AIRBORNE LAW ENFORCEMENT ASSOCIATION

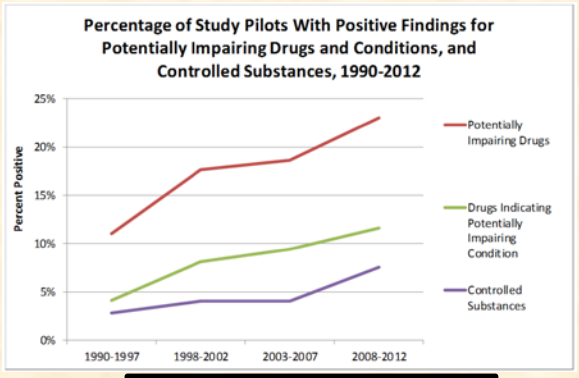
The Safety Wire

October 2015

Seasonal Risks Vary. Right now in Florida, we are shifting from super-hot summer to something only locals refer to as ‘winter’. Even with conditions as mild as our winter, there are risks brought about by the change in conditions that should be addressed by a safety system. We may not get freezing rain and blowing snow, but it does start to fog the majority of mornings. Additionally, many of our unit members have kids that start school in the autumn. My kids come home sick so often that I am convinced ‘school’ is some sort of military biological weapons experiment gone awry.

Some of us see changes in missions as seasonal characteristics vary, such as fire, flood, tourists or wildlife management. Seemingly mundane things like putting aircraft doors back on, wearing jackets in flight, working in increasing heat or dealing with snow on the ramp can slip dangerous risks into our operations with little notice. No matter what the change in condition is, we need to be on guard and anticipate the effects of seasonal change.

Illness is often a leading topic when talking about seasonal changes, and for good reason. The NTSB recently conducted a study and found increasing levels of medication use in accident pilots. According to the study, “The most common potentially impairing drug pilots had used was diphenhydramine, a sedating antihistamine and an active ingredient in many OTC allergy formulations, cold medicines, and sleep aids.” The NTSB study referenced a report that found a single dosage of diphenhydramine can impair driving ability more than a blood alcohol level of 0.10gm/dL, which is beyond the legal limit of 0.08gm/dL (Weiler and others 2000). The NTSB found that the percentage of accident pilots testing positive for sedating antihistamines increased from 5.6% to 9.9% since 1990.



Source: NTSB Drug Use Trends in Aviation, 2014

We spend a lot of time looking at what medications are allowed for flight. The answers are confusing and lists are difficult to find. The complexity and ambiguity of ‘no fly’ medication information often gives us enough grey area to justify making the wrong decision. One reason there is no definitive ‘no fly’ list of medications is because the underlying condition needs to be evaluated along with the medication. Just because the meds are approved, the illness or symptoms may still not allow for safe operations. I personally have found these two rules give very clear guidance:

#1 - If the condition is severe enough to need medication – it is severe enough to degrade your performance below safe standards. Don’t fly or perform aircraft maintenance.

#2 – If you do take medicine that can degrade performance, wait to fly until at least five times the dosing interval (“take every 4 hours” = wait at least 20 hours to fly).

In general, a red flag should be raised when combining flying with decongestants, antihistamines, nausea medication, antidiarrheal (why would you want to fly with this condition anyway!) or any medication that carries a warning of drowsiness or other impairment (duh).

Your Flight Risk Assessment Tool (FRAT) should address medications. I suggest not asking what medication was taken, but if *any* medication was taken in the last 24 hours (other than flight approved medication taken on a regular basis.) If the answer is yes, the next question should be why the medication was taken.

Additional Reading:
FAA – Medications and Flying (includes a list of Over-The-Counter medications)
http://www.faa.gov/pilots/safety/pilotsafetybrochures/media/Meds_brochure.pdf

NTSB Safety Alert
http://www.ntsb.gov/safety/safety-alerts/Documents/SA_037.pdf

NTSB Study – Drug Use Trends in Aviation
http://www.ntsb.gov/safety/safety-studies/Documents/SS1401.pdf

FAA Guide for Aviation Medical Examiners
http://www.faa.gov/about/office_org/headquarters_offices/avs/offices/aam/ame/guide/pharm/

"Pilots gear their moments of greatest attention to the times when flight conditions change. When you get through them, you're glad for a fraction of a second, and then you think about the next thing you have to do."

~ John Glenn

Free Online Training

UPCOMING SMS WEBINAR

The next webinar will be on October 27, 1:00 ET (1700 UTC).

In the second webinar, we will cover Phase 2 of the SMS Installation Guide. Phase 2 covers topics such as surveys, data collection and inspections.

Practical SMS

What is the Vne of your aircraft? What is your max gross weight? How many seconds can you push the engine into the yellow, or red, during takeoff?

How do you know those limits? They are in a manual, right? How would you find out those limits if they were not in the manual? Fly the aircraft until something bad started to happen and then back off? What are your safety limits? Usually we define them by pushing until something bad starts to happen.

Part of your SMS is Safety Policy. For many of us, it is not our favorite part of the risk management process, but that doesn't make it any less important. Policy is often what determines our safety limits. For policy to be effective, it must be done right. The limits must be realistic and meaningful. Employees must understand why the limit was set and how to comply. They need to stay up to date as equipment and missions evolve.

One weak area of safety policies is human factors limits. We are usually good about having policies that limit daily flight time, duty time, minimum rest, requirements for medications and illness, landing offsite or diverting for weather, etc. We fail, however, to consider the logistics needed to make those policies realistic. What will the agency do if an employee exceeds the daily duty time and there is a mission? Who will fill in for an employee who has to take a medication not approved for flight? If I land offsite for weather, how will I secure the aircraft, buy fuel or communicate the situation to dispatch?

With each safety policy you put in place, ask yourself what is needed to help employees actually follow the policy, especially in the worst-case scenario. Just saying, "this is the new policy, just follow it," is usually insufficient.

SMS Installation

If you are working on setting up a Safety Management System at your agency, please look through the new SMS Installation Guide, which is available through the link below. It has references to the original SMS Toolkit, PSAAC Accreditation Standards and a series of sample documents and policies to get you started. If you have questions, comments or feedback, please let me know.

http://aleaprod.ungerboeck.com/sms-installation-guide

(Note: *You must be logged in to the website first*)

"Our doubts are traitors, and make us lose the good we oft might win, by fearing to attempt."

~ William Shakespeare
Measure for Measure

From the Field

I received the following photo and class summary from Jason Jensen of the Minnesota Department of Natural Resources Enforcement Division about some phenomenal training they recently conducted:

Last week, MN DNR Enforcement Aviation went thru a "self-rescue" course designed by Hennepin County Medical Center. The course is set up to simulate aircraft accidents where pilots are injured and have to take steps to save or stabilize themselves/passengers before medics arrive.

It is a great idea, reinforced by a recent incident in Florida where a mosquito control pilot crashed and was pinned in the aircraft for nearly an hour before search teams located him.

https://arffwg.org/mosquito-control-helicopter-crashes-in-volusia-county-woods/

http://www.ntsb.gov/_layouts/ntsb.aviation/brief.aspx?ev_id=20150903X31635&key=1

Our unit recently placed “go bags” behind the pilot and TFO seats. The pilot can reach the bag behind the TFO seat, and visa-versa. The bags contain trauma bandages, tourniquets, and other survival equipment. This is in addition to the equipment we carry in our survival vests.

The bags can also be dropped to units on the ground, if required. Recently, one of our crews was able to remove the emergency flotation device from the bag and deploy it to a drowning civilian.

Safety Officer Mutual Aid

The next ALEA safety online meeting will be on November 23rd at 1:00 pm EDT (1700UTC). Please send me an email if you are not on the mailing list and would like to attend. Minutes from previous meetings are also available.

safety@alea.org

November 23rd
1:00pm EDT (1800UTC)

Reality Check…

Note: *The following reports are taken directly from the reporting source and edited for length. The grammatical format and writing style of the reporting source has been retained. My comments are added in red where appropriate. The goal of publishing these reports is to learn from these tragic events and not to pass judgment on the persons involved.*

Aircraft: Bell 206B
Injuries: 1 Fatal
TSB Canada#: A06W0106

http://www.tsb.gc.ca/eng/rapports-reports/aviation/2006/a06w0106/a06w0106.asp

The pilot of the Bell 206B helicopter was conducting water-bucketing operations in support of forest-fire suppression activities. At approximately 1600 mountain daylight time, the helicopter contacted trees adjacent to a shoreline, broke up, and came to rest in an inverted position. The pilot, the sole occupant, was fatally injured.

The pilot was observed to be suffering from allergy-like symptoms. At about 1400, the pilot approached the camp medic to get something for his allergy symptoms, and was provided with a bottle of Reactine® (10 mg pills). He took two pills with him and returned

the bottle. The label on the bottle contained a warning advising caution when operating vehicles as the medication may cause drowsiness. Another bottle (Reactine) was found at the accident site with one pill remaining in it.

The water bucket was found at the shoreline, and its dump valve was in the open position. The bucket is 14 feet long when suspended. The dump valve normally closes automatically by way of a tensioned wire cable when suspended and will only stay open when not suspended. The bucket was tested after the accident and functioned normally.

There was damage to trees between the cutline and shoreline, and there were landing skid marks in the bark of trees bordering the cutline where the helicopter came to rest. These marks were on the lake side of the trees. One tree-top was broken from a bending load. There were indications that, during the break-up sequence, the tail rotor blades struck some trees and bushes between the lake and the cutline. There were ground scar and component indications that the engine was developing high power at the time of impact, and that the engine continued to run for a brief period after the impact.

Several main rotor blade strike marks were found. One was on the helicopter tail boom just aft of the horizontal stabilizer, where the tail boom was severed. The second strike mark was on the right side of the cabin at the pilot door post. The last strike mark was in the ground immediately to the front of the fuselage. This latter point held most of one blade horizontal and parallel to ground level, buried approximately eight inches. This blade was intact and attached to the main head and trunnion. The other blade was severely damaged, with indications of strike(s) at high power. The mast had been sheared off just below the trunnion, with indications of severe mast bumping by both sides of the trunnion droop stops.

According to his logbook, the pilot had approximately 100 hours of longline experience and 40 hours of sling load experience. The pilot had neither been trained nor authorized to conduct water-bucketing operations by his previous employer or by Remote Helicopters (NWT) Ltd. There was no indication that he had any water-bucketing experience.

Findings as to Causes and Contributing Factors

1. The pilot undertook a water-bucketing mission for which he did not have the required training and experience.
2. The pilot engaged in flight operations with pronounced allergy symptoms, which probably contributed to reducing his ability to perform complex multi-task missions.
3. It is probable that the pilot took a quantity of an allergy medication that could have affected the pilot's ability to stay alert and be aware of all surrounding mission factors.
4. The operator had no system in place to ensure that flight crews did not undertake missions or use equipment for which they were not trained.

Aircraft: AS 350 B2
Injuries: 2 Fatal 1 Serious
NTSB#: CEN10FA424

http://www.ntsb.gov/_layouts/ntsb.aviation/brief.aspx?ev_id=20100722X21328&queryId=6ffd9ec0-e5a2-4182-b1d2-57995b6247c9&pgno=155&pgsize=200

The surviving paramedic reported that while en route to the destination hospital to pick up a patient, a conversation began about flying on a coyote hunt. The pilot abruptly began a low-level maneuver in an attempt to demonstrate a coyote hunt flight. As the pilot maneuvered at low level, the helicopter and main rotor blades impacted trees and then terrain. An examination of the airframe and engine did not reveal any preimpact malfunctions or failures that would have precluded normal operation.

Toxicological testing performed on specimens from the pilot detected the presence of numerous medications, including hydrocodone (a prescription narcotic for pain treatment), diazempam (a prescription medication with sedative effects) and chlorpheniramine (an over-the-counter sedating antihistamine). It is likely that these medications would have impaired the pilot's judgment and ability to maintain control of the helicopter. A review of the pilot's medical history found medical treatment for several conditions that were not reported to the Federal Aviation Administration, the certificate holder, or the operator.

PROBABLE CAUSE
The pilot's impaired judgment, due to medications, which led to an abrupt low-level maneuver and subsequent impact with trees and terrain.

Aircraft: Cessna 206
Injuries: 1 Fatal
NTSB#: ERA15FA361

http://www.ntsb.gov/_layouts/ntsb.aviation/brief.aspx?ev_id=20150918X10954&key=1

A Cessna U206E floated-equipped airplane was substantially damaged when it collided with terrain near Spring Hill, Florida. The certificated commercial pilot was fatally injured. Instrument meteorological conditions prevailed at the time of the accident, and an instrument flight rules flight plan was filed for the flight that departed Page Airport (FMY), Fort Myers, Florida.

A preliminary review of air traffic control communications provided by the Federal Aviation Administration (FAA) revealed the pilot's original flight plan was from FMY to the Lake Keystone Seaplane Base (57FL), Odessa, Florida, where the airplane was based. When the pilot arrived at 57FL, he told air traffic control that he had the seaplane base in sight and cancelled his IFR flight plan at 0833. A preliminary review of radar data revealed that the airplane then made a series of turns in the vicinity of the seaplane base before the pilot requested an IFR clearance to the Brooksville-Tampa Bay Regional Airport (BKV), Brooksville, Florida. The pilot was cleared by air traffic control for the ILS RWY 9 instrument approach into BKV. Radar data revealed the airplane was established on the approach until reaching the final approach fix, when it descended below the glide-scope and radar contact was lost about a mile from the airport. There were no distress calls from the pilot.

One witness stated that he first heard the airplane's engine "cut out." When he looked up, he saw the airplane come out of the clouds and it "started to spiral down" over his house. A second witness said he heard the airplane approaching and the engine "got extremely loud, almost at full throttle" just before it came into his view. The witness said the airplane was at an "extremely angled" nose-down pitch and was at a high rate of speed. He did not see the impact due to trees.

The airplane came to rest in the backyard of a private residence. An on-scene examination of the airplane revealed that all major components of the airplane were accounted for at the site and there was no post-impact fire.

The weather conditions reported at BKV, at 0853, included overcast ceiling 500 (with it variable between 400 and 800 feet), temperature 24 degrees C, dewpoint 22 degrees C.

The pilot held a commercial pilot certificate with ratings for airplane single-engine land, single-engine sea, and instrument airplane. He also had 55.5 hours of simulated instrument time and 15.8 hours of actual instrument experience.