in aircraft well inside the 1g box and simply failed to maintain adequate flying speed. We all claim to understand this, but people don't apply it when the time comes to recover."

Pilot Stress

Dr. David Jones—a consultant in aerospace psychiatry to the FAA, as well as the U.S. and Canadian armed forces—spoke about aviation stress versus life stress, mental health issues that while pertinent, probably make most pilots recoil somewhat. "There is much more to aviation safety than a lack of accidents," he noted. Mental health in any person is more than simply the absence of mental disorders. Mental health includes affirmative qualities of hardiness; resilience; insight; maturity; comfort in company or alone; the capacity for relationships; accomplishment; and the ability to lead and follow." Mental-health issues can, however, be tough to pin down because unlike most medical conditions, there is often no definitive test to determine the state of a person's mental health. "Some of those diagnoses are entirely subjective."

Jones believes a good pilot needs a fair amount of insight into the kind of person he is versus what he needs to be to fit well into any flight department. "Pilots need to be able to push back, too. If they are passive and simply take it all, I would wonder about them." The need to be insightful can be a tough one for pilots. They often believe that "because I'm a good pilot means I'll automatically be good at these kinds of things too—and they're not. We often look at what doesn't work in a flight department, when we should be looking at what does work as well. But, certainly, ignoring interpersonal problems in a flight department is bad news."

One Midwest pilot told a tale about a captain trying to make a cellphone call while taxiing to the active runway. Despite repeated calls by the first officer, the captain never briefed the

SID out of San Jose, Calif., and simply took off. Part way through the departure ATC called the crew's attention to an operational error. All the way back to their Midwest base, the two pilots involved refused to talk to each other, each thinking the other was responsible for the error. The ensuing communication void almost led to another operational error before landing.

Their aviation department manager claimed he had no knowledge of the interpersonal battles in his department, although each pilot claimed to have spoken to him many times.

"Another key indicator of interpersonal issues in a flight department is a loss of a sense of humor on anyone's part," Jones added. "A sense of humor is one of the best ways to deal with problems. This loss of a sense of humor could be a symptom of depression." The subject of depression quickly led to another emerging problem—pilots taking prescription medications while they fly, a crisis made even more difficult because "a pilot's ability to perform a self-appraisal is pretty poor. Pilots simply don't like telling anyone that they can't handle life situations," Jones said.

"Our current data shows that when asked confidentially, nearly three-quarters of some 1,100 pilots surveyed said they would either not report a mental-health issue to their AME or would fly while under the influence of a prescription drug to treat an issue like depression and still not tell the AME, for fear of losing their medical certificate."

Jones tried to calm the latent fears in pilots about mental-health concerns by explaining that having a reference to a mental-health issue in your records does not automatically mean a pilot is washed up. Twenty years ago pilots with alcohol problems hid their condition as well. Now there are treatment programs to rehabilitate these aviators. Jones explained to a somewhat skeptical audience that the FAA currently has no such program for mental-health issues, even though treatment for depression can have a definite beginning and end.

Talking about applied aviation psychology, Dr. Jerome Berlin told the audience, "Pilots are incredibly insensitive to looking inside themselves. They are taught to look out, not in." Berlin played the last few minutes of a cockpit voice recorder tape from a Continental flight that crashed in Denver, in which a new first officer was performing the takeoff in bad



Firefighter Dick Garrett prepares a Standdown class for the "dunker."

weather when the aircraft had ice on the wings. Before takeoff the two pilots were focused on everything *except* their jobs. "Pilots are simply not good with words. And we certainly are not good at helping other individuals around ourselves grow. Pilots like to look normal all the time."

Berlin focused considerable attention on the darker side of cockpit management and the issues that surround who's in charge: "Authority is an important part of the cockpit environment, but it is normally ranked or assigned authority. It is biological and very powerful, yet it can also be very destructive. High-authority people can also be dark and lonely, but in high-stress situations all people on board will bond together and take care of each other. But pilots need to better learn assertiveness with respect."

He said another form of authority is taking hold in which people simply take over, rather than waiting to be offered the role, such as arriving at the scene of an aircraft accident. "This is called situational authority and it is so great. It's what really makes a difference in the world. The problem with it, however, is that it has no rules. Then there is personal or shared authority such as a captain bringing the rest of the crew together as a team to solve a situational problem."

"But we still don't communicate well with each other," Berlin said. "We can fly the airplane safely. But develop the people coming up? That's still pretty tough. We still don't know how to do that. Remember Pogo? 'We have seen the enemy and it is us.'"

Human Performance

Dr. Tony Kern is director of aviation for the U.S. Forest Service and a recognized lecturer on human performance. He asked the audience how they knew for certain that their company really emphasized safety. "How much is lip service? Ask questions. If your goal is only to get the job done safely, I think you're under-

achieving. Everyone says they're all for progress, but that means change and that means roadblocks."

Kern added, "You need a map to get where you're headed once you know. All too often managers will say they don't have time or don't have the money. The point is that when safety is concerned, you can't afford not to do what's necessary, or you simply trust your fate to the wind. You can't allow the situation at hand to make your decisions for you."

In defining the concept of aviation professionalism, Kern believes that "there are people both inside and outside your organization who can help make it better, but you have to give them an opportunity to speak up and really be heard. There are lots of training materials on mission and skills and airplanes, but human performance—that book is pretty slim. It is tough to generate enthusiasm for personal excellence. Many people simply don't see a point to it."

Dr. Mark Rosekind is affectionately called the "sleep guy," certainly not for his speaking style but because of his seminars on fatigue countermeasures. "Society has changed drastically," Rosekind said. "We are now a 24/7 world that is so technologically advanced that we often place humans in a passive monitoring role where boredom and complacency can quickly set in. But we as humans have not changed at all in thousands of years despite these societal changes. We still have a vital need for sleep, and when we disrupt that circadian rhythm we pay for it. That changes our mood, and mood swings can have a huge effect on safety and performance. Most people average an hour of sleep less per night than their bodies require. And sleep deprivation has a cumulative effect. It can take as much as two good nights of sleep to make up for as little as an hour or two of sleep deprivation."

Rosekind said there are as many as 90 different sleep disorders, another area such as the prescription-drug issue that the FAA has for the most part refused to acknowledge. Echoing earlier speakers, Rosekind said, "In the cockpit pilots are not good at determining when they are tired. You simply can't trust what a pilot tells you about his level of wakefulness. We don't bring CRM into the mix when we talk about sleep issues either. No one that I know briefs a flight and mentions the need to watch for the effects of fatigue. If we at least understand the risks, we have a chance of knowing what to look for."

Staying awake for a 24-hour period degrades a person's performance to the same degree as if they had a 0.10 blood alcohol level, according to Rosekind. It is not tough to imagine the effects that sleep deprivation can have on pilot performance when, by contrast, the figures on highway accidents tied to fatigue numbered 1.1 million last year alone.

"There is no one-size-fits-all solution for sleep issues," said Rosekind. "But consider that productivity drops by 17 percent when someone experiences a two-hour sleep loss

from the regular routine. Deprive them of four hours of sleep and productivity drops 43 percent."

It's Not Just a Job

"The stand-down is a cause," Agostino said. "It brings together a rich diversity of backgrounds to talk about safety. That's the group's real strength." Safety Standdown is quite unlike anything else related to aviation safety training presented elsewhere simply because of the variety of both theoretical and practical hands-on training opportunities it offers participants. One entire day was spent on medical and emergency training topics that are seldom experienced by pilots and their passengers, except during a real emergency.

Survival topics included basic emergency training and a look at the common infectious diseases any crewmember might encounter; CPR and the use of a defibrillator; the use of an aircraft evacuation trainer; and total immersion—literally—in a dunk tank and a swimming pool to simulate an aircraft that has ditched in the water. Because of the group's size, participants were broken into teams to make best use of emergency-procedures training devices.

Emergency Medical Training

Rick Kernes led the first emergency-medical training session aimed at an overview of medical concepts not thought of until it is too late. Kernes, a veteran firefighter and paramedic from the Oklahoma City Fire Department, was on duty the day the Alfred P. Murrah federal building was bombed.

"One of the first things everyone should do in an emergency is treat every victim as if they carry a contagious disease," Kernes began. "You're there to help someone else, but think about yourself. Be safe and take care not to become a victim yourself. Call for advanced life support whether you're on the way to land or already at the airport. Today these trucks are as sophisticated as many ERs."

Kernes emphasized the need to use a pilot's instinct to remain calm. "Don't let the victim see you get crazy. Ask for help from some other passenger if you're airborne." Kernes said it will be pretty clear who will be useful and who's in shock. "Ask victims if they are taking any medications, ask them how they feel on a one to 10 scale. It's amazing how accurate this observation can be. It's a pretty bad sign if a patient can't talk. Remember, too, if



Bombardier's Bob Agostino said the most dangerous person in this profession is an arrogant guy with a new title.

you dial 911 from your Louisville [Ky.] cell-phone in Los Angeles, it will probably take you back to a Louisville 911 operator, so be ready to ask for a patch-through."

Standdown promotes repetition of vital knowledge, as did Kernes during his lifesaving presentation: "It's always ABC first. Check a victim's airway, then their breathing, then circulation. And use protective gloves and masks when offering help. If your aircraft doesn't have them, get them. And remember that an injured person is always going to be in shock."

Kim Wegner, Facts/Air Care's access director for telemedicine and in-flight 911, and her crew of three assistants simulated some of the most common CPR-related emergencies, including how to help a choking victim. Wegner asked pilots to "think about the layout of your aircraft and where things are located now, before you need them." Like Kernes, Wegner hammered away at the fact that a victim needs those ABCs to live. "If air, breathing or circulation are a problem, fix them immediately or the rest won't matter."

More and more companies are equipping their business aircraft with defibrillators. Prices have dropped considerably on defibrillators, now in the \$2,000 to \$3,000 range, making them affordable for almost everyone. Many are available in a variety of languages and dialects. But having one on board is not enough. One pilot mentioned that his company offered no training for crews on how to operate the devices, making them virtually useless.

The "what if" factor was a constant theme at Safety Standdown. Wegner also asked attendees to consider just how and when they might declare a medical emergency and exactly what they'd do after that. Responses are often a combination of training and intuition. Wegner demonstrated CPR on a practice dummy and also allowed everyone to try their hand at it.

The topic of a choking victim was reviewed by Wegner: "If you approach someone who's

choking, watch for their swing zone,” referring to the ability of a victim to strike a hard blow with their arms or legs in their attempt to breathe. “And watch the use of oxygen. Too much can cause a victim to vomit, so keep their head turned. If you’re attempting CPR, don’t be surprised if you hear a cracking sound when you’re doing the compressions. It’s simply cartilage, not bones making that noise. If someone is having a seizure, don’t use a bite stick either. Most seizures last only a short time.”

Dr. Doug Mykol, founder and president of Facts/Air Care International, sponsored the day’s survival training. “Pilots can see some pretty tough situations out there when they try to help someone. Despite good-Samaritan laws, future liability can be an issue if it can be proved that someone exceeded their level of training and made the wrong decision.”

A Different Kind of Simulator

Anyone who has spent time at any of the big simulation companies recognizes the value of seeing a frightening situation up close enough to dissect it again and again until the training sets in. But almost no one has the opportunity to think about possible exit strategies from a smoke-filled airplane, because except for the training offered by Facts/Air Care, it does not exist.

As a part of Safety Standdown, Facts/Air Care brought its full-action, motion-based egress trainer to Wichita. Looking somewhat like a Hawker/Gulfstream/Citation glued to an RV, the trainer holds as many as nine “passengers” and “two pilots.” It also has a full galley, as well as both the standard-plug pullout doors found in most corporate jets today and the oval windows common to the Gulfstreams. A small pyrotechnics control room sits unobtrusively behind the cockpit.

The first scenario involved using a flight attendant for evacuation assistance on the ground due to an engine fire. The sound of the fire equipment can be heard in the background as the crew trains on how to prepare the cabin and passengers for an abnormal arrival, including such things as clearing the food service items away so they don’t become missiles upon landing and choosing a lead passenger to assist the flight attendant for the exit. The flight attendant advised pilots not to ask passengers if they understood instructions since almost everyone will say yes. She suggested asking them to repeat the instructions instead.

After the first arrival, it quickly became obvious how much help the flight attendant could be during an emergency—a clear lesson to those who can afford the services of this crewmember but choose not to. Everyone on board took the exercise good naturedly, as they might any simulation where the real threat level is low.

The next scenario showed the differences when a flight attendant is not available to help organize the cabin before a tough landing, in this case based around a structural failure and fire. The first officer was designated by the cap-

tain to handle the pre-landing brief and it went well, if somewhat more disorganized than with the well-trained cabin attendant, until the barest inklings of smoke—real-enough looking, but simply vegetable-oil based—began to rise up from the floor. Not surprisingly, people’s eyes opened wider as they began to take notice.

Upon landing, the briefing from the pilot had focused everyone on exiting the front door near the cockpit. But once the airplane stopped, it became clear the front door would not open as people who had rushed forward now began to run into one another trying to figure out what to do. After a short delay, they turned around and pulled the plug on the over-wing escape hatch.

The final scenario involved a cabin electrical problem filling the cabin with smoke before the airplane hit. The smoke was so thick, in fact, that only people’s ankles were visible. This time, before the aircraft hit, someone was chosen to open the exit door and help guide the people out. Thick smoke emerged from the hatch as soon as it was popped. The lead passenger kept shouting, “Follow my voice. This way out.” Without that guide, escape would have been almost impossible. How real was it? Real enough that all nine people who escaped stood next to the nose of the trainer for three minutes before realizing that one of the pilots was still on board, having succumbed in simulation to the smoke. No one uttered a sound.

If you don’t swim—I don’t—the dunk tank was an awe-inspiring experience. If you watched the film *An Officer and a Gentleman*, you saw a more sophisticated version, but the effect is the same. Once the seat dumps you upside down in the pool, you’re disoriented while still strapped into the chair by a typical aircraft five-point harness. Each participant was offered two to three chances at the dunker.

By the final dunk, the chair and the floats that supported it were rocking pretty violently, especially considering the fact that each occupant of the chair wore black-out goggles, adding to the confusion. The session was taught by veteran diver Dick Garrett, an Olympia, Wash. firefighter and contractor to Facts.

The final piece of water training included inflating a life vest and jumping in the pool to make one’s way over to an inflated 12-man Winslow raft. The raft session was taught by Monica Cleveland, an off-duty American Airlines flight attendant, and Dave Williams from Port Charlotte, Fla.-based Winslow. Participants were taken through the features of the raft such as the 406-MHz ELT, which provides almost instantaneous pinpointing.

Cleveland not only showed students how tough it can be to get in and out of the raft alone, but also taught the group some basic water-survival tactics, such as how to huddle together to conserve body heat.

“Humor can help you survive, no matter what it takes,” Cleveland said, “as is assuring everyone on the raft of a job they can call their own to ward off boredom and stress.”

Many companies have chosen to involve employees who are not pilots in the stand-down training. Buch Buchanan, chief pilot at Louisiana Pacific Corp., said, “Our company is very safety conscious. But even we’ve had some trouble convincing management about the value of this training. After we invited some of our managers here to take part in the sessions, however, it was much easier for them to see and recommend the conference.” Kite Co. pilot Harvey Meharry agreed: “Bringing executives to this training is a good idea. It gives them a real feel for what an aircraft evacuation might look like before they ever see it for real.”

Standdown Philosophy

Kern acknowledged one of Safety Standdown’s strong points: “This conference is never the same each year. But managers must have a system for developing a learning organization that helps employees grow and also develops a feedback system to know whether what they learn is working or not. This kind of event is where we get the oxygen for our industry—to get together to exchange ideas. You need to take time to recharge your batteries and learn what is happening in your industry. You need to stretch. That’s what we do at Safety Standdown.”

Bombardier will hold its annual Safety Standdown again next fall. □

Bombardier Standdown Commitment to Safety Award

Awarded for their commitment to knowledge-based training and a commitment to the safety standdown philosophy were:

- ConAgra Foods, Jim Hollenbeck, v-p of aviation
- DuPont Aviation, Neil Andrew, director of flight ops
- Koch Aviation Department, K.C. Carlson, aviation manager
- Kohler Co., Raymond Sauter, director of business travel
- Southern Company Services, Donald Clevenger, system air manager
- Union Pacific Corp., Richard McCollom, director of aviation
- Louisiana Pacific Corp., Buch Buchanan, chief pilot
- Value Plastics, Joe Soucek, director of aviation
- FedEx, Kirby Woehst, managing director
- Eaton, Greg Kuta, flight operations manager
- Government of Slovenia, Marjan Bojic, director of flight operations
- USAF Col. Don Wylie (ret.), for his academic achievement in developing a practical upset training program now in widespread use. —R.P.M.