Interagency Aviation
Lessons Learned

Subject: Incident With Potential (IWP): Near Wire-Strike during Fire Suppression Operations

Area of Concern: Aerial Hazard Identification

Distribution: All Aviation Users

Discussion: A near wire-strike occurred during fire suppression operations. The helicopter involved in the IWP was in search of an adequate dipsite to support a Wildland Urban Interface (WUI) fire. During the high-level recon, the pilot and helicopter manager identified two ponds that could potentially be used. Upon closer inspection, one pond was too shallow and the other was small and located in a camp park with numerous civilians in the area. A river, which was a viable alternative, was located a little further away. The pilot, concerned with the strength of the current, continued to fly downriver in order to find a wider spot where the current wasn't as strong. Both the pilot and the helicopter manager were "heads down" looking at the river when a crewmember sitting in the backseat called over the intercom system "POWERLINES." The pilot instantly responded by initiating a climbing left turn. The pilot estimated that he missed the power lines by approximately 150 feet. The photographs below, taken above those powerlines, shows how difficult it can be to see wire hazards.

The power lines did not have any high visibility markers, but were indicated on the local aerial hazard map posted at the helibase. This flight had been diverted while enroute to a different incident.

LESSONS LEARNED: An After-Action Review (AAR) was conducted. The following Lessons Learned came from that AAR and are appropriate for all fire operations:

1. Pre-mission briefings should include known local aerial hazards. Aircrew should carry smaller aerial hazard maps in order to maintain situational awareness of known hazards and to identify other existing hazards not listed on maps. Previous hazard map editions should be updated to indicate any newly identified hazards.
2. Division of duties. In this IWP, the pilot and the helicopter manager were both "heads down" looking at the river. One should have been maintaining a visual scan outside the aircraft, looking for potential hazards and other traffic, while the other was looking for an adequate dipsite.
3. Since this was an urban interface fire where the town and structures were threatened, the pressure to perform was very high. Do not allow the mission to drive operational tempo. A deliberate and methodical response, with adequate risk assessments will keep operations safe.
4. Hazard communication. During the flight, one set of power lines was identified and communicated to all. It was assumed that the other set of power lines (the one involved in the IWP) was observed by all aircrew, and therefore not specifically identified or communicated to all.
5. Everyone aboard an aircraft should maintain a lookout for aerial hazards and traffic and speak up if something is seen. The aircrew in the backseat of this helicopter prevented a potentially fatal accident from occurring.
6. Contact your local aviation manager for further information regarding the development of an aerial hazard map for your unit.

In 1998, a wire strike claimed the lives of two DOI employees. From that accident, the following recommendation were made and are still applicable today:

1. Know where your local wire hazards are. Check local hazard maps and survey the area for wires before conducting low level operations.
2. Slow down! Lower speeds significantly increase your ability to detect and avoid wires.
3. In general, cross power lines at towers or poles, taking care to avoid any static lines that may be above the transmission line. However, when conducting operations in the vicinity of steep canyons or valleys that contain transmission lines, make sure that the lines that cross these areas are not configured with floating static lines prior to crossing at towers or poles.
4. Power lines and supporting towers are considered structures by the FAA and aircraft must maintain clearance in accordance with FAR 91.119.
5. Report wire hazards via the SAFECOM system.

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