

# 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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## United Plane Flew Despite Smoke, Fumes in Cockpit

United allowed a plane to fly despite known [safety issues](#) stemming from a malfunctioning windshield heater. According to the Associated Press (AP), "A United Airlines plane with 112 people aboard was allowed to take off last May without repairs despite indications during two previous flights that the cockpit window was overheating, a condition long known to cause fires."

"The Boeing 757 was about 30 minutes into a flight from New York to San Francisco, and had just leveled off at 36,000 feet, when pilots said they heard a hissing noise followed seconds later by [14- to 16-inch flames](#) shooting from the cockpit window near the captain." The windshield shattered shortly before the plane made an emergency landing in Washington, D.C.



The pilot who flew the plane earlier that day reported smelling fumes in the cockpit, and showed United mechanics that an [electrical connection in the windshield was charred and hot](#). The plane actually made an emergency landing the previous day due to smoke and fumes in the cockpit.

However, the mechanic who observed the issue said he cleared the plane for travel because, according to the AP, "United's [maintenance manual says](#) planes can be flown another 50 hours after a blackened or burned window heater electrical connector had been found."

The issue of faulty cockpit wiring in Boeing aircraft is not a new one, however, and has actually been known to the National Transportation Safety Board since 2004. Last June, just weeks after the United incident (which was only reported just now), the FAA launched a full-scale investigation of the problem, covering some 1,200 airplanes. The problem is actually [due to loose screws](#) that can chafe wires and cause electrical arcing and, potentially, fires. Airlines were told to replace the windshields if defects were discovered.

Of course, in the United case, the question is why the plane was allowed to fly despite seemingly obvious signs of a serious safety issue. United did inspect the plane per its maintenance manual, but still-smoke? Fumes? And the plane still flew? Probably [a good thing that United has since made "enhancements" to its maintenance program](#), as a spokesperson told the AP.

## Reagan air traffic incident renews fatigue debate

Federal aviation safety investigators have worried for years that the **fatiguing schedules** that air-traffic controllers work could undermine safety, an issue that resurfaced Wednesday when the tower at Washington's Reagan National Airport went silent in the wee hours.

Two jets landed without clearance from the control tower at the airport that sits just two miles from the White House shortly after midnight Wednesday, according to the Federal Aviation Administration. The supervisor on duty, the only person staffing the tower on the over-night shift, did not respond for more than 20 minutes.



SUSPENSION: 'There's no answer'

Pilots had repeatedly radioed the tower and gotten no response, according to the National Transportation Safety Board. After controllers at a regional facility that guides jets to National were notified, they also tried reaching the tower through telephones and an intercom system.

The NTSB and the FAA have not said whether the controller was asleep, got locked out of the tower as has occasionally happened or suffered some other problem.

The unnamed supervisor has been removed "from all operational duties" while the FAA investigates the incident, FAA Administrator Randy Babbitt announced in a statement Thursday.

"I am determined to get to the bottom of this situation for the safety of the traveling public," Babbitt said. "As a former airline pilot, I am personally outraged that this controller **did not meet his responsibility** to help land these two airplanes. Fortunately, at no point was either plane out of radar contact and our back-up system kicked in to ensure the safe landing of both airplanes."

Transportation Secretary Ray LaHood also ordered that the Reagan National tower have at least two people on duty at all times.

One of the top concerns of investigators will be to determine whether fatigue played a role, as [has occurred numerous times during previous investigations](#).

"Air traffic controllers have [notoriously difficult schedules](#) that are prone to inducing [profound levels of impairment](#) associated with sleep deficiency," says Chuck Czeisler, a Harvard University Medical School professor who specializes in sleep research.

The issue arose during the NTSB's investigation of the Aug. 27, 2006, crash at Lexington that killed 49 people. A controller on duty when the jet attempted to take off on a dark, closed runway at 6 a.m. told investigators that [he had only two hours of sleep during the previous 24 hours](#).

The controller was on a common shift among FAA air-traffic workers: he had worked during the daytime on the day before the accident, then returned to work the midnight shift after [nine hours off](#).

While some controllers like such schedules because they effectively [give workers a three-day weekend](#), controllers say they are known as the "[rattler](#)" because of the way they disturb normal sleep patterns.

The NTSB ultimately did not find that the controller was at fault in the crash, but was concerned enough to issue a series of recommendations to the FAA and the National Air Traffic Controllers Association urging that they [adopt less fatiguing schedules](#).

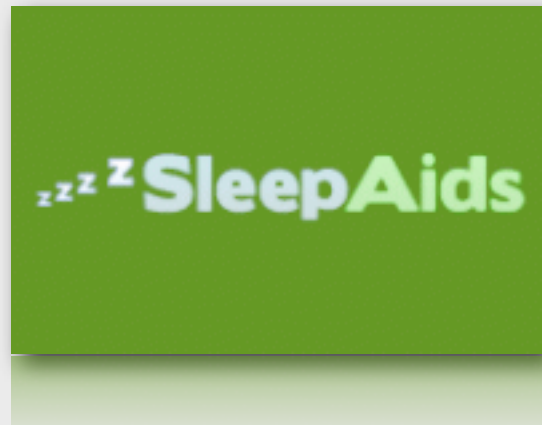
The agency said that several other incidents provided "clear and compelling evidence" that fatigue has played a roll in controller errors. They were:

- On March 23, 2006, a controller at Chicago's O'Hare International mistakenly told pilots on an Airbus A320 to cross a runway and moments later cleared a Boeing 737 to take off on the same runway. The 737 pilots spotted the other plane and aborted their takeoff. The controller said he had [slept only four hours the previous night](#).
- On Aug. 19, 2004, a controller at Los Angeles International told a 737 to take off as a Boeing 747 was preparing to land on the same runway. The 747 pilots spotted the other plane and aborted their landing. The controller told investigators she [had slept five to six hours](#) and attributed the incident to her fatigue.
- On July 8, 2001, a collision on a runway at Seattle/Tacoma International was narrowly averted after a controller told a Boeing MD-80 crew to taxi across a runway where a Boeing 767 was landing. The controller was working [his third shift in two days with only eight hours off between shifts](#).

At the time of the incident, the controller said, he was fatigued because he "had to be up all night long on a double quick turnaround."

## **NTSB: Sleep aids should be OK in fighting pilot fatigue**

Airline pilots should be allowed to take [carefully monitored sleep medication](#) to help them get a good night's rest before a flight, federal accident investigators said for the first time last week. The [National Transportation Safety Board \(NTSB\)](#), acting in the case of a fatal charter jet crash in Minnesota, called for broad improvements in rules governing how airline pilots [combat fatigue](#).



Many of the issues identified in the crash — failure of pilots to get a good night's sleep, undiagnosed sleep disorders and unauthorized use of sleep medications — apply equally to airline pilots, NTSB Chairwoman Debbie Hersman says.

"We need to embrace this issue," she says.

The [Federal Aviation Administration](#), which regulates airlines, has proposed restricting pilot schedules to reduce fatigue, a move applauded by the NTSB. The proposal, however, [would have had no effect on the pilots](#) in the July 31, 2008, crash, says NTSB board member Mark Rosekind, a fatigue researcher before joining the board.

The NTSB concluded that both pilots on an East Coast Jets charter flight from Atlantic City to [Owatonna](#), Minn., [were lacking sleep](#). Their jet roared off the runway after a botched landing, killing all eight aboard.

Investigators found small amounts of Ambien, a sleep medication, in co-pilot Daniel D'Ambrosio's system. His fiancée told investigators he often had difficulty sleeping before flying.

Ambien use within 24 hours of a flight is prohibited by the [FAA](#), but investigators concluded it did not contribute to the accident. The drug leaves the system relatively quickly and could help pilots get the sleep they need while working odd hours, says Malcolm Brenner, the NTSB's [senior human performance](#) investigator.



The safety board said pilots diagnosed with [insomnia](#) should be able to use sleep medication under careful supervision from a doctor. It also endorsed better education on sleep issues, which the FAA also supports.

D'Ambrosio had never sought medical attention for his sleeping difficulties, and the Ambien was prescribed to his fiancée.

Capt. Clark Keefer had only about [five hours' sleep](#) before the flight after attending a [card game](#) with other employees of the charter firm. Because he slept as much as 15 hours a day, investigators believe he also may have suffered from an [unspecified sleep disorder](#).

The Aerospace Medical Association and the military endorse the use of sleep medication by pilots.

Spokesman Les Dorr says the FAA will study the NTSB's recommendations on sleep medication. It hasn't allowed such drugs for fear that they could cause [lingering drowsiness](#) or other side effects, Dorr says.

## **NTSB Cites Fatigue, Poor Training In Fatal Crash**

Pilot error was to blame for the [crash](#) of a Hawker Beechcraft 125-800A in July 2008, the NTSB said on Tuesday. The airplane, operated by East Coast Jets, crashed when the crew attempted a go-around after landing on a wet runway at Owatonna Degner Regional Airport, in Minnesota. Both pilots and all six were killed.

The captain's decision to attempt the go around late in the landing roll with insufficient runway remaining was the probable cause of the accident, the NTSB found. [Contributing factors were poor crew coordination and lack of cockpit discipline; fatigue, which likely impaired both pilots' performance; and the FAA's failure to require crew resource management training and standard operating procedures for Part 135 operators.](#)

"This accident serves as a reminder that aviation is an [unforgiving environment](#)," said NTSB Chairman Deborah Hersman. "No detail is too small to be overlooked

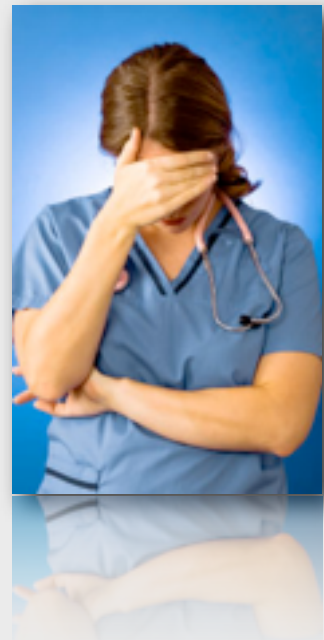


-- not the winds, or the [communication](#) between crew members, or even how much [sleep](#) they get. The small things do matter and in this case they accumulated to result in tragedy." The flight was a nonscheduled passenger flight. Visual meteorological conditions prevailed at the time of the accident. The NTSB investigators looked at several other safety issues, including go-around guidance for turbine-powered aircraft; Part 135 preflight weather briefings; inadequate arrival landing distance assessment guidance and requirements; Part 135 on-demand, pilot-in command line checks; and cockpit image recording systems. The safety board issued several safety recommendations to the FAA regarding training, operating procedures, and sleep disorders.

Those recommendations, along with a synopsis of the accident investigation report, are posted on the NTSB [web site](#). The complete report will be available on the web site in a few weeks.

## **Nurse Shifts & Patient Care**

A new study found that [certain features of work schedules](#) of registered nurses can increase the risk of patient death by pneumonia or heart attack. The study, conducted by researchers at the University of Maryland School of Nursing and Hopkins University School of Medicine, surveyed 633 nurses from 71 non-federal hospitals. The research found that patient pneumonia deaths were more likely to occur when nurses [worked 12-hour shift or longer](#) as opposed to shorter ones. They also found that patients heart attacks were more likely to occur as nurses worked [more hours in a week and more days in a row](#). The researches believe these increase were partly explained [by schedules that increase the risk of sleep deprivation and making fatigue-related errors at work](#).



## **Ben Stein comments on the benefits of sleeping in.**

Ben Stein a CBSNEWS Sunday Morning commentator, comments on the benefits of sleeping in. This video piece was aired during last weeks telecast. Take the advice of Frank Knight an economist at the University of Chicago in the 1930-1950 and a keen observer of life itself. One of his keenest bits of advices was “**never waste any time you could spend sleeping.**”



Read more: <http://www.cbsnews.com/video/watch/?id=7360204n&tag=cbsnewsVideoArea.0#ixzz1HFTkhrn6>

## **Air France Charged With Manslaughter Over Fatal Airbus Crash**

Air France SA was charged with **manslaughter** over the fatal crash of an Airbus SAS jetliner into the Atlantic while en route from Brazil to Paris in June 2009. The preliminary charges, filed after a French investigating judge met with Air France's lawyers, allow the continuation of a probe into the crash of Flight 447, which killed all 228 people on board. Airbus was charged with the same offense last week.



“We do not recognize any good reason to justify this,” Air France Chief Executive Officer Pierre-Henri Gourgeon said as he left the judge's office in Paris. The



carrier wasn't responsible for the crash, "and it's up to us to demonstrate that," he said.

Airbus CEO Tom Enders said yesterday that he "strongly disagreed" with the charges, given an "absence of facts" to support the step. The Toulouse, France-based manufacturer is focused on finding the cause of the accident, something that will require further searches for the twin-engine A330-200 plane's missing "black boxes," or flight recorders, he said.

The criminal investigation is running parallel with a probe by safety experts into the crash. Three searches have so far failed to locate further wreckage or the recorders, which should contain critical information about the flight's last moments.

Work on scouring 17,000 square kilometers (6,600 square miles) of seabed will resume on March 21, Gourgeon said today. The BEA, France's air-accident investigator, has said [there can be no certainty about the cause of the accident](#) unless the boxes are found.

## [Speed Sensors](#)

Gourgeon said there's no evidence that the crash was caused by the plane's speed sensors, or [Pitot tubes](#), and that "it would not have changed the case" had they been swapped for a different make. The sensors may have iced up, causing unreliable speed readings that contributed to the accident, the BEA said after reviewing data transmitted by in the jet's last minutes.

The probes on the Air France plane were made by Thales SA of France. Within three months of the accident, authorities in Europe and the U.S. ordered carriers to replace any such devices fitted on Airbus A330 aircraft with ones made by Goodrich Corp.

Still, Alain Bouillard, BEA chief investigator, said last year that speed-sensor failure can't alone explain the crash, and aviation records in Europe and the U.S. document dozens of incidents where the probes failed and pilots retained control.

## [Human Factors](#)

Bouillard said narrowing the investigation to pitot tubes would mean failing to fully consider other technical and [human factors](#) -- such as the [comfort of flying a fully computerized plane](#) making a loss of control more challenging than previously.

France is one of the few countries where fatal accidents automatically prompt criminal probes to run concurrently with investigations by civil authorities. This week's charges allow Airbus and Air France to access to documents filed in the case.

The twin-track approach bogged down the investigation into the crash of an Air France Concorde on July 25, 2000, with the criminal trial starting almost 10 years after the accident and seven years after the supersonic jet's last commercial flight.

Parent company Air France-KLM Group said in January [it will rapidly implement most of the 35 recommendations](#) from a report into the A330 crash from a panel of external experts including ex-U.S. airline and Federal Aviation Administration officials.

## **Cessnock chopper crash investigation finds crucial bolt missing**

A bolt securing part of the flight control system [was missing](#) causing the pilot to lose control in February

An investigation into last month's fatal helicopter crash in the Hunter Valley has revealed a bolt securing part of the flight control system was missing, causing the pilot to lose control. 52-year-old flying instructor, Ivor Durham and 21-year-old passenger, Sam Bateman died when the Robinson R44 helicopter crashed at Cessnock Aerodrome on February 4.



The Australian Transport Safety Bureau's preliminary report into the accident says the 42-year-old pilot, who survived, was undergoing a biennial Helicopter Flight Review.

ATSB General Manager of Aviation Safety Investigations, Ian Sangston says prior to the crash the pilot was carrying out a simulated failure of the helicopter's flight control hydraulic-boost system.

Mr Sangston says the system could not be re-engaged.

"We did find that there was a [bolt missing on the hydraulic servo](#) and so we've put a Safety Advisory Notice."

The Bureau is urging operators of Robinson R44 helicopters to inspect the aircraft's hydraulics.

"Suggesting that operators and maintenance organizations might inspect the security of their hydraulic-boost servos."

The pilot and the instructor lost control, causing the chopper to collide with the runway and burst into flames.

It is expected a full report will be released early next year.