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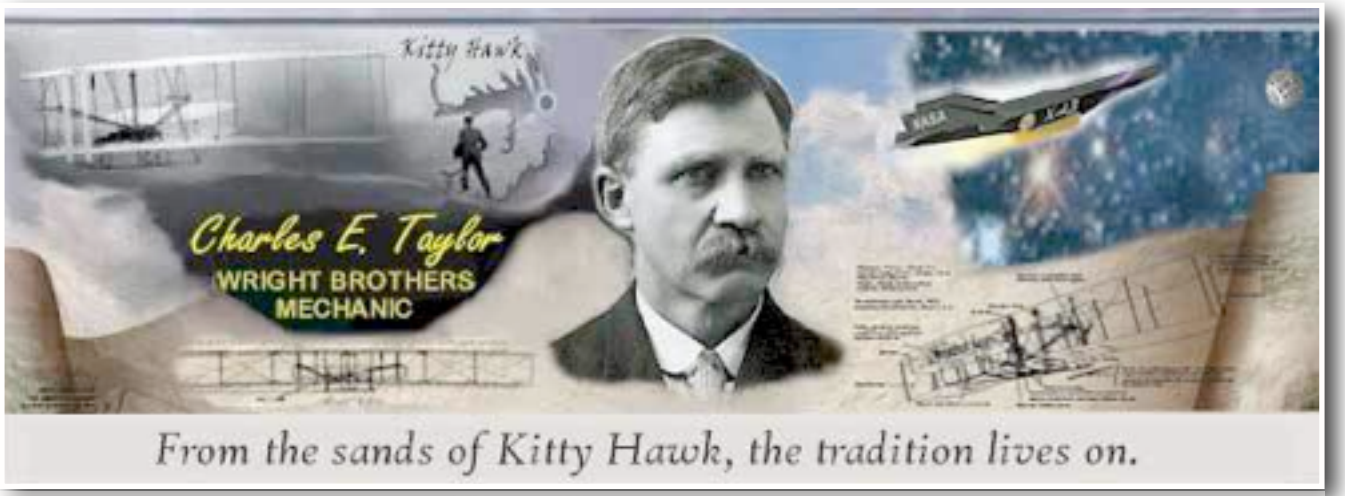

Hello all,

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

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Finnair Becomes First Airline to Use Alertness Modeling in Crew Scheduling

Finnair says it has become the first airline in the world to introduce an alertness model into the creation of flight-crew schedules. The new, scientifically determined and experimentally verified system has been formulated with the aid of the Boeing Alertness Model (BAM), created by Boeing subsidiary Jeppesen. The model assesses a pilot's state of alertness and promotes flight safety and well-being in work, according to Finnair.

"The cornerstone of Finnair's flight operations is safety. Finnair continually develops operating practices that support safety and well-being in work and takes proactive steps to reduce possible safety risks. That's why we wanted to be involved in the Jeppesen research from the very start," says Antti Aukia, Finnair's vice president, safety and quality management.

Finnair says it is the first airline to use alertness modelling to improve the well-being in work of its flight crews by influencing the structure of complex crew schedules, while taking all safety criteria carefully into account and maintaining productivity.

A Finnair flight crew prepares for a flight. Finnair has become the first airline in the world to introduce an alertness model into the creation of flight-crew schedules

BAM is included in fatigue risk management systems (FRMS), which take into account time differences and any consequent decline in alertness, among other factors, when planning work rosters. For example, the model flags work rosters in which alertness levels might be too low, according to Finnair.

"This is an important milestone for Finnair in improving the well-being in work of its flight crews. To date, roster planning has been very subjective. The information gathered by the new tool provides a scientific basis for planning, so we can now influence flight crew rosters by scheduling work better than before," explains Aukia.

Finnair has worked closely with Jeppesen and has tested the model and the effectiveness of the tool with field trials. A total of 34 volunteer Finnair pilots participated in the research over a period of 400 days. The results were compared with the results given by the alertness model and they were found to correlate so well that they supported the introduction of the model, the airline says.

Fatigue risk management will be compulsory for all airlines in future, according to Finnair. The carrier intends to implement the system in full during the autumn.

Fit for work?

When an MRO technician shows up to work, how do you know if he or she is fit for duty? Stress, fatigue, hangovers and other threats to safe job performance can be hard to identify, yet the ability to call out these potential threats can have a material impact on aviation safety.

Lonnie Roberts, director of operations at Aero Jet Services in Scottsdale, Ariz., has been seeking an answer to the "fit for work" question for decades. He recently found a solution in a technology designed by an Australian company to help mining organizations determine whether employees were fit to work safely. The system, called the Fit For Work Indicator (FFWI), was developed by OSPAT Pty. Ltd. The OSPAT acronym stands for Occupational Safety Performance Assessment Technology.

While safety as a whole is hard to measure, the FFWI has reduced lost-time injuries by more than 85% at some mines where it has been implemented.

Roberts began beta testing the system in 2008, and after nearly three years of fine-tuning its implementation for an aviation environment, is conducting a full roll-out that will require all mechanics to complete a roughly 30-sec. test before starting their shifts.

The test returns an instant reading on whether a technician is (A) fit for work, (B) should exercise caution due to a degraded performance level or (C) whether performance is degraded to the extent that he or she needs to see a supervisor for clearance to work.

How It Works

The Fit For Work indicator system essentially tests technicians' hand-eye coordination. Using a track ball, technicians spend about 30-sec. trying to keep a constantly moving X at the center of an on-screen target. They are scored only against themselves, not other employees at the company. A series of initial practice tests sets a baseline of 50, the technicians mean average score.

As long as employees perform within 30 percentage points in either direction of their baseline score, they are cleared to work with a "Pass." At the lowest end of the range, the system issues a "Caution," indication performance is at the low end of the "Pass" range and urging the technician to be extra careful that day. A performance below 20% or above 80 % will generate an "Alert-Report to Supervisor" message. The reason? The OSPAT system considers performance below 20% to be degraded to the point that it could materially impact safety. On the other end of the spectrum, it considers performance above 80% so good that it suggests someone else may have taken the test.

Over time, technicians will, on average, score a Pass 84% of the time, get Caution about 14% of the time and generate an Alert about 2% of the time, according to OSPAT.

At Aero Jet Services, three steps follow an Alert reading: (1) the technician fills out a Fit For Work Interview/Declaration form, which addresses potential sources of the Alert such as medications, rest, stress, food intake and so on; (2) the technician's supervisor interviews the employee, recording his impressions of physical appearance, attitude and behavior; (3) the supervisor makes a decision to release the mechanic for work or send him/her home. On the rare occasions when Aero Jet does send an employee home, Roberts says the primary reason is fatigue; the second most common reason is for an alcohol-related issue.

Roberts is quick to point out that the program is non-punitive. If an employee is sent home, it is with pay. The emphasis must be on safety-not on "catching" workers-or the program won't be effective, he says.

He adds that the FFWI works best as part of a broader safety management system (SMS). In the spirit, Aero Jet evaluates every Alert interview at its quarterly safety meeting to look for trends and ways to improve safety. For instance, Roberts says if the company spots a trend toward fatigue-related Alerts due to long shifts, Aero Jet could respond by taking a hard look at limiting shift hours.

One issue Roberts wrestled with was how to link an Alert to a drug test. Initially, Roberts wanted to send all alerts for a random drug test. However, the FAA decided an individual needed to generate an Alert message and exhibit certain behavioral signs in the supervisor's interview for a drug test to be required.

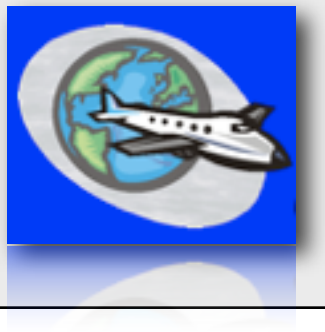
While the Fit For Work approach Aero Jet Services has implemented is neither perfect nor a panacea, it could be an important tool in an aircraft maintenance company's arsenal for improving safety and reducing the potential for human error in the workplace.

"Safety is such an intangible," concludes Roberts. 'We're just trying to do as much as we can to reduce risk."

Fit For Work Indicator Opportunity

System Safety Services feels that this is a valuable Safety tool that will reduce human error in aviation.

We are looking for companies that are willing to trial the FFWI within their company for 6 months and produce a report on its effectiveness.



Click or copy & paste, the following link to learn more http://www.system-safety.com/fitforwork/OSPAT.htm

Contact Gordon Dupont at dupontg@system-safety.com for more information.

NTSB: Poor Decisions Main Cause Of NM State Police Helo Accident

Board Says Organizational Culture Was A Contributing Factor.

The NTSB said recently it has determined that a New Mexico State Police (NMSP) helicopter pilot's decision to take off from a remote landing site,

without conducting a thorough assessment of the weather and night time, was the primary cause of a 2009 fatal accident. Contributing to the accident was an organizational culture within the New Mexico State Police that emphasized mission completion over safety, as well pilot fatigue, stress, and the pilot's self-induced pressure to complete the rescue mission.

On June 9, 2009, at about 2135 MDT, an Agusta S.p.A. A-109E helicopter, N606SP, crashed in mountainous terrain near Santa Fe, New Mexico. The flight was part of a search and rescue mission and had just taken off after picking up a lost hiker. The NMSP pilot and the rescued hiker were fatally injured, and a highway patrolman, who was acting as a spotter onboard the helicopter, was seriously hurt. The aircraft was substantially damaged.

"One thing we learned from this accident is that if safety is not the highest organizational priority, an organization may accomplish more missions, but there can be a high price to pay for that success," said NTSB Chairman Deborah A.P. Hersman.

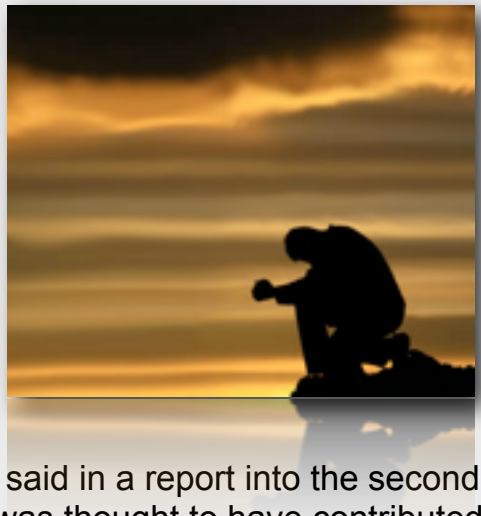
While the Board found no evidence of any direct pressure on the pilot by NMSP or the New Mexico Department of Public Safety to complete this particular mission, the Board noted evidence of previous management decisions that emphasized acceptance and completion of all missions, regardless of conditions. This is not consistent with a safety-focused organizational culture.

The Board also identified a number of safety-related deficiencies in the NMSP's aviation policies. Some of these deficiencies included the lack of a requirement for a risk assessment at any point during a mission; inadequate staffing levels to safely provide search and rescue coverage 24 hours a day, 7 days a week; the lack of an effective fatigue management program for pilots; and the lack of procedures and equipment to ensure effective communication between airborne and ground personnel during search and rescue missions.

As a result of this accident investigation, the NTSB issued recommendations addressing pilot decision-making, flight and duty times and rest periods, staffing levels, safety management system programs and risk assessments, personnel communications, instrument flying procedures, and flight-following equipment.

The recommendations were issued to the Governor of New Mexico, the Airborne Law Enforcement Association, and the National Association of State Aviation Officials.

Pilot's bereavement 'crash factor'



A helicopter crash involving a police air crew assisting at the scene of an earlier accident may have happened because the pilot was coping with a recent family bereavement, a report has said.

The crew were taking part in an operation following a tragedy five days earlier in the Mountains of Mourne in Northern Ireland last October. Three men were killed in the earlier crash.

The Air Accidents Investigation Branch (AAIB) said in a report into the second accident that a combination of human factors was thought to have contributed to it.

The pilot, who had completed all the helicopter and role training required by the operator, arrived in Northern Ireland from England two days before the accident, for the start of a five-day period of duty.

"Immediately beforehand, he had suffered a family bereavement. He did not report this to his company and considered on the day that he was fit for flying duty. However, when the pilot subsequently informed the AAIB of the fact, he thought it possible that it may have been a contributory factor in the accident."

The report says that the pilot lost control of the helicopter, which was engaged on a task for the Police Service of Northern Ireland, while maneuvering at low speed to approach a hilltop landing site in quite strong wind conditions. It descended rapidly before striking the ground short of the point of intended landing and passing through a substantial stone wall.

"The helicopter was destroyed but the occupants suffered only minor injuries.

The investigation determined that an error of judgment or perception led the pilot to attempt a downwind approach. A combination of human factors was thought to have contributed to the accident," the report said.

The report quoted experts who said the death of a close family member has been found to lead to higher levels of stress than any other experience, with the exception of the death of a spouse or partner, and that such stress will likely to cause loss of concentration and performance. The task to be carried out on the day of the accident, although demanding, was within the capabilities of the pilot.

"However, although the effects on an individual of a recent family bereavement cannot be measured, it is considered that this was probably the most significant contributory factor in the cause of the accident," the report said.

Report: Islander ditching following engine failure caused by overloading

The Dutch Safety Board published the results of their investigation into an accident involving a BN-2 Islander aircraft of Divi Divi Air in October 2009.

The airplane suffered a right hand engine failure shortly after takeoff from Curacao on an inter-island flight to Bonaire. The pilot elected to continue to Bonaire on the remaining engine. Altitude could not be maintain and the airplane ditched off Bonaire. The pilot was killed in this accident. The nine passengers escaped the airplane relatively unharmed and were picked up by boats nearby the crash site.

The investigation showed that the airplane was unable to maintain horizontal flight after one of the engines had failed, due to overloading. The airplane was overloaded by 9%. With the continuation of the flight under these circumstances the pilot took a completely unacceptable risk. Furthermore the Board has established that Divi Divi Air used standard passengers weight that were too low. A random audit revealed that the maximum takeoff - and landing weights, were systematically exceeded.

The investigation also revealed that the Divi Divi Air management insufficiently supervised the safety of the flight operations of their airplanes. Also safety oversight conducted by the Netherlands Antilles Directorate of Aviation was limited. In this light, the Safety Board referred to the ICAO audit that was conducted in 2008. This audit revealed many deviations of the ICAO standards and regulations. The Board is concerned about safety oversight on civil aviation at Curacao.

The results of the investigation have resulted in recommendation of the Board to Divi Divi Air and the Minister of Traffic, Transportation and Spatial Planning of Curacao and the Governor of Bonaire.

FAA Proposes $425,000 Civil Penalty Against Atlantic Southeast Airlines

The Federal Aviation Administration (FAA) is proposing a $425,000 civil penalty against Atlantic Southeast Airlines (ASA), of Atlanta, for allegedly operating two Bombardier CRJ regional jet airliners when they were not in compliance with FAA regulations.

The FAA alleges that ASA, a subsidiary of SkyWest, Inc. and flying as Delta Connection, failed to complete required inspections of the two aircraft after they were struck by lightning. One strike took place on July 21, 2008 and the other on July 23, 2008.

The FAA alleges that ASA operated the two aircraft on a total of 13 revenue passenger flights between July 22 and 24 when they were not in compliance with regulations. FAA regulations require the carrier to conduct and document the detailed check for lightning strike damage mandated in the airline's aircraft maintenance manual. An FAA air safety inspector discovered both alleged violations.

"All operators must comply with maintenance regulations and requirements in a timely fashion," said FAA Administrator Randy Babbitt.

Atlantic Southeast has 30 days from the receipt of the FAA's enforcement letter to respond to the agency.

Screw Up! - As the Wrench Turns by John Goglia

You could win a hundred enforcement cases against the FAA, but the ones that you'll remember decades later are not these. But the ones you lost. When I was the union rep assisting mechanics who had landed in hot water with the FAA, most of the cases were resolved without a formal hearing. Of those that went to hearing, the mechanics won a good percentage. But here's one of the few that we lost. And perhaps deservedly so.

Here's what happened: a mechanic at a small line station at a major airport in California – about as far from USAir's main maintenance base as you could get in those days – was given a simple task to perform: replace a shut off valve in the engine anti-icing system of a 727 aircraft. Normally, this is an easy fix, two clamps and a cannon plug.

The mechanic removes the faulty shut off valve and goes to the stockroom for a new one. He's in luck – at this point - there's one in stock. As you all know, with these small out stations that's not always the case. He goes back out to the aircraft on the ramp and proceeds to replace the valve.

At that point he discovers that his luck may have run out: the cannon plug doesn't line up. It was obvious the plug was facing in the wrong direction when the engine end of the plug was not long enough to attach. Instead of calling it a day and canceling the flight, the mechanic made an attempt to correct the positioning of the motor to the valve.

A relatively simple task just got way more complex. After consulting with his supervisor and half his crew, the decision was made to reposition the motor, removing the four mount bolts and rotating it ninety degrees. After the bolts were reinstalled, the valve was checked for operation, and it did indeed open and close.

But, alas, the mechanic failed to consult the right manual and the valve was installed backwards with regard to its switch position. So, when the switch was selected open, the valve closed. And vice versa. Not a good situation.

While the valve checked with regard to its function, the mechanic failed to check the on/off positions in the cockpit.

Unwittingly, the mechanic signed off the work and away went the aircraft. But not for long. The flight crew immediately realized the system wasn't working right and wrote it up before the next station. The repeat write up rang bells with the FAA and an investigation resulted in a violation of several FARs against the mechanic and a thirty day suspension of his A&P. One of the allegations was a failure to use the proper manual.

When the case wasn't dropped by the FAA, the mechanic appealed to the NTSB. The law judge dismissed some of the violations but ultimately found that the mechanic had violated the FARS by repositioning the motor without using the proper manual.

Moral of the Story: Even when your supervisor and your crew all think you're doing the right thing, it's still imperative to check the proper manual.