

Aviation Human Factors Industry News

Volume VII. Issue 29, August 05, 2011



From the sands of Kitty Hawk, the tradition lives on.

Hello all,

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In this weeks edition of *Aviation Human Factors Industry News* you will read the following stories:

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AirTran employees getting new culture

Slight changes — such as dress codes — can make significant impact in mergers

Known for its [distinctive corporate culture](#), Southwest Airlines has begun taking steps to [cultivate its culture](#) among employees of AirTran Airways. Dallas-based Southwest bought Orlando-based AirTran in early May, starting a three-year-long integration process that will increase the size of the nation's largest airline by another quarter. The combined company has about 43,000 employees, including 35,000 from Southwest and 8,000 from AirTran.

The companies' similar cultures are helping the integration, said Bob Jordan, a Southwest executive vice president who was named president of AirTran in early May.



New CASA maintenance regulations come into effect

CASA's new suite of maintenance regulations for regular public transport (RPT) operations – covering continuing airworthiness requirements (Part 42), approved maintenance organizations (Part 145), maintenance personnel licensing (Part 66), and maintenance training organizations (Part 147) – came into effect on June 27. The rules, which are being phased in over a two year period, are based on European EASA regulations, and have seen over 7000 LAMEs issued with their new licenses under Part 66. “The [regulations will deliver a clearer focus on safety outcomes](#), while allowing maintenance organizations flexibility in the way they conduct their operations,” CASA said in a statement.



AMROBA, the Aviation Maintenance, Repair and Overhaul Business Association, has been critical of the changes, noting on its website that, “all the risks associated with the introduction of these new rules have not been addressed. These rules were supposed to ‘harmonize’ with the EASA maintenance regulations but, once again, are unique and will not assist with harmonization with EASA or the FAA...”

Claims AMROBA, “Unlike the EASA regulations they are based on, the increased regulatory imposts of these regulations will further increase costs with no improvement in safety.

JFK worker partially severs finger in plane cargo door

A JFK employee partially severed his finger today while closing a cargo door, authorities said. Ronald Case, 41, was loading cargo on a plane at 2:10 p.m. at Gate 3 of Terminal 1 when his [right middle finger got wedged between the door flap and the container](#) and became partly amputated, sources said. The cargo worker is employed by Aircraft Services International Group, a ramp service company that handles plane cargo.

The Port Authority Police Department’s medical unit rushed the man to Jamaica Hospital, where he is in stable condition.



Build a Trust Fund

Do your maintenance technicians feel like a valued part of the company whose input and recommendations are heard and implemented? Or do they feel like second-class citizens who rank at the bottom of the organizational totem pole? This isn’t just a touchy-feely “people question-the answer [has direct implications for safety and the reduction of human error in maintenance](#).

“There’s a direct correlation between trust and safety,” explains Dennis Reina, a guru of workplace trust who, along with wife Michelle Reina, co-founded the Reina Trust Building Institute, a Stowe, Vt.-based consultancy that has worked with numerous organization. “When maintenance personnel don’t feel trusted, they stop talking and stop caring. They come in, punch the clock, do their jobs and go home.” As a result, errors occur that could have been avoided. And mistakes are hidden rather than discussed because workers know they will either be punished or ignored if they call attention to them.



“Trust” as the Reinas define it goes way beyond mere confidence in a person to include three dimensions:

1. Contractual trust, which involves keeping agreements, ‘walking the talk and establishing boundaries.
2. Communication trust, which encompasses telling the truth, openly admitting mistakes and openly giving and receiving feedback.
3. Competence trust, in which workers know and are respected for their jobs, make decisions and are asked to contribute their advice and opinions.

All three [impact the safety culture](#) at an MRO, say the Reinas. Moreover, if technicians start shutting down in one area of trust, they tend to shut down in all three dimensions.

For instance, at one maintenance organization that called in the Reinas, technicians who once were forthcoming about issues has stopped sharing what they saw as signs of trouble. How did they get there? “When they asked for a particular tool or for resources to support them, they were challenged or questioned about the legitimacy of their request,” says Michelle Reina.

“Over time, they stopped making the request, and their attitude deteriorated to one of , [“Well, if it breaks, it’s not my fault.”](#) In other words, the breach of competence trust led to degradation in all areas of trust, which in turn degraded safety.

The Trust Effect

But when the three dimensions of trust are firmly in place, safety thrives. For instance, one large aerospace company that hired the Reinas to work with its maintenance organization achieved “dramatic behavioral shifts” as a result of employees’ voices being heard and respected rather than ignored.

“They saw a shift from blaming and finger pointing to stepping in and creatively solving problems together,” recall Michelle Reina. “They saw a shift from technicians putting their heads down and walking away to making suggestions about how to do things differently. And they experienced a shift from people being shut down to their being willing to provide and receive feedback”—all crucial components of a healthy safety culture.

A maintenance organization at a manufacturing company went from being ranked last in safety in their industry to being ranked number one worldwide by implementing a comprehensive trust-building initiative. Before the initiative, technicians’ recommendations to operators on ways to keep machinery running more smoothly were being ignored. The equipment would then break down, and maintenance would take the blame. Technicians, who consequently felt sidelined, eventually stopped caring, and safety suffered.

Following work to rebuild three dimensional trust, the manufacturer’s maintenance department skyrocketed to the top in its industry for safety. Furthermore, union grievances declined 19%, the number of sick days fell and there were markedly fewer instances of employees arriving late and going home early.

To address issues of trust in your own organization, start by paying attention to what you are seeing. Are your employees stepping up and voicing their concerns, or are they silent? Do they have pride and take initiative?

Do they feel appreciated, heard and understood? Or are they checked out and simply going through the motions?

“If a leader senses there’s trouble or that his people feel frustrated or taken advantage of, they’ve got to pay attention to that,” says Michelle Reina. “There is a tendency to ignore or justify those attitudes, but you can’t. Step in and seek to understand.

It’s not pop psychology. Helping your staff move from feeling marginal to feeling like they are strategically important contributors whose input is both valued and acted on has a direct impact on error, safety and other job performance metrics.

Beware The Icing Hazards Masked By Average Droplet Size, Scientists Warn

Expansion of the icing envelope for aircraft certification purposes, as proposed by the Federal Aviation Administration (FAA), will not cover all the icing conditions likely to be encountered by an airplane during its service life. [The envelope needs to be expanded, claim a group of distinguished atmospheric scientists.](#)



In 2010, the FAA proposed an Appendix O to cover supercooled liquid droplet (SLD) conditions. (See Aviation Safety Journal, July 2010, "Significant Regulatory & Related Activity") This new appendix would theoretically cover icing conditions not defined in Appendix C of the regulations. The icing conditions in the 1994 accident at Roselawn, IN, involving a twin-turboprop ATR-72, prompted the National Transportation Safety Board (NTSB) to recommend the FAA include much larger droplets than defined in certification regulations. This recommendation is the rationale for the belated publication of the Notice of Proposed Rulemaking with Appendix O in 2010, fully 16 years after the Roselawn crash.

Supposedly, Appendix C covered only 99% of the water and droplet sizes in so-called "cloud icing" conditions. Appendix O was intended to cover the conditions of freezing drizzle and freezing rain produced by other distinctly different processes of formation that are not part of the cloud icing conditions. Thus, an airplane certificated to both appendices should be able to cope successfully with any icing encounter while airborne.

[Not so, claim the scientists.](#) After examining the data used as a basis in the proposed Appendix O, and comparing these data to other data collected by instrumented research aircraft, they conclude in their submission:

"We therefore are concerned that adoption of [these rules will lead to a false sense of security](#) that they will protect against the icing hazard of freezing drizzle and freezing rain, when we have evidence this will not be the case."

The essence of their argument is familiar to students of Statistics 101 and those gamblers who frequent craps tables at casinos. It is similar to the way two dice

can land, showing a total count of seven on the top surface. There are six combinations: 1 & 6; 2 & 5; 3 & 4; 5 & 2; and 6 & 1. The average number of spots for all six combinations is $3\frac{1}{2}$. The corollary in icing is what is referred to as the mean volumetric diameter (MVD), a hypothetical diameter characterizing all the sizes of droplets in the cloud for which half the mass of water is in droplets larger, and half is in droplets smaller. A dice has no face with $3\frac{1}{2}$ dots and there need not be any droplets with the exact MVD.

The scientific evidence is that MVD, similar to the $3\frac{1}{2}$, bears no relation to hazard. There are icing cases similar to rolling a 6 and a 1 that are the real hazards (and the other five combinations not so much). The way the icing envelopes are defined date back to the 1940s, [but evidence now shows that other metrics are warranted](#). Scientific evidence supporting the need for reexamination has existed from multiple studies beginning in 1984 and revisited in the late 1990s.

Yet, as “nature abhors a vacuum”, the aviation industry abhors a change – and that is the seminal message in the scientists’ letter.

Study: Even one glass of beer, wine boosts car crash risk

Researchers at the [University of California, San Diego](#) found that having a blood-alcohol concentration of just 0.01 percent -- much lower than the legal limit in the [United States](#) of 0.08 percent -- [increased the chances](#) of being in a serious crash. In the study, published online June 20 in the journal *Addiction*, researchers analyzed national data on fatal car accidents in the United States between 1994 and 2008. No [amount of alcohol seemed to be safe for driving](#), according to the study. Even with barely detectable amounts of alcohol in a driver's blood, there were 4.33 serious injuries for every non-serious injury versus 3.17 serious injuries for sober drivers, the investigators found.



"Accidents are 36.6 percent more severe even when alcohol was barely detectable in a driver's blood," study author David Phillips, a sociologist at the University of California, San Diego, said in a university news release.

The researchers suggested that there are **three factors** that might explain their findings. Comparing sober drivers to those driving with a so-called "buzz," Phillips said, "buzzed drivers are more likely to speed, more likely to be improperly seat-belted and more likely to drive the striking vehicle, all of which are associated with greater severity" in an accident.

The investigators also found a relationship between the amount of alcohol a driver consumed and those three factors. For instance, the greater the blood-alcohol concentration of the driver, the greater the average speed of their vehicle and the greater the severity of the resulting accident.

Considering that blood-alcohol concentration limits vary greatly between countries (**Germany: 0.05; Japan: 0.03; Sweden: 0.02**), the study authors said that the new findings should encourage U.S. lawmakers and others to enact stricter laws against driving under the influence.

"Doing so is very likely to reduce incapacitating injuries and to save lives," Phillips concluded.

Drinking even a single glass of beer or wine can raise blood-alcohol concentrations enough to increase the chances of being seriously injured or dying in a crash for those who choose to get behind the wheel, a new study suggests.

Can a stopwatch predict heart health?

What are your odds of falling victim to heart problems as you age? There's now a simple way to find out: Time yourself running a mile. After studying more than 66,000 people between the ages of 20 and 90 over a period of 36 years, researchers at the University of Texas Southwestern Medical School have concluded **that fitness in middle age is as strong a predictor** of heart health as commonly known risk factors like high blood pressure and high cholesterol. And the best measure of fitness is "the speed at which you can run," lead researchers Jarett D. Berry tells The New York Times. "Heart disease risk increases markedly for every minute longer it takes you" to complete a mile.



Men in their 50s who can run a mile in eight minutes, and similarly aged women who can do so in nine, have a lifetime heart disease risk of only 10 percent, the study concluded. Men who take more than 10 minutes and women who need more than 12 **are three times more likely** to suffer problems like heart attack and stroke. Berry says the findings show that many people who think they're active probably aren't pushing themselves hard enough. "Getting off the couch is the first step," he says, "but vigorous activity has a much more dramatic effect" on future heart health.

Everything You Want in a Railing

Not sure why the non-genius creator of this accident-waiting-to-happen left the **roll of duct tape** dangling from his handiwork. Because he was proud of it? He got tired and figured someone else would take a few more turns around the scaffold ends? Or is it a warning that this so-called "**fall protection**" is just symbolic and really isn't going to work worth beans?

