AMD-35A
(04/10)

Interagency Aviation
Lessons Learned

No. IA LL 10-04 **Date: September 15, 2010** **Page 1 of 2**

Subject: Wire Hazards

Area of Concern: All Low Level Fire Resource and LE Aviation Activities

Distribution: All Aviation Users

Discussion: Larger power lines are usually supported by structures that are more visible than smaller ones often found in rural settings. Unfortunately, most rural areas contain smaller wires and supporting structures made of natural materials (i.e. wood) that blend with the landscape which elevates the risk when conducting low level operations. When smoke is added to the environment, the risk becomes even higher.

Recently, lightning ignited a fire in terrain consisting of steep canyons and rocky slopes that merged with farm lands. Had the fire continued its progression to the south, structures at a fish hatchery and a nearby town would have been threatened.

Air Attack, Airtankers, SEAT's and helicopters were mobilized. A series of wires were identified by the ATGS and their locations were discussed with each pilot entering the area. The ATGS briefed the IC on the wire hazards on the west side of the fire, wires near the town, and wires approximately 1.6 miles north of the town. Relief ATGS personnel also briefed incoming resources on the wire hazards.

The following day, a type 2 helicopter with a bucket on a 150' synthetic longline was working the northern portion of the incident when they were requested to reposition and support the end of a retardant line in a different area. As the pilot approached the intended target, he observed an approaching power line and immediately released the bucket with no time to spare. As a result, the longline with bucket separated from the helicopter and became entangled in the power line as the aircraft continued to fly away. Due to the pilot's rapid assessment of the hazard and quick decision to release the load, the potential for a catastrophic loss of life and property were successfully avoided.

Wires, winds and weights continue to be major hazards associated with helicopter accidents. Grey and black wires blend into the environment and smoke can further diminish the ability to detect them. Sun angle, windscreen clarity, and the direction of travel can also negatively impact visibility.

COSTS:

50' Synthetic longline	$1,501
100' Synthetic longline	$2,262
Bucket Control Head replacement	$4,845
Power company charges	$ TBD
Total	**= $8,608**

Lessons Learned: It only takes a moment for all parties involved to lose sight of a wire or any other hazard. Line personnel and flight crews must function as team to become effective and safe. According to the NTSB and the FAA, Situation Awareness (SA) is a causal factor in over 80% of all aircraft accidents. Prior to aircraft entering an area, hazard identification and communication (i.e. briefings) must be given top priority. Never assume all hazards have been identified on the hazard map, aircraft dispatch form, or by aerial supervisors and ground personnel. Always perform a high level recon prior to descending to a target.

Complacency often results when the same tasks within the same operation are repeated over and over again. Task saturation can also result in tunnel vision often associated with low level operations ultimately resulting in the loss of SA.

Low level flight operations are dynamic and possess hazards well beyond the normal scope of operations especially within the fire environment. Hazards in the low level fire environment can be difficult to locate due to smoke and other factors previously mentioned.

When the same resources enter an incident, it's easy to assume they've been informed of the hazards. The aircraft may be the same, but a different pilot may be at the controls. We must continue to ensure hazard information is acquired and communicated in a timely manner in order to "see and avoid".

Some questions to ask on any unit or incident:

1. Is the hazard map up to date?
2. Is the hazard map available to all participants?
3. Has a good briefing occurred between the ATGS and other pilots after a site inspection including a high level recon?
4. Have all pilots been briefed? Are new aviation assets informed **before** they enter the area?
5. Are all ground personnel aware of the wire hazards so they can assist in mitigating the hazards?

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