Rapid Lesson Sharing

Event Type: Water Bucket Power Line Strike

Date: August 21, 2015

Location: Kettle Complex; Washington

Est. 2002

This photo was taken approximately 100 feet from the power line.

NARRATIVE

On the Renner Fire on the Kettle Complex in Northeast Washington, a Type I Helicopter with a 150-foot longline is completing bucket work when—on its first approach for a dip operation at a new dip site (that had not previously been used)—its bucket strikes a residential power line.

The pilot expertly maneuvers the aircraft backwards to unfold the bucket from the power line and safely returns to the helibase to debrief and take a tactical pause.

"The normal visual cues were not there, no poles seen, no houses seen. And, due to the winds, there was no reflection on the water. I was showing another pilot the powerline and it took them several minutes to locate the line even though it was right below them."
Helicopter Pilot

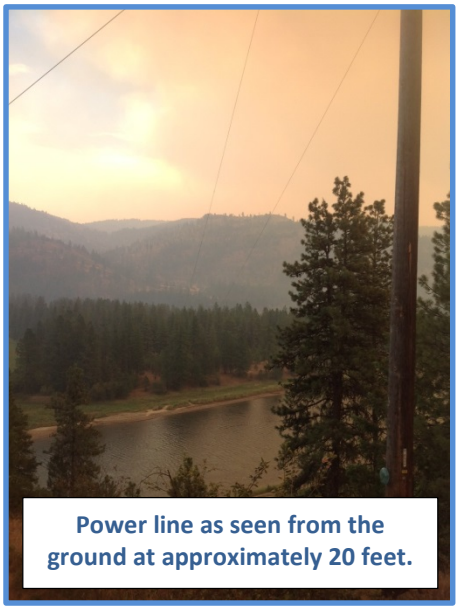
The bucket sustained minimal damage from the strike.

Due to the pilot's experience, quick thinking, and calm professional demeanor, the bucket did not need to be jettisoned. It sustained minimal damage, ensuring a precious resource could continue to be used on this high-priority incident.

This was the eighth bucket dipped by the pilot (at other dip sites) during the first cycle of operations for the day.

High-Priority Fire – Limited Resources

The Renner Fire was a fast moving fire that threatened multiple primary structures. It was identified as a high priority for the Kettle Complex. Due to the extensive level of fire activity in the Pacific Northwest, resources were extremely limited. The available resources were stretched thin.



Power line as seen from the ground at approximately 20 feet.

Suppression efforts on the Kettle Complex were challenged by lengthy response times from dip sites to drop locations due to the Renner Fire's rapid growth rates. During the dip operations, Air Attack had been ordered but was not in the immediate area because of the incident's high operational tempo.

Power Lines Nearly Impossible to See

The helibase was located more than an hour away by ground personnel. At that time, shifting limited resources to manage a dip site was not possible. In addition to the strapped-thin resources, conditions at the dip sites were smoky and the view from above created a dark background making the thin power lines nearly impossible to see.

Immediately after the bucket hit the power line and the pilot unfolded it, the pilot radioed over another helicopter to communicate and identify the strike site. That pilot had great difficulty seeing the power line that spanned the vast river—even after being informed of its exact location. After the incident, the pilot stated he would not have known it was a power line that was struck if the bucket had not folded over the line. "Because of the low airspeed," the pilot explained, "it felt similar to dragging a log onto a landing site. It was smooth and slow."

More Lessons:

Dip Site Rotor Strike Lessons Learned

Six Minutes for Safety, Powerline Safety

Six Minutes for Safety, Working with Helicopter Bucket Drops

Cabin Fire Rotor Strike RLS

LESSONS – REMINDERS

Tactical Pause

✓ Taking a tactical pause was an effective means to evaluate other factors that may have contributed to the water bucket striking the power line. It allowed all of the incident's pilots and helibase personnel time to reevaluate and improve their plan before moving forward. A conversation between the pilot, manager, and helibase manager determined fatigue was not an issue. The pilot was on day 8 of 12, only had 25 flight hours, and felt good throughout the operation. Taking a tactical pause even during a high-operational tempo provides any firefighter the time to evaluate how they are feeling and how to proceed with operations. External factors should never push us into a situation that compromises safety.

Coordinate Hazard IDs with Local PUDs

✓ Everyone interviewed emphasized the need to take the time to coordinate with local Public Utility Departments (PUD) to incorporate layers into hazard maps and—to enhance visibility—request that hazards be properly marked wherever possible. In this way, when emergency incident resources arrive during rapidly developing events they will be able to quickly identify known hazards. It is standard policy for all aircraft to perform a high-level reconnaissance and search for unknown hazards before descending below 500 feet (altitude above ground level) to conduct operations.

Do Not Rush Yourself or Others

✓ It is important not to rush yourself or those you are working with or supervising—even when the pressure of rapid fire growth rates and threats to values at risk are adding stress to managing an incident.

Use Existing Safe Dip Site Until Another Safe Site is ID'd

✓ Once a safe and accessible dip site is identified, continue to use that site until alternate sites are identified. In addition, when feasible, check dip sites from the ground.

Do you have a Rapid Lesson to share?
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Share Your Lessons

A special thanks goes out to the Kettle Complex and their Aviation Unit's willingness to share their story so others may learn from their close call while engaging on a highly complex fire incident.

This RLS was submitted by Todd Legler and Damen Therkildsen, with support from the Pacific Northwest Wildfire Coordinating Group.

Pacific Northwest Wildfire Coordinating Group