

Aviation Human Factors Industry News

Volume VI. Issue 19, September 19, 2010



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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★BA passengers tried to halt 777 take-off after taxiing error

★Groundbreaking Held For Flight 5191 Memorial

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★And Much More

French investigators rule on Air NZ crash

An Air New Zealand Airbus A320 plunged into the Mediterranean when its pilots **mistakenly began a test of sensors** they did not know had been damaged three days earlier. The damage to the sensors had occurred when the aircraft had been **washed down with a fire hose**, France's state crash investigator has found.



The aircraft was returning from a charter at the time so was not carrying passengers. However the crash near France's Mediterranean ^[2] coast in November 2008 killed five New Zealanders and two Germans.

Apparently the sensors had iced up and the pilots stalled the plane. This very rare event is usually recoverable but in this case the plane was too low and hit the sea.

Director of the French investigation authority, Jean-Paul Troadec, said the plane could not be stalled normally. He said that while the pilots were all well trained, they **were not test pilots** so were not qualified to carry out the tests that they undertook.

The report made safety recommendations, which have been supported by Air New Zealand chief executive Rob Fyfe, according to Fairfax media in New Zealand.

“While this report will not change the fact seven families lost dads, husbands, brothers and sons and we lost great colleagues, the findings will benefit the entire aviation industry,” Fyfe said.

BA passengers tried to halt 777 take-off after taxiing error

Two passengers attempted to stop a British Airways Boeing 777-200 from off from a Caribbean airport last September, after realizing the crew **had lined up at the wrong runway** intersection, but were too late to prevent the departure.

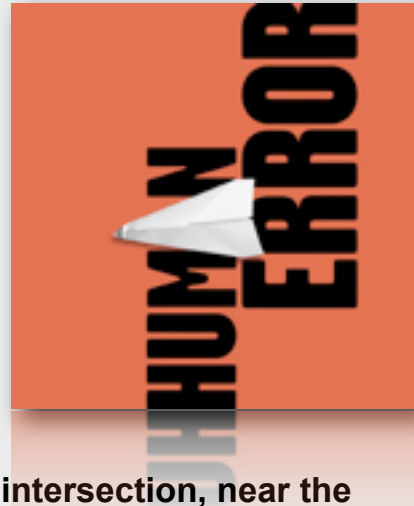
The pilots of the twin-jet, bound for Antigua, had intended to depart from the southwestern end of runway 07 - the 'A' intersection - at St Kitts' Bradshaw International Airport. Despite specifically requesting a departure from 'A', the aircraft **mistakenly** taxied instead for the 'B' intersection, near the runway's midpoint, leaving available take-off distance of just 1,220m (4,000 ft). The take-off performance calculations had been based on a distance of 1,915m.

The oversight **escaped detection** despite several references and queries in the communications between the crew and air traffic control.

In details of the event released today, the UK Air Accidents Investigation Branch reveals that the carrier's station engineer and airport duty manager were on board the 777 and realized **the error** as the aircraft lined up on the runway.

The engineer quickly moved from his seat to speak to a member of the cabin crew, telling her that he needed to contact the pilots immediately to warn them the aircraft was wrongly positioned.

In the cockpit the captain **had specifically commented** that the runway looked short. Neither pilot had been to the airport before and the lack of a tractor meant the crew had taxied the jet from the stand themselves. But, in spite of the captain's concerns, **neither cross-checked** the jet's location on the runway.



Instead the captain told the co-pilot to "stand on the brakes", says the AAIB, and apply a high thrust setting - some 55% of N1 level - before releasing the brakes for the take-off roll.

In the cabin behind, the station engineer realized that the aircraft was powering up for take-off and **abandoned his bid** to reach the crew. The 777 accelerated but reached the touchdown-zone markers for the reverse-direction runway 25 by the time it passed the crucial V1 decision speed, and lifted off about 300m from the end of the paved surface.

Source: AAIB

Taking off from the 'B' intersection reduces the available distance by 1,110m and the AAIB says that British Airways does not authorize 777 departures from this point on runway 07. The incident, on 26 September last year, occurred in daylight although the sun was low in the west.

While the AAIB attributes the event to simple **lack of familiarity** with the airport, combined with disorientation from **poor signage**, it also underlines the **psychological factors** which contributed to the failure to identify the error.

Bradshaw is a simple airport, and the crew **did not conduct a taxi briefing**. The AAIB says that the crew would probably have briefed the route at a larger, more complex airport.

It adds that the crew appears to have suffered from **"confirmation bias"**, noticing only the evidence that backed their mistaken assumption of being at the correct intersection.

Crew resource management training should address this tendency in two ways, says the AAIB: by emphasizing the need to "seek evidence that disproves assumptions whenever they are called into doubt" and by providing communications skills needed for "confident and clear discussion" of the problem.

Groundbreaking Held For Flight 5191 Memorial

47 Passengers, Two Crew Were Fatally Injured In Departure Accident

Families of some of the passengers who were aboard Comair Flight 5191, which **crashed on departure** from Blue Grass Airport in Lexington, KY, on August 27th, 2006, broke ground last week on a memorial dedicated to those lost on the flight. The flight was operated by Comair under a codeshare arrangement with Delta Connection.

The relatives of the passengers were joined by Kentucky Governor Steve Beshear and Lexington Mayor Jim Newberry. The event marked the 4th anniversary of the accident in which 49 of the 50 people on board the aircraft were killed.

The NTSB determined that the aircraft was cleared to take off from Lexington's runway 22, but attempted departure from runway 26, which **was not long enough** for the Canadair regional jet.

The Associated Press reports that the planned memorial is a metal sculpture which will stand 17 feet tall and consist of 49 ascending doves. It is hoped that it will be completed by the 5th anniversary of the accident next year. Governor Beshear said the state will make \$100,000 available for the sculpture, which is estimated to be about a third of its cost.



FMI: <http://governor.ky.gov>

Safety call after jet's plunge over Norfolk

Air investigators have called for improved safety procedures after an Easyjet Boeing 737 plunged 9,000 ft over Norfolk.

It happened west of Norwich in January 2009 during a **post-maintenance check flight**.

There was **confusion** between the two pilots, the Air Accidents Investigation Branch (AAIB) report said. It has made recommendations to Boeing and to the European Aviation Safety Agency.

In the report, which catalogues what happened when the plane plunged suddenly, the AAIB said the co-pilot had received **"no formal training"** to conduct such a flight.

'Lack of communication'

It also said various elements of the flight "demonstrated practices which would have been deemed unacceptable in normal operations".

The report said that when things started going wrong on the flight, there was **"a lack of any kind of communication"** between the pilots and the two observers for more than a minute and 15 seconds.

The report added that the co-pilot "only realized something was wrong" when the captain made an emergency PAN call - one stage down from a Mayday call.

The AAIB said one of the observers had been seated on a storage cupboard behind the captain's seat and was not restrained by a safety harness.

The report questioned the **overseeing of post-maintenance and customer demonstration flights**, saying that airlines had "few options other than to devise their own demonstration schedule".

The report said that a number of safety actions had already been taken since the incident.



New York City Is Building A Garbage Dump Next Door To LaGuardia

Pilots Say It's Another Flight 1549 Waiting To Happen

New York City officials have been given a green light by a panel of "federal experts" to **build a trash transfer facility** less than half a mile from LaGuardia Airport, which has local pilots warning of another situation like Flight 1549, but with no guarantee of the same result. The facility would be used to transfer garbage that is in sealed containers from trucks to barges which transport it out to sea. But the pilots say, sealed containers or not, **the site will attract large flocks of birds which tend to congregate around such facilities.** "It's just not a smart place to put it," said former US Airways Captain Chelsey "Sully" Sullenberger, who was the pilot on Flight 1549 which famously ditched in the Hudson River after striking a flock of geese. No lives were lost in what has become known as "The Miracle On The Hudson."



The facility was OKed because air traffic approaches LaGuardia's Runway 31 differently than it does at most airports, placing the trash transfer station **just outside the runway's protected zone.** But a wildlife biologist told USA Today that the birds who will be attracted to the trash site **will behave** just like any other birds.

The FAA was originally cool to the idea of the facility so close to the end of a runway at a major airport, but determined it would be safe if the city kept the building there under 100 feet tall. A study ordered by the DOT indicated the facility could operate safely as long as the New York Sanitation Department **took aggressive steps** to keep the birds away.

New York's deputy commissioner of sanitation Harry Szarpanski told the paper that the city operates a similar facility in Staten Island, and it does not attract birds. He said the facility is completely enclosed, no trash is loaded outside the building, and that air filters cut the odors that would attract birds to the site.

Construction is already underway at the site near LaGuardia. Wildlife Biologist Russell DeFusco, who was hired by opponents of the facility, said while newer trash site designs are far better at keeping birds away, an FAA study showed that even the most recent designs attract a few, and that can be **dangerous for aircraft**.

FMI: www.faa.gov, www.nyc.gov/sanitation

Airline staffer dies in freak mishap at airport

In a tragic incident, a woman crew member of AirAsia died of shock after her right hand got stuck in the telescopic aerobridge that was being after passengers boarded a **Kuala Lumpur-bound flight** at the **Rajiv Gandhi** (RGI) International Airport in Shamshabad on Sunday morning.



The victim, Amrita Roy, 25, of Kolkata, was a guest services officer of AirAsia. The accident occurred immediately after she ushered in passengers on board the Hyderabad-Kuala Lumpur flight (AK 224). After the last passenger boarded the plane, Amrita Roy first went into the aircraft to check whether the number of checked-in passengers matched with those inside.

At around 9.36 am, she got onto the aerobridge number 55 to jot down other details like push back and stock off timings, police said.

While noting down the details, Amrita **leaned on to the aerobridge glass wall and did not notice the retraction process**. Initially, her left hand got trapped in the retracting bridge and she used her right hand to pull it out. Her left hand became free, but the right one got trapped and crushed. Her colleagues immediately raised an alarm and the retraction stopped, RGI airport inspector R Sanjay Kumar said.

Due to the injury, Amrita immediately collapsed and went into a shock. Her colleagues immediately rushed her to the Cal Centre Apollo Medical Centre at the airport for emergency medical attention, where she succumbed while undergoing treatment at around 10.40 am, an airport spokesperson said.

FAA Rule Offers Pilots More Rest

This proposed regulation would provide a nine-hour opportunity for rest prior to duty, which is one more hour than the current rules specify.

The Federal Aviation Administration proposed a regulation to increase commercial pilots' rest opportunities before they go on duty, with FAA Administrator Randy Babbitt saying it is needed to protect 700 million passengers and pilots who fly in U.S. airspace annually. **"Fighting fatigue is the joint responsibility of the airline and the pilot**, and after years of debate, the aviation community is moving forward to give pilots the tools they need to manage fatigue and fly safely," Babbitt said.

One of FAA's Aviation Rulemaking Committees that includes representatives from labor, the aviation industry, and FAA provided input that is included in the rule, according to the announcement posted on the DOT Fast Lane blog.

The announcement said the rule includes:

- One consistent rule for domestic, international, and unscheduled flights
- A nine-hour opportunity for rest prior to duty (a one-hour increase over current rules)
- A new approach for measuring a rest period that guarantees the opportunity for eight hours of sleep



- Different requirements based on time of day, number of scheduled segments, flight types, time zones, and the likelihood a pilot is able to sleep

It will give pilots the right to decline an assignment **without being penalize** if they feel fatigued. FAA also said it prepared guidance for air carriers that are required by Congress to develop a **fatigue risk management plan**. FAA included this rule in its April 26, 2010, semiannual regulatory agenda, and said comments on it are already being accepted.

(RIN 2120-AJ58, www.regulations.gov).

Game Over: Time to Hit the RESET Button



Tackling a mission **without a plan** is a recipe for disaster. As maintainers, we are taught to plan and prepare for every evolution with ORM in mind. **Risk management** is preached ad nauseam. We hear it so often that it should be second nature.

Sometimes, however, we fail to plan and manage risk when not on the job, and this is how I found myself waking up on top of the oil-cooler access doors of Red Stinger 101.

Our ship spent a multi-day port visit in Singapore. Though I could have stayed in a local hotel, I thought it best to save some money and return to the ship. Besides, I didn't feel the need to go partying with fellow Sailors. "Why go out and spend money on entertainment when I own an Xbox 360 and a number of games?" I thought. I hadn't had a chance to play the games much, so staying within the safe confines of the ship presented a perfect opportunity to recoup and stay out of trouble.

If I had practiced ORM, I might have foreseen the **effects of sleep deprivation** and managed my downtime better. Instead, I stayed up and played video games for almost **48 hours before my duty day**. It never crossed my mind that doing this could be dangerous.

After all, what did I have to do on duty? We had no flight schedule or heavy maintenance pending. A daily inspection was the only thing on my plate. **What could go wrong?** We do those all the time. I could do “dailies” in my sleep—or so I thought.

I started my inspection by checking the service and inspection points in the hydraulics bay, then worked my way aft. I lay down on my back atop the oil-cooler access to inspect the droop stops and rotor-system hardware. It was a hot, muggy day, and I had **slept only three hours within the last 48**. I was sluggish; the gentle sway of the aircraft made my eyelids heavy.

I don't know how long I had been asleep when I felt the aircraft wobble from someone climbing up to check on me. I sheepishly bolted upright. In retrospect, I definitely should not have stayed up two nights in a row playing Xbox. Being drunk on duty is highly unsafe and punishable by the UCMJ. But having **deprived myself of sleep** for two days was just as dangerous. Had I rolled over in my sleep, I easily could have dropped several feet to the nonskid below, possibly catching a tie-down chain or other piece of gear. A fall like that would have put me out of commission. Had I kicked or flailed about (perhaps in an Xbox-induced dream), I could have damaged the upper IRCM mount, exhaust ejectors, or rotor-blade trim tabs, costing the Navy both time and money.

Tire-burst inquiry advises broader overpressure protection

Investigators are recommending that European and US regulators consider extending tire overpressure specifications retrospectively following a tire-burst on a Bombardier CRJ200 which **badly injured a technician**.

The technician had been rectifying an under-inflated nose-wheel tire on the CityLine aircraft at Manchester, on 13 November 2008, using a nitrogen pressure rig.



While attempting to inflate the tire he unintentionally subjected it to **six times** its normal pressure of 163 psi. **It burst, scattering wheel fragments** and inflicting serious injuries on the technician.

The Air Accidents Investigation Branch says the regulator on the rig had been set to deliver a particularly high gas pressure, but the usage pattern of the rig was not recorded which left the inquiry unable to determine how it had previously been adjusted.

While the rig's inflator was designed to limit the flow-rate of nitrogen into the tire, it adds, the small volume of the nose tire would have led to a much more rapid increase in pressure than in a larger tire - **too quickly** for the technician to release the inflator's trigger lever in time.

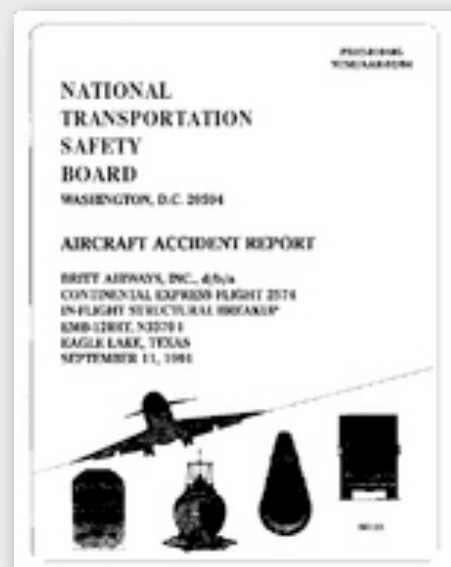
The CRJ200 was certified before current regulations on overpressure burst protection were put in place.

"Had overpressure burst protection been fitted to this aircraft it is probable that the accident would not have occurred," says the AAIB. "This is not the first occasion on which such bursts have happened and previous such events have **resulted in fatalities.**"

Shift\Task Turnover: The Operator's Manual for Human Factors in Aviation Maintenance

How important is a **shift/task turnover** in aircraft maintenance? Let's take a look at an historical accident investigation that helped change the **safety culture** in aircraft maintenance. The accident aircraft was an Britt Airways Embraer 120RT, N33701, operating as Continental Express flight 2574 crashed in Eagle Lake, Texas on September 11, 1991 as a result of an in-flight structural breakup, killing all 14 people on board.

According the National Transportation Safety Board (NTSB) aircraft **accident report**:



The evidence is clear that the events during the maintenance and inspection of N33701 the night before the accident **were directly causal** to the accident. Several errors were made by the individuals responsible for the airworthiness of the airplane. The Safety Board believes that the reasons for the errors and the overall failure of the maintenance program are complex and are not simply related to a single failure by any single individual. Consequently, the Safety Board's analysis of the maintenance and inspection program concentrated on the systemic reasons for the accident, as well as the specific errors made by the individuals concerned.

The Safety Board concludes that the upper row of screws that had been removed from the leading edge of the left horizontal stabilizer was undetected **because the approved procedures in the General Maintenance Manual were not followed** by the maintenance, supervisory and quality control personnel directly charged with evaluating the airworthiness of N33701 before it was returned to service.

The following are examples of substandard practices and procedures and oversights by individuals, who had an opportunity to prevent the accident:

The second shift supervisor responsible for N33701 **failed** to solicit an end-of-shift verbal report (shift turnover) from the two mechanics he assigned to remove both horizontal stabilizer deice boots. Moreover, he failed to give a turnover to the oncoming third shift supervisor and to complete the maintenance/inspection shift turnover form. He also failed to give the work cards to the mechanics so that they could record the work that had been started, but not completed, by the end of their shift.

The Safety Board believes that the accident would **most likely not have occurred** if this supervisor had solicited a verbal shift turnover from the two mechanics he had assigned to remove the deice boots, had passed that information to the third shift supervisor, had completed the maintenance shift turnover form, and had ensured that the mechanics who had worked on the deice boots had filled out the M-602 work cards so that the third shift supervisor could have reviewed them.

Chapter 4, Shift\Task Turnover, of [The Operator's Manual for Human Factors in Aviation Maintenance](#) states:

Shift and task turnover are critical periods in aircraft maintenance activities because workers relay crucial information for ending a shift and starting another. This can also apply to an exchange of task information within a shift. Efficient and effective turnovers require adherence to policies, procedures, planning guidelines, teamwork, and effective communication practices. The classic challenges associated with fatigue, distraction, false assumptions, personnel conflicts, cultural prejudices, and failure to properly document can negatively affect the quality of shift turnover as well

as task turnovers within shifts. Events have shown us that inadequate information exchange during shift and task turnovers can **have serious consequences**.

If you cannot complete a maintenance task before you leave work, it is your **legal responsibility to document** what has been accomplished and/or what has been left undone. This vital information should then be passed down to the next mechanic taking over the **job** or as a reminder to yourself if you will be the one resuming the task at a later time. This is also important to do prior to taking an extended period away from the **job site** such as a lunch break.

A shift/task turnover may be a mundane task, but this accident is **a sobering reminder** to take an extra few minutes before you walk away from a maintenance task to record this critical information. It could mean the difference between life and death.

National Transportation Safety Board (NTSB) aircraft **[accident report](#)**:

Termination of FAA OpSpecs Website

The FAA developed the **www.opspecs.com** as a way to share information and invite public comment regarding draft Master Minimum Equipment Lists (MMEL), Policy Letters (PL), Flight Standards Board Reports (FSB) and **Operations**

Specifications (OpSpecs), Management Specifications (MSpecs), Training Specifications (Training Specs) and Letters of Authorization (LOA) both within and outside the FAA.

The platform on which **www.opspecs.com** was built and housed is outdated and no longer being supported. The content of the website is being transferred to various other websites, which are more dedicated to the specific topics and have enhanced features, including subscription notification. The FAA is relocating the contents of **www.opspecs.com** in accordance with agency guidelines.

See attached InFO #10018 for more details

<http://www.askbob.aero/sites/default/files/InFO10018.pdf>

Spike in Airplane Accidents Raises Concerns, Questions

With four months left, 2010 is poised to become the **deadliest year for passenger aircraft accidents** in the past five years, The Wall Street Journal reports.

A WORRYING TREND

Through the first eight months of this year, there have been **13 fatal airplane crashes around the globe**, according to the London-based aviation consulting firm Ascend Worldwide. That already matches the total for 2008, and is three more deadly crashes than occurred in 2009.

Because of significant safety improvements over the past several decades, airline experts think that declines in crashes are starting to level off. Kevin Hiatt, the executive vice president of the nonprofit organization Flight Safety Foundation, told the Wall Street Journal, "You can look at it as a plateau in the western world."

While any jump in plane crashes is worrying, the 2010 figures don't necessarily represent a return to a more dangerous past in the airline industry. Fifty years ago, there were 36 accidents per 1 million flights; in the past decade, that number hasn't exceed 0.6 accidents per million takeoffs.

As Hiatt indicates, a major focus for safety is in the developing world, with Africa the **most dangerous continent** to step on a plane. The Federal Aviation Administration says African airlines suffered catastrophic plane accidents with 25 times the frequency of their counterparts in the U.S. Carriers in the Middle East, Latin America, and parts of Asia experienced such crashes five times more frequently than U.S. airlines.

<http://www.fairwarning.org/2010/09/spike-in-airplane-accidents-raises-concerns-questions/>

Aviation Maintenance & Regulations

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-- FAASafety.gov -----



New Online Course on Taxi Procedures - Notice Number: NOTC2530

New Online Course!

Two Major procedural changes are incorporated in the current revision to this course. The changes affect Taxi and Ground Movement Operations – Now requiring an ATC clearance prior to crossing ANY runway – Active, Inactive or Closed.

In addition, the course addresses the change concerning harmonization between the FAA and the International Civil Aviation Organization (ICAO). You will learn about the language change from “taxi into position and hold (TIPH)” to “line up and wait (LUAW)”.

Our Objectives in this online course are to review and consider: **Best Practices during taxi operations**, Air Traffic Control Procedures and Phraseology, Pilot responsibilities, Awareness of airport markings and Pilot responsibilities re: Precision Obstacle Free Zone, Part 91 and Part 135 Single-Pilot Procedures during taxi operations, Use of Standard Operating Procedures (SOPs) during taxi operations, and Best Practices for avoidance of runway incursions.

We invite you to go to www.FAASafety.gov and enroll in this informative course. It is titled, "Line Up and Wait - LUAW" and is one of our featured courses shown on our Home page.

-- FAASafety.gov -----



New Changes to FAASafety.gov - Notice Number: NOTC2525

Enhancements to FAASafety.gov August 2010

Several nice upgrades and enhancements, plus a couple of corrections, were launched to FAASafety.gov on August 31, 2010. **You will like them!**

A summary of the changes can be found in this document: https://www.faasafety.gov/files/notices/2010/Aug/Enhancements_-_August_2010.pdf

OSHA May Limit Residents' Work Hours

The head of OSHA, Dr. David Michaels, said Thursday his agency will consider [a petition](#) seeking a limit of **80 work hours per week** for medical residents and other rest and hours limits. The petition was filed by Public Citizen; the Committee of Interns and Residents/SEIU Healthcare; the American Medical Student Association; Dr. Charles Czeisler, Baldino of sleep medicine and director of the division of sleep medicine at Harvard Medical School; Dr. Christopher Landrigan, assistant professor of pediatrics and medicine at Harvard Medical School; and Dr. Bertrand Bell, professor of



medicine at Albert Einstein College of Medicine.

"We are very concerned about medical residents working extremely long hours, and we know of evidence linking sleep deprivation with an **increased risk** of needle sticks, puncture wounds, lacerations, medical errors, and motor vehicle accidents. We will review and consider the petition on this subject submitted by Public Citizen and others," Michaels said. "The relationship of long hours, **worker fatigue and safety** is a concern beyond medical residents, since there is extensive evidence **linking fatigue with operator error**. In its investigation of the root causes of the BP Texas City oil refinery explosion in 2005, in which 15 workers were killed and approximately 170 injured, the U.S. Chemical Safety Board identified **worker fatigue and long work hours** as a likely contributing factor to the explosion."

The petition seeks these limits:

- (1) A limit of 80 hours of work in each and every week, without averaging;
- (2) A limit of 16 consecutive hours worked in one shift for all resident physicians and subspecialty resident physicians;
- (3) At least one 24-hour period of time off work per week and one 48-hour period of time off work per month, for a total of five days off work per month, without averaging;
- (4) In-hospital on-call frequency no more than once every three nights, no averaging;
- (5) A minimum of at least 10 hours off work after a day shift, and a minimum of 12 hours off after a night shift;
- (6) A maximum of four consecutive night shifts with a minimum of 48 hours off after a sequence of three or four night shifts.

The petitioners say proposed changes in resident hours by the private-sector Accreditation Council on Graduate Medical Education (ACGME) are not sufficient. "In the past, Public Citizen has successfully petitioned OSHA to protect workers by lowering the allowable workplace levels of various toxic exposures, such as hexavalent chromium, ethylene oxide, benzene, and cadmium. The dangerously excessive number of hours resident physicians are currently allowed to work **is a similarly toxic exposure** that OSHA has the authority to regulate and reduce in order to protect these physicians from harm," said Dr. Sidney Wolfe, director of Public Citizen's Health Research Group. "This is especially urgent since the current private-sector regulating organization, ACGME, has continued to abdicate its responsibility to adequately protect resident physicians."

The petitioners ask Michaels to exercise his authority under section 3(8) of the Occupational Safety and Health Act on grounds that working longer than the requested limits is harmful to resident physicians and

subspecialty resident physicians, so **a federal standard is necessary to provide them with safe employment**. They claim research connects the typical resident work schedule to harm in four specific areas: motor vehicle accidents, mental health, pregnancy, and injuries such as needlesticks.

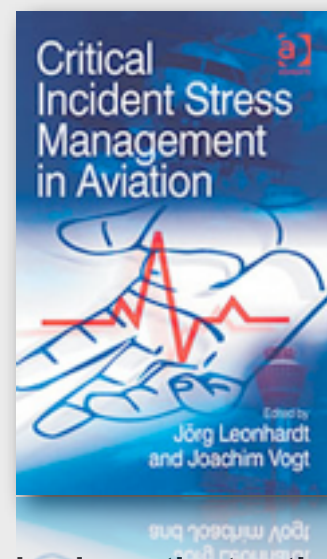
"Based on what we have learned from research evidence, we don't recommend that any physician stay awake for **24 hours** or more, which is the case today," said CIR/SEIU Healthcare President Dr. Farbod Raiszadeh. "OSHA must intervene so that physicians in training are no longer at risk for needlestick injuries, car crashes, and other hazards that we know stem from chronic sleep deprivation."

Critical Incident Stress Management in Aviation

Critical incident stress management (CISM) is now a well-established method in crisis intervention, and one that is clearly needed within aviation. However, there are many peculiarities in this branch of CISM which require thorough consideration.

People working in **high-reliability environments** need to be sensitive to others' reactions to critical stress. They are the normal reactions of normal people in abnormal situations. However, to ensure this a proper program must be put in place, based on a scientific and standardized approach. This book describes the various methods and elements of the CISM model, as well as their interventions. It also investigates the benefits of CISM on the individual level and on an organizational strategic level. It details CISM training and courses, and features a case study based on the Überlingen accident of 2002.

Critical Incident Stress Management in Aviation will be of direct relevance to **human factors experts**, safety managers, ATCOs and air navigation service providers, though there is also much that will be of interest to aviation physicians, psychologists and airport/airline managers.



http://www.google.com/url?q=http://www.ashgate.com/default.aspx%3Fpage%3D637%26calctitle%3D1%26pageSubject%3D456%26sort%3Dpubdate%26title_id%3D6806%26edition_id%3D9426&ei=_XGJTN-yDoP_8Aa87LmOAg&sa=X&oi=unauthorizedredirect&ct=targetlink&ust=1284077829238713&usg=AFQjCNGsf1mGB9HWTz0bMx7G-IxUC9-EIA

A Free Diet Trick That Really Works

The most effective way to **lose weight**, a new study says, isn't by taking pills or adopting extreme diets. It's by **drinking water before meals**. researchers at Virginia Tech found that subjects who drank 16 oz.- or about two glasses-of water before each of their three daily meals lost 50 percent more weight than control subjects did. The study volunteers, 48 overweight and obese men and women, were put on a low-calorie diet for 12 weeks. Half were given no instructions about what to drink; half were instructed to rink two glasses of water shortly before their meals. The first group lost 11 pounds on average, but the water group lost more- 15.5 pounds on average.



Notably, the diet itself seems to stick: A year after the study, the water drinkers had continued the regimen on their own and lost additional weight. Scientists aren't sure why this works, but they do know water is filling, has no calories, and may take the place of other high-calorie drinks that might be consumed. "It's a simple way to facilitate weight management," study author Brenda Davy tells *Scientific American*. She suggests that dieters drink from a refillable water bottle throughout the day, in addition to their pre-meal infusions.