



# The Safety Wire

June 2015

**Disclosure** is one of those words that causes serious concern in the modern



safety management world. Over the past few years, we have been pushing for more formalized safety management programs that use information and data to increase operational efficiency and safety in our operations. This means there is more safety related information 'written down'. Despite efforts by the industry to protect that data, currently, there are no protections in place to keep this information out of the hands of those who may have ill intentions towards our industry. In the public safety world this could come up in a lawsuit or even a simple public records information request. So the best solution is to simply not write anything down or otherwise collect data, right?

Not so fast. According to aviation law professionals, there have not been any cases where safety management system information has been successfully used against an agency that is doing active risk mitigation. The current case law supports the agency that is working on mitigating any risks they have identified. The risk does not necessarily need to be lowered as much as possible at the time of the disclosure. What is important is that the organization has taken reasonable steps to work on the issue and is in the process of doing so.

Unfortunately, examples of violations that have been successfully sustained against organizations not doing risk management to current industry standards are numerous. The following excerpts come from law enforcement accident reports:

“Also contributing to the accident were deficiencies in the aviation section's safety-related policies, including lack of a requirement for a risk assessment at any point during the mission; lack of an effective fatigue management program for pilots...”

“Contributing to the accident were: the lack of adherence to effective risk management procedures by the [agency]”

“Also causal was the [agency's] inadequate safety management, which prevented the organization from identifying and correcting latent deficiencies in risk management and pilot training.”

“The program does not employ any policy guidance to aid the pilot in making risk managed decisions.”

The aviation lawyers I spoke to agree that the modern, digital world does not allow organizations the comfort of claiming naivety when it comes to safety issues at their operation. There is so much data and communication in our agencies that nobody will believe we didn't actually know about a problem should it come to light through later investigation. If we are truly unaware, it will be more likely interpreted as incompetence than being the victim of an understandable information 'blind spot'.

I am not a lawyer. I recommend that if you are concerned, you discuss these issues with your agency's legal representative. What is clear is that SMS generated information has not led to trouble in any legal or media cases (quite the opposite) for public safety aviation organizations. What *has* led to negative outcomes has been not having an SMS,

and not responding to safety issues that the agency had the opportunity to identify. Yes, failing to respond to a safety issue you identify can get you in trouble as well. However, as aviation professionals, when would we refrain from correcting a known safety problem? Pretending the hazards do not exist, and that SMS will not significantly lower risk, will offer little comfort if we find ourselves handing a folded flag to someone's spouse.



*The optimist sees opportunity in every danger;*

*the pessimist sees danger in every opportunity.*

*~ Winston Churchill*

## **Practical SMS**

As a reminder, 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.

[\*\*ALEA SMS Installation Guide & Resources\*\*](#)

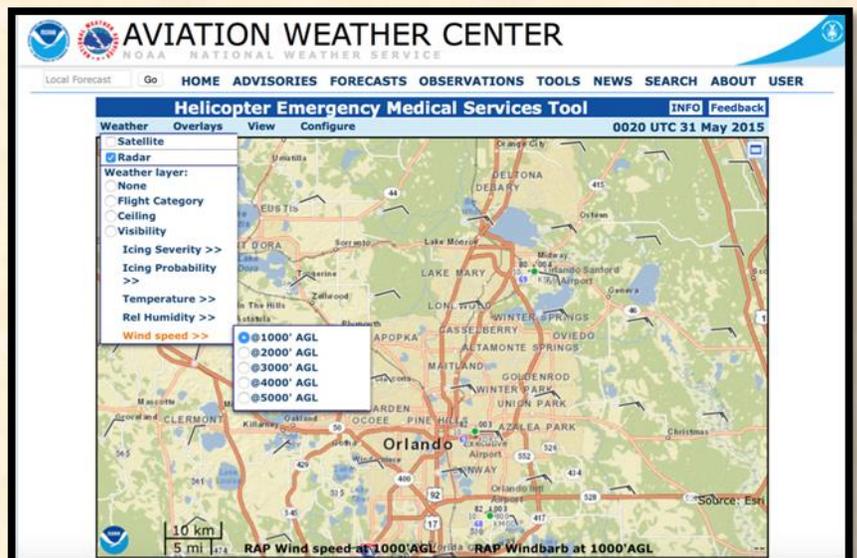
### *Low Level Weather Tool Updated!*

The very popular helicopter EMS low-level weather tool has finally been updated.

The new link can be found on NOAA's aviation weather (ADDS) webpage.

It is a web-based tool now, which means it can be used on iPads in the cockpit as well as computers that had trouble using Java-based applications.

If you have never used it before, it is a phenomenal weather resource that allows you to look at weather down to 1000 feet AGL in localized areas instead of traditional weather resources designed for higher altitude, cross country operations.



## *From the Field*

Recently, I had the pleasure of hearing Tom Long from the New Mexico State Police discuss what the agency has done to improve safety following the tragic accident in 2009. There has been no shortage of coverage of the accident and immediate aftermath. As I heard Tom speak, it occurred to me that we have been hearing only half of the story. Though Tom was not working for the NMSP when the accident occurred, he has worked to use those experiences to create real change for the agency. We will hopefully be hearing more about the second half of this story in the future. For now, he has agreed to share a story about an IIMC encounter that I feel shows how we can use tragedy to prevent future accidents. This is also a great reminder that we stack the deck in our favor when it comes to IIMC preparation and training.

### **ALTERNATE FORM OF IIMC**

On June 6, 2013, I was assigned to fly down to Lordsburg, NM in order to support the New Mexico State Police Tactical Team LP/OP operation designed to apprehend Mexican Nationals traversing the state's border with Mexico carrying narcotics. This was a warm day, extremely turbulent, and the operation was to be conducted in an austere desert area in the "boot heel" of New Mexico.

I departed Santa Fe, NM in the early afternoon in an AgustaWestland A-109E "Power" twin-engine helicopter. After stopping at the Truth or Consequences (T or C) airport for fuel, I flew down into the area, under day/VFR conditions, in order to gain a familiarity with the area and determine some useable landmarks. I felt this was necessary



due to the fact it was my first time in that particular part of the state and there is some significant terrain surrounding the area I would be operating in. It is worthy to note that during that afternoon it was already extremely windy and turbulent, making even a day/VFR flight challenging. Once the area recon was complete, I landed at the Lordsburg, NM airport for fuel and to wait for darkness.

The NVG conditions that evening proved to be "ZERO" with regard to illumination, however the skies were clear, winds had died down, and there was no visible moisture.

When we departed the airport it took approximately 26 minutes to fly to the operational location down by the Mexican border and begin our surveillance. For the most part, this

proved to be uneventful and, as the flight progressed, the crew adapted to the extremely dark conditions. About an hour into the mission, we looked out and the clear visibility began to cloud, and before we realized it we were engulfed by a dust storm. There were no instrument approach procedures locally, NAVAIDS, or IFR guidance in this desolate part of the state.

Prior to departure, I had my Garmin 530 (pilot's side) set up to the Lordsburg Airport, and kept the Garmin 430 (TFO side) set to the mission location. Additionally, the A-109E has an autopilot, so I had the VSI marker set to zero and the heading set marker on the HSI set back to a general heading toward the Lordsburg Airport. This was the best I could do at the time to pre-set my cockpit for any eventuality.

When we were enveloped by the dust cloud, I engaged the heading and vertical speed functions of the autopilot to avoid hitting the ground or surrounding obstacles. I maintained an 800' AGL altitude on the radar altimeter and flew the direct route back to Lordsburg, NM anticipating that we would fly out of the dust cloud prior to arriving at the town. Additionally, as we were flying back, there was a ranch house with an unbelievably bright flood light that flooded the dust, cloud effectively negating any sense of relative motion and disorienting the crew further. I also knew that the area / vector I'd set up for the aircraft meant that I would fly south, and clear, of rising terrain.



In the end, we flew out of the dust cloud as we arrived at Lordsburg, NM and I was able to safely land the helicopter at the airport before the dust cloud enveloped the town. All ended well that night.

The moral of the story is, first of all, a clear weather forecast does not predict everything. That dust storm was nowhere in the forecast and was not expected or even considered during the pre-mission planning, briefing, or during the execution. Second, it is always a good idea to plan for success in the event the unforeseen happens. I set the cockpit up that way just in case I experienced special disorientation (being a dark / low-contrast area) and needed to put the aircraft in a safe configuration and return home. I did not expect the dust cloud, but the pre-flight / aircraft preparations proved to be crucial in the safe recovery of the aircraft and crews. Just as you stated in your class(es) regarding preparing your cockpit / crew for inadvertent IMC recoveries due to weather...it's a good idea to be prepared under any conditions.

Very Respectfully,  
Tom Long

*It takes around 45 hours to learn how to fly,  
and a lifetime to learn when to fly.*

*~Unknown*

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## *Resources*

### *IHST Bulletin*

FAA Lessons Learned resources: <http://lessonslearned.faa.gov>

FAA Safety Briefing: [http://www.faa.gov/news/safety\\_briefing/](http://www.faa.gov/news/safety_briefing/)

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## *Safety Officer Mutual Aid*

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

[safety@alea.org](mailto:safety@alea.org)

July 1st, 2015

1:00pm EDT (1700UTC)

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## *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: Airbus AS350 B2**

**Injuries: 1 fatal, 2 serious**

**NTSB Identification: CEN15FA171**

[http://www.nts.gov/layouts/nts.aviation/brief.aspx?ev\\_id=20150313X72113&key=1](http://www.nts.gov/layouts/nts.aviation/brief.aspx?ev_id=20150313X72113&key=1)

On March 12, 2015, about 2315 central daylight time, a Eurocopter AS350 B2 helicopter was destroyed after impacting trees and terrain during maneuvering flight. The pilot was

fatally injured and the two medical crewmembers sustained serious injuries. Dark night visual meteorological conditions (VMC) prevailed at the time of the accident and a company visual flight rules flight plan had been filed for the 14 Code of Federal Regulations Part 135 helicopter emergency medical service positioning flight.

During the previous northbound flight to transport a patient to the heliport, the pilot mentioned to the medical crew that he noticed that the clouds above their cruise altitude were lower than he expected. The pilot descended slightly and the helicopter landed without incident. While on the ground the pilot checked weather again and after conferring with the medical crew they decided to begin the planned return flight. The helicopter was southbound at a cruise altitude of about 1,500 feet msl when the medical crew reported the helicopter had twice briefly entered and exited instrument meteorological conditions. After a short discussion the pilot then stated he was going to divert, and he began a left turn to return to Tulsa, Oklahoma. Soon after beginning the left turn the helicopter impacted trees and terrain at a surface elevation of about 850 feet msl. The impact resulted in the separation of the tail boom and portions of the fuselage and the main wreckage came to rest on its right side. The helicopter's fuel tank remained intact, there was no fuel leak, and there was no postimpact fire.



After impact the surviving medical crewmembers extracted themselves from the wreckage and immediately made a cell phone call to report their situation and location. Several agencies then used the position report from the crew, data from the on-board GPS position reporting system, and signals from the 406 MHz emergency locator transmitter to locate

the wreckage. Emergency responders hiked in the dark night conditions through the remote rugged terrain and arrived several hours later.

A meteorological reporting station about 20 miles north-northwest of the accident location at an elevation of approximately 720 feet indicated wind from 020 degrees at 3 knots, visibility of 10 statute miles or greater, ceiling broken at 2,400 feet above ground level (agl), broken cloud layer base at 3,000 feet agl, temperature of 12 degrees C and a dew point temperature of 11 degrees C. Prior to this report, the lowest cloud layer had been reported as being at or above 5,000 feet agl since 2015, except for 2255, when the lowest cloud layer was reported as being scattered at 1,100 feet agl.

**Aircraft: Cessna 182P**  
**Injuries: 2 minor**  
**NTSB Identification: ERA10TA197**

A Cessna 182P lost engine power and sustained substantial damage during a forced landing. The purpose of the flight was for the passenger to observe traffic congestion in the county and to relay that information to county traffic management employees. The

pilot stated that before departure she completed her normal pre-flight and noted the winds appeared to be challenging but not outside her safety margins. At some portion of the flight while flying a route, she noticed that the surface winds were increasing at the departure airport and the flight was encountering increased turbulent conditions than normally encountered when the surface winds gust to 25 knots. As a result she elected to return earlier than planned.

The flight proceeded to the departure airport and the pilot further stated she aborted her first approach because she was unable to maintain a stabilized approach due to turbulence and/or windshear. She remained airborne hoping that the wind velocity at her destination airport would decrease, and after 1800, she elected to execute a second approach to her intended destination airport. During the approach, the flight encountered windshear strong enough to cause the headsets they were wearing to fall off. She aborted the approach and after being given the surface wind for Frederick Municipal Airport (FDK), elected to proceed there. When the flight was approximately 5 nautical miles south of the destination airport the flight encountered severe turbulence causing the airplane to quickly climb then immediately and violently descend. At that time the engine abruptly lost power and was not responsive to throttle movement. Attempts to restart the engine were unsuccessful. She looked for a suitable landing site in the area and maneuvered the airplane for a forced landing at the Monocacy National Battlefield while encountering 30 plus knots gusty wind conditions. She aimed for the nearest end of the field and while maintaining a suitable airspeed given the gusty wind state, the airplane touched down on wet grass then bounced. The airplane touched down again and during the landing roll out she reported the braking as nil. The airplane traveled into a culvert and nosed over. The passenger exited the airplane first and assisted the pilot in exiting the airplane.

Postaccident examination of the engine revealed no evidence of preimpact mechanical failure or malfunction. While the mixture control at the carburetor was in the idle cut-off position, impact damage to the engine mount likely pulled the control to that position. While a detailed inspection of the magnetos revealed that the primary contact point gap was considerably less than specified, the investigation was unable to determine that this caused the loss of engine power.

**Aircraft: Bell 205**

**Injuries: 1 minor**

**NTSB Identification: WPR11GA431**

[http://www.nts.gov/ layouts/ntsb.aviation/brief.aspx?ev\\_id=20110906X05207&key=1&queryId=cba1667d-522d-4edf-a04e-9749fba1f6b3&pgno=2&pgsize=100](http://www.nts.gov/ layouts/ntsb.aviation/brief.aspx?ev_id=20110906X05207&key=1&queryId=cba1667d-522d-4edf-a04e-9749fba1f6b3&pgno=2&pgsize=100)

During an external load operation to drop water on a fire, the helicopter was about 100 feet above ground level at 10 knots when the engine rpm light illuminated and the low rotor rpm horn sounded. The emergency procedures section of the flight manual states that in the event of an engine failure or low rpm, a red light will illuminate and an audio signal will sound when the audio switch is in the AUDIO position. The flight manual instructs the pilot to immediately execute an autorotative descent. The pilot released the water, and made a left-pedal turn to exit the canyon and move away from the fire. He checked his engine rotor rpm gauge and saw that the needles had split: the rotor needle was at the 4-5 o'clock position, and the engine needle was at the 6-o'clock position, which he stated indicated maximum rpm. He maneuvered to establish an autorotation into a landing zone. The helicopter sustained substantial damage to the airframe and tail boom as the result of a hard landing, which collapsed the landing skid.

Postaccident examination discovered that the N2 tachometer drive shaft was sheered as a result of torsional overstress. The N2 tachometer drive delivers engine rpm readings to the cockpit engine tachometer; failure of the N2 tachometer drive would send erroneous engine rpm readings to the cockpit. Accordingly, the pilot's instruments indicated that there was an engine overspeed, but the warning lights and audio were indicating a low power condition. The pilot elected to perform an autorotative landing in accordance with the flight manual instructions for a low rotor rpm.

The National Transportation Safety Board determines the probable cause(s) of this accident as follows: The pilot's inability to adequately execute an emergency autorotation due to the flight's low altitude during external load operations, which resulted in a hard landing. Contributing to the accident was a torsionally overstressed tachometer shaft, which sent erroneous engine rpm readings to the cockpit.

*There are no new ways to crash an aircraft...*

*...but there are new ways to keep them from crashing.*

Safe hunting,

**Bryan 'MuGu' Smith**

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