



Interagency Aviation Lessons Learned



No. IALL 10-02

November 24, 2009

Page 1 of 2

Subject: A near-miss with a wire fence and several Lessons Learned

Area of Concern: All Aviation Activities

Distribution: All Aviation Users

Discussion: A helicopter and crew were released from a fire suppression mission and returned to a local airport. They arrived about 7 minutes before civil twilight with visibility decreasing due to cloudy conditions and the shadows from a high mountain range.

On final approach to the landing area the helitack supervisor noticed a barbed wire fence running parallel to the airport road and asked the pilot if he saw the fence (*Hazard Identification*). The pilot replied “Yes, I see it” as he was positioning the aircraft for landing adjacent to the road and fence (*Communications*). About the same time, a truck approached the landing site and the pilot adjusted his landing to provide additional clearance for the pickup (*Distractions*).

The aircraft landed without incident and by the time the aircraft was off-loaded, and secured, it was dark so the crew loaded into the pickup and went in to town (*Team Work and Post-Flight Inspection*).

The next morning the helitack supervisor and pilot were alarmed to see just how close the tail rotor had come to hitting the fence the night before (figure 1). Fortunately, the helicopter was not damaged. As a result, several valuable lessons were learned by this crew, and because of their excellent SAFECOM, these lessons can now be shared with the rest of the Interagency aviation community.

LESSONS LEARNED: The SAFECOM and after action review (AAR) identified several valuable lessons which are appropriate for all fire aviation operations.

1. Hazard Identification
2. Communications
3. Distractions
4. Team Work
5. Low Visibility/Low Light Operations
6. Post-Flight Inspection
7. SAFECOM System



Figure 1. Proximity of tail stinger to fence.

Subject: A near-miss with a wire fence and several Lessons Learned

1. Hazard Identification and Communications: During the landing the helitack supervisor saw the fence, recognized it as a hazard, and warned the pilot (*Hazard Identification and Crew Resource Management*). The pilot's acknowledgment "Yes, I see it" suggests that he saw the fence, understood the hazard and would maneuver the helicopter to avoid the fence. Always practice being explicit in aviation communications, never leave room for doubt
2. Distraction: As the truck approached the helicopter from the left the pilot diverted his attention from the fixed hazard (the fence) to the more imminent hazard (the truck). The distraction of the new threat was enough to divert the pilot's (and the rest of the crew's) attention away from the fence (*Distraction and Loss of Situational Awareness*). While an active threat (the pickup truck) may take priority over a latent threat (the fence) a conservative approach would be to suspend the landing or to go-around until the situation is understood and under control. Pilots should consider using other team members to monitor lower risk hazards when they have to focus on more imminent threats.
3. Team Work: The helitack supervisor did a good job identifying the hazard posed by the fence and communicating it to the pilot (*good team work*). The distraction posed by the approaching truck apparently diverted the attention of the entire crew so that no one monitored, or no one spoke up about the fence (*breakdown in team work*). The pilot could have used his crew to his advantage by directing one or more of them to keep him clear of the fence while he kept an eye on the truck and landed.
4. Low Visibility / Low Light Operations: The aircraft landed "legally" before the end of civil twilight but, due to the cloud cover and the shadows from the nearby mountain range, the crew's ability to see unlit hazards such as the fence was degraded. Knowing that this airfield is always going to be in the mountain's shadow before the end of civil twilight should be discussed during the mission planning phase to allow aircraft to return early.
5. Post Flight Inspection. It appears that at the end of a long and successful day the crew simply shutdown the aircraft, transferred their gear to the truck, and called it a day. How the crew tied down the aircraft without noticing the tail rotor's proximity to the fence is not known. A walk around inspection of the aircraft is a "best practice" that would have identified the hazard posed by the fence. Thorough post-flight inspections often catch discrepancies that can be fixed before they result in a mission delay or cause the aircraft to be unavailable. Similar to a good pre-flight inspection, crews are encouraged to always conduct a careful post-flight inspection.
6. SAFECOM and Hazard Reporting. The crew and local managers are **commended** for providing the rest of the aviation community a well-documented and timely report of this event and the development of these lessons learned. They also took advantage of the new feature that allows submitters to attach photos to enhance a SAFECOM report.

/s/ John Mills

John Mills

Aviation Safety Manager (Acting)

/s/ Ron Hanks

Ron Hanks

Chief, Aviation Risk Management
and Training Systems