



January 22, 2012

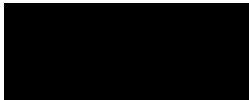
**SENT VIA EMAIL: Capt Brian Thomas**

**SUBJECT: ACCIDENT OF N352LN NTSB 11FA599, AUGUST 26, 2011**

To the NTSB and all of Interested Party Status

The following attached report of Capt Brian Thomas has been accepted and approved as the official position for recommendations from OPEIU Local 109 regarding the subject accident. This recommendation is to be handled in the same fashion as any official accident investigation material as to access and confidentiality.

Respectfully,



Dan McDade  
President  
OPEIU Local 109



# **Report and Recommendations of Local 109 member on**

## **Accident CEN 11FA599**

### **Summary**

On August 26, 2011, at 1841 central daylight time (all times CDT), a Eurocopter AS-350-B2 helicopter, N352LN, sustained substantial damage when it impacted terrain during an autorotation following a loss of power near the Midwest National Air Center (KGPH), Mosby, Missouri. The pilot, flight nurse, flight paramedic, and patient received fatal injuries. The emergency medical services (EMS) equipped helicopter was registered to Key Equipment Finance, Inc., and operated by Air Methods Corporation, doing business as LifeNet in the Heartland. The 14 Code of Federal Regulations Part 135 medical flight departed from the Harrison County Community Hospital, Bethany, Missouri, about 1811, and was en route to KGPH to refuel. After refueling, the flight intended to depart and land at Liberty Hospital in Liberty, Missouri, which was located about 7 nautical miles (nm) from KGPH on a 235 degree heading. Visual meteorological conditions prevailed at the time of the accident, and a company visual flight rules (VFR) flight plan was filed.

While the helicopter was shut down on the helipad, the pilot contacted the company's communication center by telephone and notified them that about half way through the flight from KSTJ, he realized that he did not have as much fuel onboard as he originally thought. After a discussion about possible fueling and re-routing options, the pilot elected to stop en route at KGPH for fuel, and then proceed to the Liberty Hospital helipad to drop off the patient. The person, who was providing flight following to N352LN at the company's communication center, informed the pilot that Liberty Hospital was 62 nm, and that KGPH was 58 nm distant, respectively.

About 1811, the flight departed from the Harrison County Community Hospital helipad. About a minute later, the pilot contacted the company's communication center and reported that he had 45 minutes of fuel and 4 persons onboard and was en route to KGPH. He asked the flight follower at the company's communication center to contact the fixed base operator at KGPH to let them know that the helicopter was inbound for fuel. At 1841, the helicopter impacted a farm field about 1.7 nm miles north-northeast of KGPH. There was no post impact fire.

At 1754, the surface weather observation at the Charles B. Wheeler Downtown Airport (KMKC), Kansas City, Missouri, located about 21 nm southwest of the accident site, was: wind 110 degrees at 6 knots, 10 miles visibility, clear sky, temperature 31 degrees Celsius, dew point 13 degrees Celsius, and altimeter 29.96 inches of Mercury.

### **Recommendations**

The following recommendations are based on information gathered during the investigation and the information available at the current time. These recommendations are from the AMC Pilots' Union and are subject to change at the discretion of the IIC of the NTSB and/or on new facts being received in the future.

**Autorotation training:** From the data available so far, it is evident that the accident aircraft suffered a loss of power at a low altitude and impacted terrain. The wreckage seems to suggest a failed autorotation. It has been surmised that the accident pilot was unable to execute an autorotation. There can be several reasons for that to have occurred but they are outside the scope of these recommendations. However, a robust training program by AMC would certainly go a long way in

mitigating the risk of autorotations in the future. This is true for all the single engine aircraft in AMC's fleet. While realistic forced landing practice involving "touch down" autorotations in an actual aircraft may be impractical and not cost effective, a high fidelity simulator can be utilized by AMC for training. The Investigation Team had the opportunity to study the efficacy of just such a simulator at the Eurocopter Training Facility in Dallas, TX and it was found to be realistic. Simulator training would go a long way in enhancing the pilot's ability to execute a safe autorotation should the need arise. It is therefore recommended that AMC explore the possibility of contracting the OEM's of their single engine aircraft to conduct, annually, autorotation training in the simulators.

In addition, scrutiny of AMC's autorotation training program indicates that there might be a lack of emphasis on Rotor RPM (Rrpm) management during the entry phase of a practice autorotation. Aerodynamically speaking, the aft cyclic input to restore Rrpm is critical in entry into an autorotative state of flight. It is equal in importance, if not more, to lowering the collective quickly. This fact may not be receiving the attention it deserves in AMC and it needs to be reiterated during all training activities.

**Scheduling Oversight:** Scrutiny of the accident pilot's schedule over the few weeks prior to the accident indicates that he was covering shifts at two bases based wide apart, geographically. He was covering shifts in Rapid City, South Dakota and also in St. Joseph, Missouri. He often drove the distance between the two locations. A drive of a minimum of 10 hours, if not more. The pilot also flew 70 + hours in the last 90 days. This, by industry standards, is very intensive flying for an EMS pilot, where the average flight time per month is between 10 to 15 hours. While there is no indication of fatigue or lack of adequate rest during the day prior to the accident, it is this member's opinion that the pilot was suffering from ennui. Paperwork recovered from the wreckage and the fact that he was not cognizant of the fuel load on board or the fact that the Caution Panel, recovered from the wreckage and examined at Eurocopter, had the light switch in the "dim" position (a common practice during night flying), seem to indicate that the pilot was negligent in conducting a thorough preflight, paperwork check or even in running a checklist during the startup process of the helicopter. He would have caught the fuel load issue in any one of the checks enumerated above. The fact that he, apparently, did not, indicates listlessness towards routine matters probably brought on by boredom due to excessive, repetitive duty days.

The current practice at AMC is for the company management to ask for volunteers to cover shifts that are open at other locations. This is beneficial to both the company and the pilots. The company gets to keep bases open and the pilots benefit financially because the shifts are generally overtime shifts at the overtime rate of pay. However, without adequate oversight, this can be a double edged sword. Pilots tend to overextend themselves and, in doing so, are subject to the debilitating effects of fatigue. Indeed, it is not uncommon for pilots to cover a full 7 day shift at their base, travel to the next base on their first day off and cover four or five shifts there, travel back and go to work again at their base, on their regular shift, thereby clocking almost three weeks of continuous work without any appreciable rest. This can lead to unintended consequences of complacency and inattention to small details. Not checking the fuel load at any time prior to the accident flight is just such a small detail.

It is this member's opinion that, while the practice of volunteering for overtime is not necessarily bad, it needs to be better controlled by the middle management of AMC. Pilots should not be permitted to travel on their first day off. Also, back to back shifts at different locations should be discouraged. This can easily be achieved under the current policies and procedures in place by

AMC. Use of relief pilots should be the norm rather than the exception and volunteers should be sought from nearby locations rather than from a large distance involving extensive travel to position for duty. Volunteers for bases that are perennially short should be sought on a rotational basis, thereby avoiding loading one pilot with all the extra workload.

**Operations Control:** The sequence of events leading up to the accident indicates that the accident pilot called the Communication Center at Omaha, Nebraska, after landing at the hospital at Bethany, Missouri. He indicated that he had misread the fuel on board and was seeking assistance to find an airport close to his path of flight or near the destination for adding fuel to complete the flight. The accident pilot had recently separated from the Army and had spent under a year in civil aviation and presumably, in single pilot operations. Given his background, the supervision and the assistance generally provided in the Army, it is quite possible that the pilot was seeking assistance from some source to help him make the decisions to continue the flight. This was not forthcoming, understandably, from the Communication Specialist who is neither trained nor authorized to provide that kind of assistance or decision making. AMC operates an Operational Control Center located at Denver, Colorado. The OCC is staffed by qualified pilots who would have been able to provide the pilot the decision making assistance needed. However, it is not standard practice for AMC pilots to call OCC. AMC, like most EMS operators, authorizes their pilots to self-dispatch. Given the large geographical spread of the bases in the company, this system works very well and allows the pilots to make all operational decisions regarding the conduct of the flight. Unlike the Part 121 system, there is no joint responsibility shared between the pilot and a dispatcher for the conduct of a flight. However, with this accident, it seems as if some mechanism needs to exist wherein the pilot can call upon some qualified entity in the OCC, via the communication centers, to assist him with ongoing flight planning decisions as the flight progresses. Such a mechanism exists at the moment for weather warnings and has worked well. However, it needs to be expanded to include fuel planning, airspace alerts (TFRs. Etc.), patient issues and so on. It is therefore recommended that AMC explore the possibility of expanding the role of the OCC and the communication centers and establish guidelines and protocols for pilot- to- OCC communication, and vice versa, as a rule rather than as an exception.

**Just Culture:** AMC, to their credit, has made great strides in establishing an SMS Program that seeks to inculcate the Just Culture philosophy. Through indoctrination training for new hires and through the safety publications, the company seeks to emphasize the ability and willingness of the management to look past the errors of omission or commission of the pilots for the greater good. The individual concerned can be offered a correction and indeed, the company as a whole might benefit from the discovery of lacunae in their operations and procedures that might be setting up pilots for failure. This has been successful to some degree .However, the accident pilot, by the company's own admission, was in the high risk category. He had less than a year of service in EMS, in the company, in the aircraft type and in the area of operations. Furthermore, he had just been granted a transfer to a location of his choice and for this the company had, graciously, put aside the policy of not permitting transfers within a year of hire. All this, could have put the pilot in a situation wherein he was facing performance anxiety on the ill-fated flight. Having erred in not checking his fuel prior to departure, he was, in all probability, trying to salvage the situation without 'losing face'. The tragic consequences of his actions are there for all to see.

AMC needs to further reinforce the Just Culture. This has to be done continuously, not just for new hires at Indoctrination Training but for the all the pilots in the company. The message has to be

delivered loud and clear from Corporate Headquarters and from Middle Management, that if the pilot happens to have got himself into a tight spot due to poor decision making or poor judgment, there shall be no punitive measures taken and the pilot need only ask for assistance and it shall be provided with no repercussions. Once again, AMC is making great progress to inculcate this culture, but at times the message might not be as clear to new hires and, indeed, to some of the older hands too.

## **Conclusion**

The foregoing is just the recommendations of the union member who is an active line pilot and well versed with the pressures and pitfalls of the job as an EMS pilot. While the recommendations might seem nebulous and hard to implement by their very nature of being human factors related, it is the opinion of the member that each of the issues stated above had a role to play in the accident. While there is no denying that poor Aeronautical Decision Making led to the crash in Missouri, a few of the factors that could have led to the error chain are enumerated above. It is by no means an attempt to absolve the accident pilot of his responsibility in the accident, but, it is hoped, that the factors mentioned above might go a long way in trying to better understand what happened and prevent recurrences in the future.