Pacific Southwest Region

USDA Forest Service, Region 5
Aviation Safety Message –August 12th, 2013

External Cargo Loads— Attention to Detail is Paramount:

Region 5 has seen an increasing trend of external load related issues including improperly built cargo loads, external load contact with obstacles, missions affected by weather/smoke, and inadvertent release of long line. The use of external loads to transport materials and supplies to remote areas requires attention to detail to assure the loads are weighed properly, packaged properly and secured properly for transport. Always examine loads for correct configurations, as well as scrutinize those that do not appear right.

Improperly Built Cargo Loads:
A qualified HECM or personnel current in A-219 is required for conducting external load operations, but is often done in a controlled environment and doesn't necessarily build personal confidence. Putting together a cargo net not only requires training, but also requires practice and use of best practices. **If you are unsure of how to build the load, please ask for assistance and refer to IHOG Chapter 11 for examples.** Here are some excerpts from the SAFECOM system from the last 5 years, regarding improperly packages loads to demonstrate some of the issues we have experienced:

- 3 nets had the purse strings situated in a way that one side was threaded through the other, causing rubbing of the purse strings as it settled and flew" (**picture "A"**)

- "During a longline cargo mission the marshaller had noticed that the swivel had been attached to the eyelets of the purse strings and not the pear rings." (**picture "B"**)

- "One net from was hooked to the remote hook with 2 lead lines inline and no swivel" "

- "During a back haul mission {100 ft. longline} , 3 small items were observed falling out of the cargo net. Upon inspection we observed a box filled with trash that wasn't taped or closed."

- "load of nets {approx. 125lbs} fell off the remote hook about two minutes into flight."

- "I was flying a cargo net with a fold-a-tank attached hanging vertical above the load. About 1 mile into the flight the collapsed tank started "flying in circles" from its attachment point, then laterally jerking the line and helicopter. I slowed to a hover until it stopped swinging and continued at about 35-40 knots to keep it stable. On approach to helibase I informed them about the unstable load and I stayed clear of the other aircraft and runway. About 300 yards from the cargo base 1/2 of the tank frame fell from the load and dropped into a pasture. I flew the rest of the load into the cargo drop zone and released it"

LESSONS LEARNED:

- A *qualified person is:* A qualified Helitack Crewmember or other persons with current A-219 training. All loads should be inspected by qualified personnel to ensure appropriate configuration; don't assume things are done correctly; double-check the load prior to hooking on the long line.
- Be familiar with the equipment (seeing different types of equipment/cargo is not uncommon) know what equipment to use and when to use it
- Assess if the ground crews doing the backhaul are *qualified* and experienced to build loads that are out of the norm (fold-a-tanks, lumber, other uncommon loads)
- Inspect all loads for swivels (all loads REQUIRE swivels)
- Lightweight cargo needs to be secure inside the net and use ballast whenever necessary

We have an additional responsibility to provide critical information to the pilot regarding weather, winds, obstacles (including tree height), etc, to help ensure the mission is accomplished in the safest manner possible. The common phrase "it's up to the pilot to accept the mission or not" provides no excuse for not passing along critical information that improves safety . Communicating weather, winds and obstacles is critical to safe mission accomplishment.

Flight affected by Wind/obstacles:

Excerpt from recent SAFECOMs"

"While lifting a daisy chain of three nets with a 100' longline, the helicopter experienced a gust of wind, which shifted the cargo into a tree adjacent to the Helispot. I advised the Pilot on Air to Ground, "You are in the tree, You are in the tree. "He replied "copy", and slowly and methodically waited for the load to center, and flew out of the helispot."

Lesson Learned: Good situational awareness and proper, prompt communication on the part of the helitack helped divert a sling load being hung up in the trees and a potential bad outcome. In this case the pilot was informed that the wind had affected the load, and the pilot was able to recover appropriately.

Reminder of a tragic outcome, when hazards were not communicated to the Pilot: *On July 23, 2007, a medium helicopter was delivering blivets to a tight helispot on the Elk Complex Fire on the Klamath National Forest, when the main rotor blades struck a snag. The crew receiving the blivets noted the large snag in the drop area the previous day when the helicopter had come close to striking it. On the day of the accident, the crew was filming the drop and did not communicate to the pilot that he was getting close to the aerial hazard. The result was the main rotor-blade made contact with the snag at the pilot's 4 o'clock position (a blind spot for single pilots flying Bell medium helicopters) and a subsequent fatality accident. SEE SOMETHING, SAY SOMETHING, DO SOMETHING!*

"The most important part of a long-line mission starts with site selection of picking an appropriate helispot or sling site. Too many times the problem starts with site selection and after an incident a more suitable site, is identified nearby, too late". Phil Ketel, Region 5 HIP -

Please review Chapter 8 of the IHOG that identifies suitable landing sites.

Damage to a 900gl bucket, cause was a mechanical failure, not an inadvertent release

Long Line Releases: A search of the SAFECOM database validated a large number of inadvertent long-line releases, this year as well as in past years.

Excerpts from SAFECOMs:

" Considerable radio traffic, as the pilot attempted to make his drop, indicated some confusion and concern as to the placement of the drop. The pilot requested that someone on the ground let him know the proper release point. The ground forces declined to do that. Seconds later the pilot apparently hit the release button for the bucket."

"I was directed to a line drop in the green along a road, west flank of the fire. After maneuvering to avoid overflying trucks and personnel I reached the panel and went to dump the bucket. I inadvertently hit the belly hook release instead. The bucket and longline fell to the ground near the panel and away from personnel on the ground."

"While performing A-219 training with local hot shot crew, pilot inadvertently released remote hook while in flight. In preparing to descend he placed his hand on the upper portion of the collective to press down and hit the remote release button."

Lessons Learned: While pilots are highly trained, and experienced, it is not uncommon for them to "push the wrong button" and release the long line, especially with noise or distraction in the cockpit, fatigue, equipment failure, improper rigging of equipment or negative habit transfer from moving from one model of aircraft to another. There is a saying among long line pilots "there are those who have inadvertently released the long line, and those who will". In other cases, the pilot may have *to release the long line* to maintain safety of flight. It is extremely important that we exercise caution when working with external loads (never turn your back to helicopter in flight that's in your proximity), and remind pilots of the importance of not overflying structures, roads, fire camp, people, or other areas where people may be.

Please direct all inquiries or safety related topics to: ***Yolanda Saldana, Regional Aviation Safety Manager, Pacific Southwest Region; 916-640-1038 or Steve Silva, Regional Helicopter Operations Specialist; 916-640-1033***