

APPENDIX C

Handouts



Today's discussion is from the Aviation Category.

WORKING WITH HELICOPTER DROPS

Consider the following questions when you have a helicopter with a bucket working in your area:

- Do you have good communications?
- Does the pilot have a clear understanding of the target?
- Are trees and snags in the drop zone?
- Are ground crews clear of the area?
- What are the winds doing?
- Are other aircraft in the area?
- Are people on the ground aware of the effects of the helicopter's rotorwash?
- Will terrain and obstructions allow the helicopter to attain the proper drop height?
- Be aware that helicopter performance capabilities may be significantly reduced at high altitudes and/or high temperatures.

Scenario

Working With Helicopter Drops

You are assigned a portion of fireline that will use a type 3 helicopter with a bucket to cool hotspots.

What Are The Critical Issues

- Do you have good communications?
- Does the pilot have a clear understanding of the target?
- Are trees and snags in the drop zone?
- Are ground crews clear of the area?
- What are the winds doing?
- Are there other aircraft in the area?
- Are people on the ground aware of the effects of the helicopter's rotor wash?
- Will terrain and obstructions allow the helicopter to attain the proper drop height?
- Be aware that helicopters reach their maximum performance capabilities as temperatures and altitude increases.

Critical Safety Measures

Communications are very important to an operation of this type. Being able to communicate with the pilot and adjoining forces is a must. Designate a person to be the ground contact and avoid frequent changes, this can be confusing for the pilot. Be sure that ground forces are kept at a safe distance until the aircraft has finished the operation.

Reference

The Standards for Aviation and Fire Operations Handbook

Close

It is very important to remember that while working around aircraft of any type, that exposure time must be kept at a minimum. There are so many things going on from the pilot's point of view and the ground contacts point

San Bernardino National Forest

LESSONS LEARNED

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Accident: Missed Target Drop with Heli-tanker

Synopsis: While working a lightning fire, in very steep terrain, two firefighters on the ground were injured when a heli-tanker water drop of 400 gallons missed its target. With heavy fuels and extensive mop-up, a helitack crew requested the use of a local Type 1 helicopter. After completing several drops, all of which hit the lower portion of the fire [(50' x 50') 100% Slope], the heli-tanker returned with another load of water. While inbound, the pilot attempted to re-establish communication with the ground forces. Unable to make contact he proceeded with his previous mission. In his attempt to move higher up the slope to deliver water to the upper portions of the fire, he miscalculated his timing and approximately 400 gallons of water hit all six firefighters who had returned to their pre-established safety zone (approx. 150' up slope and away from the planned water drop). All six firefighters were knocked to the ground. Two firefighters received injuries, one with a possible broken collarbone (X-ray showed badly bruised) and the second firefighter received a broken arm and two lacerations to the head (fifteen stitches) when his hardhat was knocked off and he fell to the ground.

This Lessons Learned was developed by the Heli-Tanker pilots, local Helitack Crew and the Forest Safety Officer. Our goal is to increase forest/region-wide awareness to this type of accident.

Lessons Learned:

- 1) Always maintain positive contact with ground forces. If unable to make contact, wait until contact is re-established before continuing mission.
- 2) Air and ground resources need to constantly evaluate the need and the capabilities of aircraft in use. Are we using the right tool for the job? Risk Management!
- 3) Constantly evaluate the distance of safety zones, in relation to size of aircraft and volume of water being dropped. Slope & topography were big contributing factors.
- 4) Firefighters went from suppression mode to rescue mode in seconds. All incident personnel were current as medical first responders and used their training in first aid and specialized training in medivac procedures. The two patients were treated and packaged on scene, then moved to the local airport for medivac to a hospital within 30 minutes. All appropriate protocols and procedures were followed by firefighters, dispatch, and air operations.