

# Aviation Human Factors Industry News

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*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:

★Flight Deck Chicken

★Aviation safety making incremental improvements, NTSB says

★FAA ADMINISTRATOR WANTS MROs ADOPT SAFETY MANAGEMENT SYSTEM (SMS)

★SMS and Safety Culture Courses

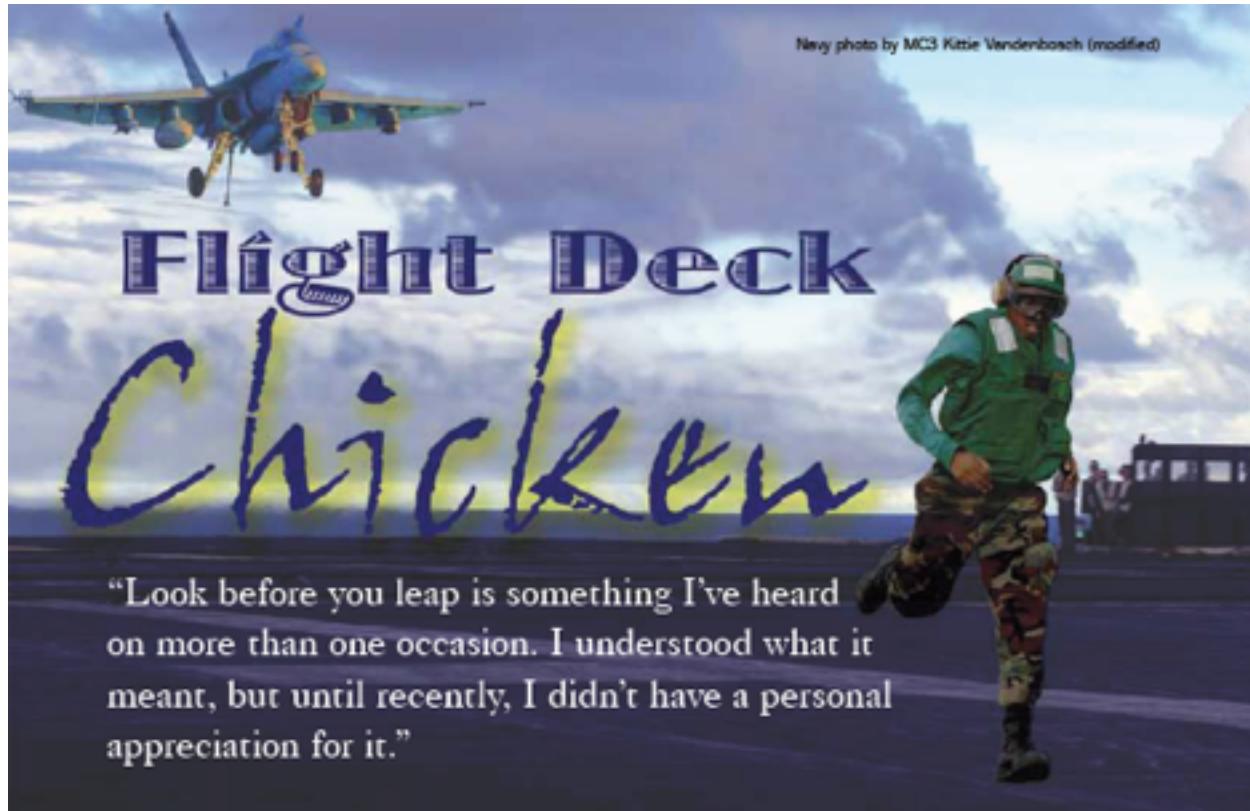
★Electronics and planes can be a dangerous mix

★Flightglobal announces the launch of a new training site

★Showing How Workplace Stress Hurts the Bottom Line

★ALWAYS ASK, NEVER ASSUME

★Graduate Survey Request



I had been in VAW-115 aboard USS George Washington (CVN-73) for almost two months. I was comfortable with the flight deck, maybe a little too comfortable. All of my flight-deck experience had been during day check. I had only been on night check for a week.

One evening I was tasked to bring our engine test set to the flight deck for some routine work. I grabbed the test set and hurried out the door. My shop is directly below the landing area (LA) on the forward end of the port side. My intent—moving with a purpose so as not to delay the aircraft from its launch—was good, but in this case it was my downfall.

Without thinking about the fact that the ship was recovering aircraft, I exited the port-side catwalk and, with test set in hand, looked for the arresting-gear officer who would give me permission to cross the LA. I didn't see him right away, so I boldly began to cross the LA.

When I was about halfway across, I turned to my right to see an FA-18 heading straight for me. Adrenaline and instinct took over at that point. This was a game of chicken I had no intention of playing. I bolted across the rest of the LA like my heels were on fire and was met by a plane handler on the other side. I began to explain myself to the handler, but [I didn't have much of a rationale](#) for my actions. I had messed up, period. [I didn't follow the rules](#) taught to me during flight-deck familiarization. I was in new territory and hadn't taken the time to think things through. I was just grateful that, thanks to my reflective PPE, the LSOs spotted me in time and waved off the jet.

I learned a lot that night. Unfortunately, it was at the expense of my flight deck qualifications and reputation. Moving with a purpose is an excellent mentality, but [if you don't slow down and look before you leap](#), the consequences can be dire.

## **Aviation safety making incremental improvements, NTSB says**

The safety of civil aviation in the United States continued to make [incremental improvements](#) across most industry segments in 2010, based on preliminary accident statistics released Wednesday by the National Transportation Safety Board (NTSB). Twenty-six accidents were recorded for U.S. airlines and six accidents on scheduled commuters, all non-fatal, the NTSB said on Wednesday.

Total accidents of on-demand operators (charter, air taxi, air tour and air medical operations) decreased from 47 in 2009 to 31 in 2010, despite a slight rise in the number of annual flight hours from 2,901,000 to 2,960,000. However, fatal accidents increased from two in 2009 to six in 2010. The number of fatalities for both years was 17.



The decline in general aviation accidents in 2010 continues its downward trend, but this sector still accounts for the greatest number of civil aviation accidents and fatal accidents. There were a total of 1,435 such accidents in 2010, 267 of them fatal, resulting in 450 fatalities.

## **FAA ADMINISTRATOR WANTS MROs ADOPT SAFETY MANAGEMENT SYSTEM (SMS)**

US FAA administrator Randy Babbitt is urging maintenance, repair and overhaul (MRO) firms to formally adopt safety management systems, saying SMSs will play a key role in enhancing the industry's safety culture.

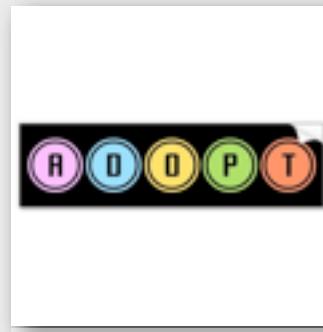
But some industry stakeholders have vocalized concerns about shouldering the cost of implementing SMS. A non-punitive safety reporting system, SMS allows employees to report problems or errors without fear of retribution.

"We're already working with the pilots, we're working with mechanics, flight attendants, dispatchers and our air traffic controllers. All of them now have self-reporting programs, and they're working," said Babbitt last week at the Aviation Week MRO Americas conference in Miami.

"We're getting thousands and thousands of data slices that we would never get. We would never ever get. People would simply hide them for fear of being punished. For fear of retribution. We take that away. I don't care [who reported]. I just want to know the data. I want to know what happened. You want to know what happened. You can't fix things you don't know are broken and so that's why we take a fairly aggressive approach in this."

With this data, the FAA is hoping to shift from a system that in the past relied on the use of forensics to understand what happened in an aircraft accident to one that uses computer analysis and trends to help the agency make decisions to stop accidents before they happen.

Last fall, the FAA released a proposed rule that imposes SMS implementation on most airlines.



The public comment period for the proposal closed on 7 March of this year. The agency also recently made a proposal that airports adopt SMS on ramp areas and access areas on airfields. Public comments will be accepted until 5 July.

But Babbitt says he'd "like to see more companies, and airports move toward SMS, and eventually MROs".

Because most airlines already have quality control and quality assurance programs in place, SMS "simply formalizes those processes", notes Babbitt, who admits he is accustomed to hearing questions about whether adopting SMS will cost the industry more money.

"I would remind all of us that SMS is [considerably less expensive than an accident](#) and so together we have to make this shift," says Babbitt. "SMS is essentially a feedback, if you think about it, it's not all that complicated. You have a way of understanding and collecting the data. You identify the problem, you analyze it, mitigate it, you design the procedure and training of the new procedure and then you implement it, and then you continue to monitor the data and see did that fix the problem. [It's really a fairly simple system](#), and gives you continuous feedback [on how you're doing]."

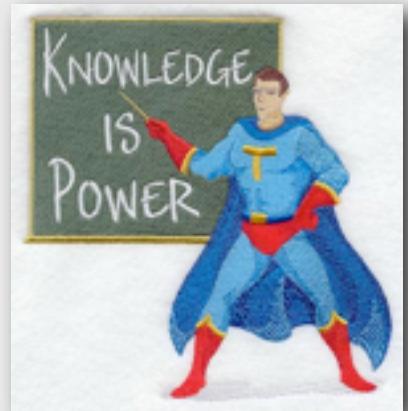
Many Part 145 repair stations already have SMSs in place. "However, those systems have not spread the responsibility for safety throughout all levels of the organization. Rather, they have been confined to audits or checklists in areas where a large number of accidents or incidents have occurred," notes [Curt Lewis & Associates](#), a consultancy that specializes in assisting with SMS implementation.

During the conference, Aeronautical Repair Stations Association executive director Sarah MacLeod said industry is already a step ahead of regulators: "Governments don't lead the industry. The industry leads government. And if you don't believe that, then boy this is really the wrong industry to be in because they are way behind us. Did you drink the Kool-Aid this morning with Randy [Babbitt]? The government is going to tell us how much money we're going to save with this new system that they are going to make us pay for. What the? We need to start passing out Kool-Aid at all these things. The SMS Kool-Aid. The NextGen Kool-Aid," said MacLeod.

Babbitt says the "central element" to a good SMS is the [employee who feels comfortable enough to willingly report safety hazards](#). "When you have your employees doing that, you will have achieved a [safety culture](#)," he says. But he warns that the system will never be perfect. "We'll never be safe enough. We'll never get to zero," he says, adding: "But we'll always be trying."

## SMS and Safety Culture Courses

TACG has combined two related and highly relevant courses into one day of training in a beautiful resort location! The agenda includes an [SMS overview followed by a safety culture course](#). This event will be held in Myrtle, SC on Friday, July 29<sup>th</sup>, 2011. We encourage attendees to bring the family and make a long weekend out of it! Fee is just \$150.00 per person!

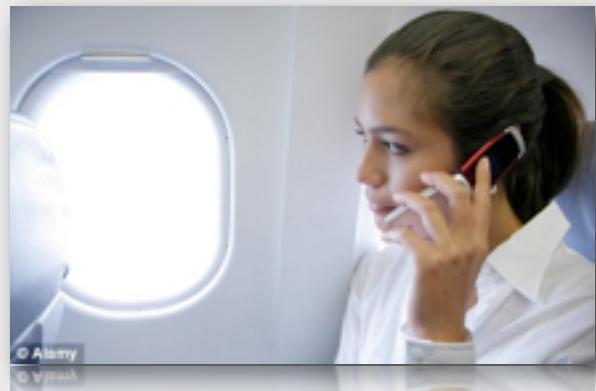


Visit the event webpage at [www.tacgworldwide.com/07292011.htm](http://www.tacgworldwide.com/07292011.htm)

## Electronics and planes can be a dangerous mix

Electronic devices are banned during certain moments of a flight for good reason. Actor learned an embarrassing lesson in airline safety rules last Dec. when he was kicked off a plane for refusing repeated requests for him to turn off his Blackberry.

The incident received media attention because it involved a Hollywood celebrity, but plenty of lesser-known passengers [fail or simply choose not to follow instructions](#) to turn off electronic devices during flights.



But why is it such a big deal, and why are these rules so strictly enforced?

Duhamel's actions were particularly foolish, since the actor was using his Blackberry while the plane was on the runway. This is a huge no-no, since cell phones, pagers and similar appliances must be turned off the moment an aircraft leaves the gate.

As far back as the 1960s, the [Federal Aviation Administration](#) found that these types of devices transmit and receive signals that can "interfere with aircraft communications and navigation equipment" and "could be potentially hazardous to aircraft communication and navigation equipment, if operated aboard aircraft."

Although no commercial jet crash has ever been officially blamed on cell phones, some theories point to them as the cause of at least two air disasters.

In 2000, a report by the Swiss government determined that pilot error was to blame for the crash of Crossair Flight 498, which killed all ten people on board. However, an [alternate investigation discovered](#) that the autopilot system malfunctioned at the same time a passenger received a text message – a finding that led many countries to outlaw the use of cell phones on flights.

Five years earlier, the crash of Ansett [New Zealand](#) Flight 703, in which four passengers died, forced investigators to look into whether the use of a cell phone played a part in the [failure of the plane's radar altimeter](#) shortly before impact.

While mobile phones can be potentially dangerous to planes, other portable electronic items that don't receive signals – such as [iPads](#), [iPods](#), laptops – are still forbidden from being used during specific moments of a flight - specifically takeoffs and landings.

The reasoning behind this may have more to do with airline protocol than with the devices themselves.

"It must be recognized that the potential for personal injury to passengers is a paramount consideration, as well as is the possibility of missing significant safety announcements during important phases of flight," [reads FAA advisory circular No. 91-21.1B.](#)

In other words, it's important to have the passengers' complete attention during takeoffs and landings, which are considered the most potentially dangerous moments of a flight. Also, a personal injury lawsuit against an airline is a lot more effective if the accuser claims [to have been too distracted to hear the safety instructions](#) prior to the flight.

And while iPads, iPods, laptops and the like don't transmit signals, they do emit radio waves, which in theory can disrupt the plane's computing equipment. As the FAA explained, "this prohibition is in addition to lessening the possible interference that may arise during sterile cockpit operations (below 10,000 feet)."

Small or not, the possibility of an electronic device causing an unthinkable air disaster seems **enough to err on the side of caution**. Not doing so would be too big a gamble.

## **Flightglobal announces the launch of a new training site**

Flightglobal prides itself on providing the tools to enhance your career, and so is pleased to announce the launch of a brand-new [training site](#) dedicated to providing you with the best courses from the world's leading training providers. Flightglobal provides the latest aviation and aerospace training courses including Flight Training, Air Safety, Maintenance and Management.



Whether you're an aspiring engineer embarking on the first steps of your career or a pilot looking to make that next step, [Flightglobal Training](#) has the course for you.

Key features include:

- Search by discipline, including Flight Training, Air Safety, Academic, Maintenance and Management courses, and get an RSS feed of that search
- Registration is free and you can upload your CV, set up email alerts, subscribe to RSS feeds and apply for the latest aviation and airline training courses online
- Apply in minutes to the best aerospace and aviation courses listed by the biggest training providers.

<http://www.flightglobal.com/training-courses/default.aspx>

## Showing How Workplace Stress Hurts the Bottom Line

Work-related stress has been around for as long as workplaces themselves. But recognition of stress as an [occupational hazard](#) is a product of modern times. Unfortunately, not all CEOs have gotten the message. As a leader, you must your CEO that stress really is a problem to take seriously. The best way to do that is to [relate the problem to dollars](#). Here's how to educate your CEOs to the dangers of workplace stress and gain their support for programs to combat it. There's also a Model Worksheet in Tools you can use to calculate the financial impact of stress on your company.



### The Business Case for Preventing Workplace Stress

The case is a simple one: Workplace stress hurts profits because it increases absences and cuts productivity. Want some good hard data that you can use to make this point? According to a press release from the World Congress on Health and Safety at Work, of the 40.2 million working days annually lost by businesses worldwide, 13.4 million are from stress, anxiety and depression, the representatives found.

To put these numbers into perspective for your CEO, relate stress to more "familiar" hazards. According to one of the delegates, "in the U.S. alone, stress is creating a workplace hazard every bit as damaging as chemical and biological hazards."

### Demonstrating the Hidden Costs of Stress

These statistics should help you capture the CEO's attention. But you'll probably need to drill deeper to make your case.

To persuade your CEO to invest company resources, you must clearly explain exactly how workplace stress hurts the business. This is tricky because stress isn't a line item cost listed on the typical profit and loss statement. It's a bundle of hidden costs. There are five elements in this bundle that you should point to:

## 1. Higher Injury & Illness Rates

The more stress workers experience at work, the more likely they are to engage in unsafe behavior. The result is more incidents involving personal injury and/or damage to equipment and machinery. The link between stress and incidents isn't just a matter of common sense; it's well documented. If you want a good study to cite, see F. Gordon & D. Risley (1999) "The costs to Britain of workplace accidents and work-related ill health in 1995/96, Second Edition," HSE Books, London; and P. Dorman (2000), *The Economics of Safety, Health and Well-being at Work: An Overview*, International Labour Organization, Geneva.

## 2. Increased Absenteeism

Studies confirm that workers under stress are more apt to call in absent—either because they're genuinely ill or they're feigning illness to avoid having to go to work.

## 3. Higher Turnover

Stress at work also causes people to leave the company. In addition to losing good people, companies incur high administrative costs in seeking replacements. And, replacement costs tend to rise to the extent that the company gains a reputation for being a stressful place to work. There's a Worksheet in Tools that you can use to calculate just how much stress-related turnover costs your business in a given year.

## 4. Premature Retirement

Stress causes older and more senior workers to retire before they're ready. Result: High replacement costs and in many cases lump sum and pension payments.

## 5. Reduced Productivity

Workplace stress harms workers' productivity and performance. The effect of stress on productivity is hard to measure; but it is real.

## Conclusion

There's nothing mystical about workplace stress. It can be managed. For example, Employee Assistance Programs have proven very effective at reducing stress on the job. But these solutions cost money. And time.

The only way to secure the necessary resources is to persuade your CEO that workplace stress poses a serious threat to your workers and your company's bottom line.

## **ALWAYS ASK, NEVER ASSUME !!**

*His request approved, the CNN News photographer quickly used a cell phone to call the local airport to charter a flight.*

*He was told a twin-engine plane would be waiting for him at the airport.*

*Arriving at the airfield, he spotted a plane warming up outside a hanger.*

*He jumped in with his bag, slammed the door shut, and shouted, 'Let's go'.*

*The pilot taxied out, swung the plane into the wind and took off.*

*Once in the air, the photographer instructed the pilot, 'Fly over the valley and make low passes so I can take pictures of the fires on the hillsides.'*

*'Why?' asked the pilot.*

*'Because I'm a photographer for CNN' ,*

*he responded, 'and I need to get  
some close up shots.'*

*The pilot was strangely silent for a moment.  
Finally he stammered, 'So, what you're telling me,  
is . . . You're NOT my flight instructor?'*

## Graduate Survey Request

I'm a graduate student in Human Factors department at Virginia Tech. Currently, I'm studying the use of the ASAP data to develop an analysis toolkit for this type of incident records.

If you are dealing with the ASAP data in your organization, please share how the data are being utilized. This is a short (10 question) and anonymous survey.

Here's the link to the survey.

[https://virginiatech.qualtrics.com/SE/?SID=SV\\_elJFCHjkTrXwH8E](https://virginiatech.qualtrics.com/SE/?SID=SV_elJFCHjkTrXwH8E)