Facilitated Learning Analysis

Event Type: **Dozer & Dozer Boss Narrowly Escape Sudden Fire**

Date: August 3, 2013

Location: Dozer line on narrow ridge, "Aspen Fire" on Sierra NF, California

Narrative: "On day 13 of the Aspen Fire, six dozers were working three miles west of the fire to pioneer an indirect contingency line down a narrow ridgeline. Visibility was clear in this unburned portion of the Sierra National Forest. The risk of fire spotting was low since an easterly wind blew 180° away from the dozers directing potential embers back into the fire area several miles away.

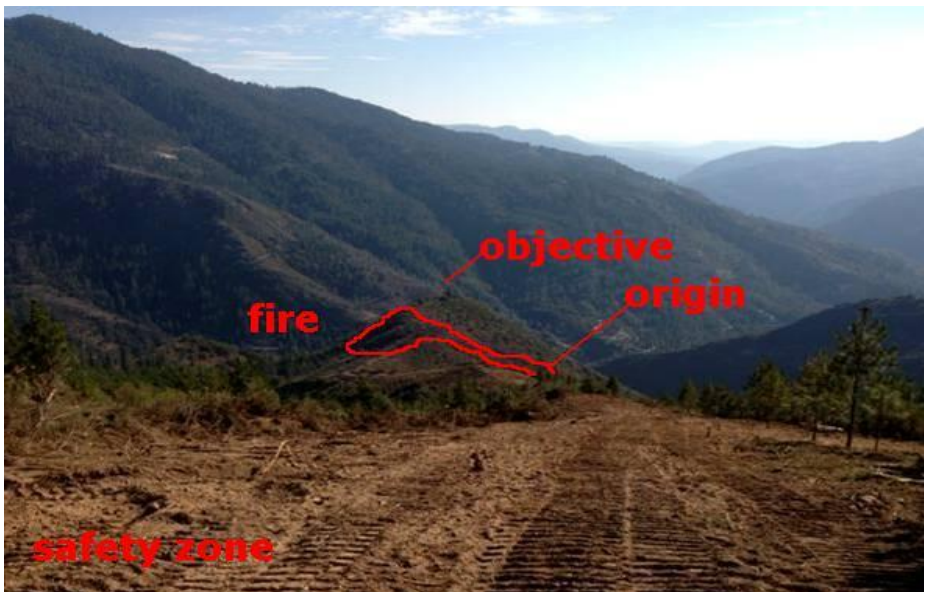

Photo view of dozer line up the ridge with fire scar in the background

"If I hadn't seen it while I did …. It would have been ugly."

Previous lightning maps had not shown strikes in this area. Like many National Forests in CA, the area is well known for extensive marijuana cultivation. This area was not considered by law enforcement to have current activity and therefore not identified on the avoidance maps provided to fire back in May.

"The reality is we had more eyes on us than I hardly ever do."
BLM Dozer Operator for 30 years

There were seemingly plenty of eyes on the work area with six dozers, a dozer boss, a dozer boss trainee and clear line of site from the main road of the ridgeline where a FOBS was positioned. Considering the combination of factors this was according to a BLM dozer operator with 30 years of fire experience "as good as it gets". Several interviewed considered this a low risk assignment especially considering the challenging conditions dozers perform under on active fires. For LCES, most implicitly understood the

escape route was to head back up the ridgeline to an area the dozers had widened out to serve as a contingency med-evac helipad and safety zone. The lead dozer was accompanied by the dozer boss trainee scouting slightly ahead as the dozer worked to knock down a large rock pile in vegetation as high as the cab.

> ***"We have smoke in Ordinance Creek!"***
> *Dozer Boss Trainee calling in fire*

"At approximately 1830, the lead dozer spotted smoke in the creek ravine below his vehicle and others soon communicated by radio the same observation. The dozer operator immediately turned around, picked up the dozer boss trainee who threw his tools and pack in the cab then jumped in. From first spotting the smoke, a handful of minutes was all the time it took for flames to reach underneath the dozer with the flank crossing the dozer line. The operator convinced the trainee that riding it out in the dozer was their best bet. Both escaped the fire with an estimated 30 seconds or less to spare according to witnesses. Communications were good and prompt actions likely saved lives. Despite the near miss, the lead dozer operator was able to safely withdraw back up the dozer line ¼ mile to their safety zone while aircraft and additional firefighters eventually brought the 8 acre "Ordinance" fire under control.

> ***"I would have never thought anything could happen like that."***
> *Dozer Boss Trainee*

The rapid onset and spread of this fire resulted in widespread speculation and concern about the cause of this fire, named "Ordinance" for the creek where the fire started. Based on information later obtained, the likelihood the fire started from a lightning strike or spot from the main fire or from a dozer malfunction were considered remote. The fire origin was a third of the way down the ravine suggesting either that someone started the fire purposefully or that material pushed off the edge by the dozer inadvertently started the fire. The possibility of drug activity involvement was thoroughly investigated and a follow-up flight of the area showed no cultivation in that vicinity. Several suspicious observations thought to be potential drug activity were later determined unrelated to the fire start after investigation by law enforcement. The case is still under active investigation and the cause has yet to be determined.

For a variety of reasons, key fire positions were not informed about the incident and it took 6 days before the agency administrator was fully informed of the close call.

Lessons Learned

- **All dozers should have dedicated lookout(s) with a clear understanding of exactly who is watching what and when *or not.***
- **Calculate the travel time to safety zones ensuring they are sufficient in # and spacing.**
- **Extra caution should always be exercised in areas with known drug operations.**
- **When the dozer trainee considered leaving the dozer, relying on the dozer operator's 30 years of experience to ride it out in the cab was potentially life-saving.**
- **If we truly are a learning organization we must share 'near misses" with leadership in a timely manner.**

Insights Shared

From the dozer boss trainee: **"I have reviewed this a million times in my mind. If it was a spot fire, I was doing everything wrong. ..**[referring to scouting ahead] **If I had a [dedicated] lookout —but do you have to do that even with no fire around?"**

"[Name of dozer boss] was up at landing, he was watching my back." [Note: dozer boss actually could not see the fire area from where he was positioned checking on a contractor].

"In retrospect, it would have been better to throw down stuff and leave. …But dropping your pack is like a shelter deployment and you want to believe you're not there yet".

From the lead dozer operator with 30 years' experience: **"The hardest part for anybody is to be thoughtful about the 'what if'? Having some thought process to begin your day is where it pays off."**

From the dozer operator: **"Need a dedicated lookout[s], especially in areas with known [drug] activities because the activity may not be fire activity.…Typically with dozer there are only two of you and not a lot of support or lookouts."**

"If the fire had started while [name of dozer boss trainee] was scouting by himself, he wouldn't have made it out".

From the District Ranger and Forest Supervisor: **'It was 6 days before line was informed of the near miss. We had a break down in communications within the IMT. We need to improve efforts to ensure that information about a safety incident such as this was shared up the chain of command.'**

From third dozer in line: "**Right before they were lost in the smoke, I assumed it had spotted over; I could see the 50-60" flame lengths stood up and ripped fast."**

"Watching it begin flanking underneath [dozer] them was nerve wracking."

From anonymous interviewees. **"If it was a close call, it didn't seem like overhead pushed very hard, they didn't put out a giant alarm."**

"First he heard that it was that close. So he told the Deputy IC & IC and they were annoyed they had not got that info".

"Your view of 'acceptable risk' changes when it's your life being threatened."

"LCES may be the only thing that stands between life and death."

Discussion Exercise for Readers	
What actions by the participants might have saved lives?	*What role did LCES play in the outcome?*
What would you have done the same?	*What would you have done differently?*
With what they knew at the outset, do you think the risks taken were acceptable?	*Does knowing the outcome change your views of acceptable risk? If so, why?*
Did they have a dedicated lookout? What does dedicated mean?	*What effect did terrain have on the events?*

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