Aviation Human Factors Industry News

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Air safety approach criticized

The Canadian Press

The head of the inquiry into the 1989 crash of a commuter jet in Dryden, Ont., says the Aeronautics Safety Act needs to be toughened to avoid a repeat of the disaster.

Virgil Moshansky, pictured, whose three-year inquiry found "unconscionable safety deficiencies" contributed to the deaths of 24 people aboard the Air Ontario jet, said Transport Canada is handing off too much responsibility to airlines to set and carry out their own safety protocols.

He was commenting on proposed amendments to the act, which he says still don't allow for enough federal oversight on the industry.

"What concerns me ... is you're relying on the carriers themselves to discover violations or weaknesses in their system," Moshansky said in an interview yesterday. "It's like the fox being in charge of the hen house."

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Airliner Crash in Indonesia

March 7, 2007: Garuda Indonesia 737-400 en route from Jakarta caught fire upon landing in Yogyakarta late yesterday. A local official told Reuters that "it happened when it overshot beyond the runway and burst into flames." There reportedly were 133 passengers and seven crew onboard. Indonesian Transport Minister Hatta Rajasa told local television that 76 people were rescued, according to Bloomberg News. Witnesses reported fatalities. An airport official told local radio that he "saw many bodies, dozens of bodies badly burnt near the exit," according to Fox News in Australia. Indonesia still is dealing with the aftermath of January's crash of an Adam Air 737-400 that killed 102 and was considering banning all aircraft older than 10 years.

Aircraft Age Ban

Indonesian government announced a ban on commercial aircraft older than 10 years this week following several mishaps and accidents, the worst of which was the January crash of a 17-year-old Adam Air 737-400 that killed 102. According to the Associated Press, Transport Minister Hatta Rajasa insisted the regulation would not require parliamentary approval but did not indicate when it would go into effect. The current age limit is 20 years.

Adam Air announced earlier this month that it intended to lease six A320s and build up a fleet of 30 of the type "over the next five years," replacing the 737s it now operates. New aircraft will be both leased and purchased.

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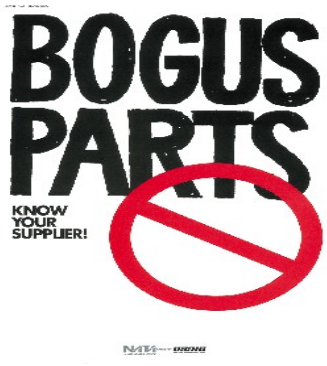
Russia takes action against bogus parts



Russian prosecutors and officials with the Transportation Ministry said they have discovered many violations of safety regulations in the work of air carriers and serious drawbacks in the activities of regulatory bodies.
Airplane parts produced by unofficial sources were used in a number of aircraft, possibly leading to in-flight emergencies. Recently an engineer was charged with a fraudulent attempt to sell airplane parts with expired service-life dates by writing down false information on their overhauling in technical documentation.

Software patch to the rescue

The F-22 continues to encounter bumps in its first air expeditionary force deployment to Okinawa. The 12 aircraft from Langley AFB, Va., spent an unscheduled week at Hickam AFB, Hawaii, after the leading four had to abort the trip's last leg.

As the Raptors reached the International Date Line, the navigation computers locked up so the aircraft returned to Hickam until a software patch was readied.

"Apparently we built an aircraft for the Western Hemisphere only," says a senior U.S. Air Force official.

Trees being cut down around Tampa International Airport for safety

Florida-Tree after tree is being cut down near Tampa International Airport.

Rob Iles says it's a shame, because it gives commercial property off West Laurel Street more charm and value, "I think it's horrible I'm a staunch proponent of preserving nature not destroying it, it is just tragic."

While some of the trees are being removed for a new hotel, many others are being taken down for another reason. Iles says someone from Homeland Security recently told employees in this area that the trees had to be cut.

“She made a comment to the receptionist that part of the reason this was going to happen was there was a concern about terrorists in the trees potentially shooting down planes.”

Louis Russo of the Hillsborough County Aviation Authority says it has nothing to do with terrorism, “It wasn't done for security reasons; it's done for safety reasons.” They're cutting trees so they won't obstruct any planes.

Emergency vehicles will also have access to a Runway Protection Zone. The director of Planning and Development says, it will cost the airport $2-million dollars to cut down 1900 trees and that will span over 36 acres of property. Iles thinks it's a waste of taxpayer dollars. But Russo says it's about making sure passengers leaving TIA are safe, “The trees are in the way of precision instruments for engine departures and landings, basically landings.”

So before more planes head up to the sky, there will be plenty of trees falling down till the end of April. The Aviation Authority says it received the proper permits from environmental agencies to remove the trees. They say the future hotel will not obstruct planes, like the trees do.

Runway Safety Is For Mechanics, Too

Runway excursions are one of the FAA’s pet peeves. Pilots are not the only ones involved... line service workers and mechanics are also responsible for moving aircraft to and fro on an airport surface.

At the recent Women in Aviation conference, Dr. Paul Foster, Jr. presented a forum on runway safety, for those who don’t fly. Foster maintains mechanics move more planes than pilots. ATC counts flights, but not surface movements.

"In the morning when the crew shows up to the terminal, how did the aircraft get there?" Foster asked. "Maintenance brought it over. Last flight of the night who takes the aircraft to the hanger?"

One of Foster’s first suggestions is that pilots talk to their mechanics. "That aircraft there that they’re taxiing belongs to you. You want to protect it." Foster warned the pilots, the plane that is taxiing in front of you could have a mechanic behind the yolk, who may not be as familiar with signs and markings as you.

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According to Foster, most of the schools he's been to are not teaching signs and markings to mechanics -- they are teaching light gun signals. When is the last time the tower gave light gun signals to a tug? This trend seems to be changing for the better, with some schools spending days on signs and marking.

The good news Foster imparts is there have been "no deaths from mechanic-led incursions."

"We have already learned to drive on the airport when we drive on the street," reminded Foster. "Some of the same markings mean the same things, with a little additional definition." Solid yellow lines mean don't cross, on the highway and on the airport; dashed lines, Foster said, mean "dash across."

At night, if there are green lights along the center of the taxiway, side lights are not necessary. The theory is, if you stay on the center line lights you are clear of the runway edge, so it's a good idea to follow those center line lights. "Be vigilant," warns Foster, as pilots have had tendencies to land on taxiways.

Foster explained the two types of areas on the airport surface, movement and non-movement areas. In non-movement areas, vehicles can move without talking to air traffic control. In movement areas, ground vehicles must talk to ATC. Clearance to taxi to an area does not give you permission to taxi back to your starting point. It's a one way ticket, not round-trip.

All conversations with ATC are recorded, so "be careful what you tell us (FAA) what you said," warned Foster.

Surface incidents are what the incidents are called until the results come back from Washington DC. Once back from DC it may then be called a runway incursion. A surface incident is defined as "An event where unauthorized or unapproved movement occurs within the movement area or an occurrence in the movement area associated with the operation of an aircraft that affects or could affect the safety of flight."

If a surface incident is classified as a Runway Incursion, it is assigned a severity category. Category D means little or no risk of collision.

Category C means ample time and distance to avoid collision. Category B means significant potential for airplane collision. Category A means barely-avoided collision.

Foster also told a bit of trivia as to how the distance of hold-short lines came about, and why we need to stay behind them.

The NTSB, FAA and several other alphabet groups got together. Measurements were taken of each piece of debris when airplanes crashed on the runways -- including jumbo jets, corporate jets and small props.

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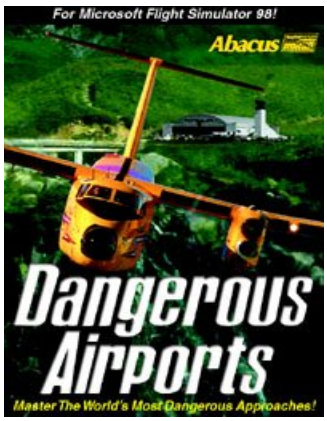
Foster told his audience generally for the airliners, 250' was the maximum distance of debris spread, so larger airports have their hold-short lines set 250' back from the edge of the runway. At smaller airports, hold-short lines will be closer to the runway.

Signage once again mimics driving. Mandatory signs, like a stop sign are white letters on red background. Informational signs are black letters on yellow background, location signs are yellow letters on black background. Some airports use surface painted signs. These surface painted signs are used on hot spots on the airport to supplement existing signs.

Maybe considering the whole airport surface a "hot spot" is a good idea.

America's most dangerous airports



Air travelers face the biggest risk of death or injury on the ground

U.S. air travelers face the biggest risk of death or serious injury on the ground, and now, after a post-Sept. 11, 2001, lull, potentially life-threatening incidents are on the upswing again.

Most fliers worry about crashing in-flight even though only 74 commercial aircraft have crashed since 2001, despite more than 10 million flights annually. But travelers face far more danger during takeoff or while landing, according to Federal Aviation Administration figures. These figures for 452 airports were analyzed by Forbes.com editors, who examined the size of the facility, the numbers of takeoffs and landings, and the severity of the incidents as categorized by the FAA.

Since 2001, 108 travelers have died in ground collisions involving commercial airlines. Many of the deaths occurred at highly congested airports.

Most, if not all, of the incidents could have been avoided if airports had the proper monitoring equipment in place. What's worse, FAA figures show hundreds more commercial jet aircraft came within eight seconds of collision between 2001 and 2006.

Analysts blame congestion, weather, poor runway design and human error. Many say the problem is only getting worse.

Runway mishaps have risen 37% since 1995. Incidents peaked at 401 in 2001, and then fell off during the recent aviation recession. But now they are on the rise again. Last year, 330 runway incidents occurred, up from 240 in 1995.

To be sure, serious runway incidents involve only a small fraction of an airport's total flights--typically far less than 1%.

But this fact is of little comfort to the families and friends of the 47 travelers and two crew members who died in Lexington, Ky., last August. A confused Comair jet crew rolled onto the wrong runway during an early-morning rainstorm and crashed during takeoff. The fatal Comair crash vaulted Lexington's Blue Grass Airport (82,000 flights annually) onto the list.

Topping the list of the nation's most dangerous airports are smaller fields relieving bigger congested hubs.

Two of the worst are in Nevada and California. North Las Vegas, known as Northtown, had 63 runway incursions since 2001, resulting in six deaths. It is followed in the rankings by Long Beach/Dougherty Field, the scene of 78 incidents and no fatalities. In these cases, it was congestion and high flight volumes that led to the large numbers.

Both airports serve as reliever airports for highly congested nearby cities--Las Vegas and Los Angeles.

North Carolina's Charlotte/Douglas International Airport, normally a safe airport, landed at No. 2 on the list, a ranking earned because of a 2003 US Airways Express crash. A Raytheon commuter aircraft crashed into a hangar during takeoff, killing two crew members and 19 passengers. Poor maintenance, not the airport, was blamed.

Noticeably absent from the most dangerous airports were some the nation's biggest and busiest facilities: JFK and LaGuardia in New York and Atlanta's Hartsfield-Jackson.

Size--in terms of flight volumes--does present problems, however.

Busy Los Angeles International reported 95 incidents, including eight serious ones since 2001, giving it a No. 4 ranking on our list.

Boston's congested Logan clocks in at No. 5 with 53 incidents, two serious, and Phoenix Sky Harbor International Airport, which handles more than a half-million flights a year, has had 49 incidents, three serious, at the facility in the last five years, earning it a No. 6 ranking on our list.

At busy Newark International Airport in New Jersey, No. 7 on our list, gate space is tight. In August 2005, an arriving Continental Boeing 737 pulling into its assigned gate couldn't gauge clearance and sliced two parked Embraer jets.

Chicago's O'Hare International, the nation's second-busiest airport, ranked eighth, with 68 runway incursions between 2001 and 2006. Three near-collisions at O'Hare in March 2006 pushed the National Transportation Safety Board and the FAA to launch investigations into whether the runway layout was flawed. A $6 billion runway expansion should help, but the project's 2013 completion is behind schedule.

Bad weather and poor runway design give Chicago the distinction of having two airports in the top 12--O'Hare and the much smaller Midway International.

At Midway, built in 1923, a Southwest Airlines Boeing 737 skidded across an icy runway in December 2005. The 737 ripped through a fence and plowed onto a city street. The runaway jet killed a 6-year-old boy and injured a dozen others. Runways at Midway are about 2,000 feet shorter than those at newer airports.

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Since 2004, the FAA has spent $1 billion per year on modernizing the nation's air traffic control network. The goal is to develop a comprehensive network, using satellites to map aircraft, alerting pilots and controllers of any potential for collisions. Right now, controllers rely on a patchwork of electronic and visual tools to map an aircraft's whereabouts.

One problem: The FAA says it will cost $510 million to upgrade 38 major U.S. airports. Some of that cost would presumably be passed onto passengers and airlines. And the system, if it gets funded, won't be completed until 2011.

Mary Schiavo, an aviation litigator and the former inspector general at the U.S. Department of Transportation, doesn't have much confidence in government bureaucrats' ability to solve the problem. "We've lost control. … The problem is too big for the FAA to handle," she says tartly. "Maybe we should hire Microsoft."

Room for improvement in Taiwan's flight safety: ASC

Taiwan's airline industry recorded 28 accidents involving fixed-wing aircraft between 1996 and last year, with a total of 467 people killed in seven of these accidents, tallies released yesterday by the Aviation Safety Council (ASC) showed.

Accident rate decline

These numbers translate into an accident rate of 2.10 per million departures, lower than the rate of 2.17 per million departures recorded for the 1995 to 2004 period and 2.82 per million departures recorded for the 1994 to 2003 period, ASC officials said.

However, the world's total air accident rate for the period from 1996 to last year was 0.89 per million departures, meaning that there is much room for improvement for flight safety in Taiwan, the officials said.

Of the 28 air accidents, 13 -- or 46.4 percent -- occurred during landing, they said.

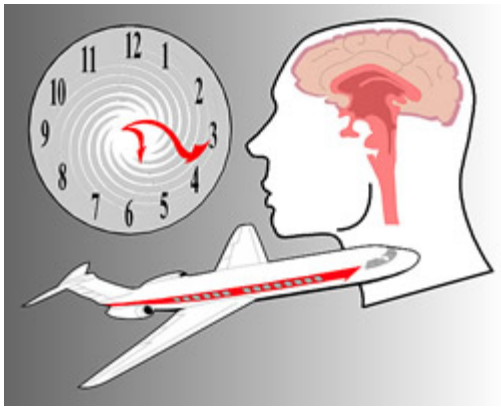
While the aircraft swerved off the runway in seven cases, six accidents occurred on rainy days and five happened during typhoons, they said.

The officials said that in addition to poor weather conditions, air crew failure to follow standard operational procedures or lack of understanding of aircraft systems were responsible for most of the accidents.

Human error

Eighty-eight percent of air accidents recorded by the Taiwanese airline industry over the past 10 years were as a result of human error, 42 percent were related to environmental factors and 19 percent to aircraft problems, the ASC said.

Turn back the clock on jet-lag grind with early nap time



It's the caged-mouse syndrome of air travel: You feel crammed into your seat on a long-distance flight with little to munch on except a bag of pretzels.

But you better hope you beat jet lag better than a mouse.

A study at the University of Virginia released during the height of Thanksgiving and Christmas travel seasons showed that a majority of elderly mice died while being subjected to the equivalent of a Washington-to-Paris flight once a week for eight weeks. More intense forms of jet lag sped up the death rate in the elderly rodents, the study found.

For decades, fliers have stoically battled the modern-age problem of jet lag, viewing its accompanying grogginess, burning eyes, headaches, insomnia and fatigue as more of a nuisance than a potential health issue.

The study has focused new attention on the problem and raised questions about whether severe jet lag can harm health. It also has drawn attention to work by other researchers looking into ways to help vacationing families and business travelers avoid jet lag. The study is one of the first hard scientific looks into the health effects of jet lag, experts said.

The condition has become such a common scourge of the jet age that an entire industry has emerged on the Internet, offering such solutions as acupressure kits, homeopathic pills and light-enhancing visors. Many travelers have invented their own treatments: slurping down gallons of coffee, dunking heads in ice-cold water, taking naps, jogging, and popping sleeping pills and homeopathic remedies. But researchers say few of those remedies are backed by science.

In the study, younger mice seemed to rebound more quickly and were not immediately harmed by the jet lag. Simulated jet-lag conditions were created by advancing and delaying the rodent's exposure to light.

Researchers aren't sure what conclusions to draw from the results.

Gene Block, the report's co-author, said older mice might be more susceptible to sudden light changes than younger mice. Or, he said, jet lag might be a health problem that builds up in younger subjects, causing future maladies.

To further explore the issue, his researchers have launched another set of tests to determine whether jet lag causes long-term health consequences in younger and middle-age rodents, Block said minutes before boarding a 14-hour flight to Japan from Washington.

"I feel like a subject in the experiment," said the 58-year-old, who recently returned from a conference in Italy. "Like many people, I am finding it more difficult to cope with jet lag as I get older. ... I would like to know whether it's a phenomenon of old age or whether it is something I really have to worry about."

Block's study also hinted at what fliers have been saying for years: It is more difficult to adjust to time zone changes when flying east. The researchers found that 53 percent of elderly mice died when they were subjected to a simulated weekly flight from Washington to Paris over the eight-week study. The death rate dropped to 32 percent of elderly mice on a simulated Paris-to-Washington route, according to the study, which was published last month in the journal Current Biology. Seventeen percent of the mice in a control group died in the eight-week study.

Research has identified links between night-shift work and chronic health problems. And doctors and aviation experts have worked hard to help pilots, technicians and flight attendants mitigate the effects of jet lag to ensure they can function properly while on the job.

Jet lag is caused when people fly across time zones. Many factors, including daylight, sleep cycles, hormones and other natural rhythms, play a role in how humans' complicated internal clocks handle it.

Researchers say the only way to truly avoid jet lag is for travelers to gradually prepare before leaving on their trips.

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Charmane Eastman, a professor and director of the Biological Rhythms Research Lab at Rush University Medical Center in Chicago, believes fliers can more easily cope with jet lag by adjusting their sleep schedules before traveling.

If headed east from the East Coast, for example, travelers should go to bed an hour earlier each night and wake up an hour earlier each morning for several days before leaving town.

When travelers awake, they should get sunlight or use a "light box" to help trigger changes in their biological clocks. Travelers should also consider taking small amounts of melatonin, a hormone, five hours before going to sleep to help them adjust to their future time zone, Eastman said.

The only other way to avoid jet lag on overseas trips: "Take a boat," she said.

There are also ways to mitigate jet lag once you land. If heading to Europe from the East Coast, most people should wear dark sunglasses after landing until about 11 a.m. Exposure to too much light too early can delay adjustment to new time zones, Eastman said.

After 11 a.m., travelers should try to get as much sunlight as possible to help kick-start the body's clock, she said.

Charles Ehret, devised diet to fight jet lag dies

Charles Ehret, a scientist whose study of circadian rhythms led to a widely popular anti-jet lag regimen that improved trips of untold numbers of world travelers, died Feb. 24 of an illness at his home in Grayslake, ILL, He was 83. In more than 35 years of experimentation, Ehret found that jet lag is a matter of crossing too many time zones too quickly for the body to adjust. It can be ameliorated by adjusting eating, activity and sleep schedules according to a strict system Ehret developed from experiments with single-celled organisms, rats, his eight children and volunteers.

Argonnne National Laboratory where Ehret worked, began distributing wallet cards that outlined the suggested diet. The laboratory said in 2004 that its research showed travelers who use the diet were seven times less likely to experience jet lag with traveling east and 16 times less likely when traveling west.

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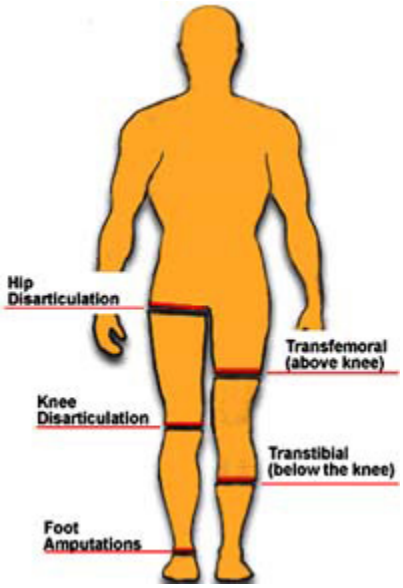
Reducing the effects of jet lag works better if diet is just one part of the regimen, Ehret thought, so he and Lynne Waller Scanlon wrote the 160-page guide "Overcoming Jet Lag" in 1983. Ehret testified before a U.S. House Subcommittee hearing in 1983 on shift work.

"Every cell in the body is a clock," he told interviewers, "and they're all brought together by a special pacemaker in the brain." After Ehret retired in 1988, he became president of General Chronobionics Inc., a research and consulting company that worked with the nuclear power industry, U.S. Olympic teams and Stopjetlag.com a company that sells personalized and expanded versions of his advice.

SURVIVOR PROFILE

Candace Carnahan Raises Safety Awareness among Youth



"In that 25 minutes I endured the most horrible pain that I had ever experienced in my entire life," Candace Carnahan recalls.

She made a critical mistake by taking a shortcut over a conveyor belt at a New Brunswick paper mill on Aug. 11, 1999. She didn't think it was a big deal; the shortcut was frequently used by other mill workers, even supervisors.

When Candace put her foot down, it was the wrong place at the wrong time. She got caught in a pinchpoint and landed on the conveyor, which pulled her foot into a small opening.

A fellow worker heard her screams and stopped the belt in time to save her life. But her foot was so badly mangled it had to be amputated. According to Candace, the conveyor was missing a guard that could have prevented the injury.

But instead of feeling angry or sorry for herself, Candace developed a new appreciation for life and wanted to harness that energy to help improve workplace safety for young people. "I never realized how many youth are put in compromising situations (at work)."

Candace says young workers make too many dangerous assumptions that can get them killed. For example, many think they already know about safety or assume their employers will keep them safe.

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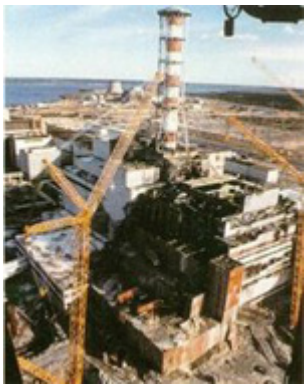
Now Candace is the director of employer recruitment for the "Passport to Safety" program in Toronto, Ontario. The program is a national online challenge safety test for youth. It offers certification that verifies youth have a basic understanding of what they need to know to protect themselves from workplace injuries.

Here's more information about Candace Carnahan and the program visit:

www.passporttosafety.com/youth/aboutcandance.php

INDUSTRY TALK

The Roots of 'Safety Culture'



The Chernobyl disaster: Gave us the term "safety culture"

The term "safety culture" is everywhere. Google it and you'll get 780,000 hits. But where does the term come from, and what does it mean?

Most sources trace the origins of the term "safety culture" to the nuclear power industry and the Chernobyl disaster of 1986. More precisely, the term appeared and figured prominently in the post-accident report of the International Nuclear Safety Advisory Group (INSAG). Nuclear accidents in Chernobyl, Three Mile Island and other places, according to INSAG, were attributable to not just technical failures but faults in organizational procedures and attitudes. The belief in the safety of these facilities was "a mirage." Systems were inadequate and operator errors commonplace. "From top to bottom, the body corporate was infected with the disease of sloppiness," INSAG concluded.

In 1991, the International Atomic Energy Association defined safety culture as: "That assembly of characteristics in organizations and individuals which establishes that, as an overriding priority, nuclear plant safety receives the attention warranted by their significance."

The use of the term "safety culture" to describe an organization's attitude and commitment to safety caught on and began being applied to other dangerous industries such as aviation. For example, the National Transportation Safety Board blamed the 1991 Continental Airlines crash of Flight 2574 in Texas on management's failure "to establish a corporate culture which encouraged and enforced adherence to approved maintenance and quality assurance procedures." Before long, the term was being used in all industries.

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The term "safety culture" also came into vogue among safety's intellectuals, spawning more than 100 articles in academic journals between 1987 and 2000. It remains a subject of fierce debate today.

WORKING TRENDS

What Really Happens When Employees 'Work' At Home

"I'll be working from home today"

"I'm going to work from home today. See you tomorrow."

How many of you out there have sent or received an e-mail message like this in just the past week? But does the sender really mean it? Do people who bring their work home really get anything done? Do they even try?

Maybe not so much. In a CareerBuilder.com survey, nearly one in three respondents said they work from home from time to time. Of these:

- **14% said they put in a full eight hours per workday spent at home; and**
- **53% spend less than three hours per eight-hour day at home on work.**

The main sources of home distractions were:

- **Kids (22%);**
- **Personal phone calls (17%);**
- **Web surfing (17%);**
- **Watching TV (15%);**
- **Personal errands (11%); and**
- **Housework (9%).**

Source: CareerBuilder.com, "Out of the Office 2005"

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Picture This!

“Only two things are infinite, the universe and human stupidity, and I'm not sure about the former.” Albert Einstein.

END