

Lessons Learned Review:  
Butte Lightning Fire  
July 14, 2008

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On July 14, 2008 while working in Division X, Y, Z, on the Butte Lightning Fire (CABTU007660), our strike team of engines was assigned to mop up a dozer line, and take care of any hot spots. We were assigned to a hillside that had been burned 3-4 days before. The fire had obviously burned hot though this area. The Operations Chief had relayed that he was concerned about hot spots. We had taken our engine to the top of the hill and we were given the assignment to grid the hillside all the way down to a road about 1500 feet below.

My crew and I had worked our way half way down the hose lay that paralleled the dozer line. We had found a few hot cat faces and stump holes along the way and we mopped them up. About half way down there was a large dozer pile. The pile, and the debris in it, was smoking and still very hot. I picked up one of the laterals from the main hose line and began to wet it down. A couple crew members began to turn the dirt. It was very obvious that this was a very hot and deep seeded spot. We worked on the pile and the surrounding area for 20 to 30 minutes and cooled a lot of the pile down. At this point we decided to bump down the hill to find some more spots. As I turned to step out of the black and into the dozer line my right leg went straight through the dirt into a pocket of extremely hot coals. Immediately I pulled my right leg out and the left leg sunk down into the hole. I pulled my left leg out, stumbled out of the hole and sat on the ground. I could feel my legs were already burned. I lifted up my pants and saw that the skin was already sloughing off. My crew saw the commotion and came over to see what had happened. I told them that I had burned my legs and needed to get off the hillside and down to the road. A member of one of the crews we were working with called the strike team leader and relayed the information. We began to walk down the dozer line. As the pain got worse it was harder and harder to keep walking. We stopped to cut off my pant legs and continued to make our way down the hill. I was getting weaker as the shock set in. I was beginning to get very faint and I needed to sit down. By now the pain had really set in and I knew it was going to be very difficult to get down to the road. My crew boss communicated with the strike team leader and division supervisor on a number of different plans to get me off the fire line. The decision was made to land a helicopter and fly me out.

While these plans were being worked on by my crew boss, the other members of my crew and the other crews on the strike team were working on patient care options. One of the crews had an ALS medic bag on their engine at the top of the hill. The engineer from my crew and a crewmember from another crew ran up to the engine, grabbed the medic bag, and brought it back down to us. Once we received the medical bag the other firefighter on my crew who was also a medic started an IV on me. He began to flush in fluids and drew up some pain medication. The medication was administered and after a few doses the pain began to subside.

Down on the road the division supervisor had gotten together a couple of Type One hand crews and they began to hike up with a Stokes basket. When they arrived, my crew helped me into the Stokes basket and hauled me up to the helicopter. Once aboard the helicopter the flight medic dressed my wounds the best he could with saline and gaze and continued with the pain medication. They flew me to UC Davis Medical Center for continued evaluation and treatment. I received circumferential second degree burns from my ankle to my mid thigh on my right leg and circumferential second degree burns from my ankle to my calf on my left leg. I spent 5 days in the burn unit at UC Davis. It took 3 months for the burns to heal up well enough for me to return to full firefighting duties.

## WHAT WENT WELL:

### On Scene

- Number one I had a great crew that was skilled, knowledgeable and worked hard to give me the best care possible.
- The chain of command was followed and the situation was clearly communicated and understood.
- There was strong leadership shown throughout the chain of command.
- The supervising officers, strike team leader and division supervisor were able to get the resources needed to make a positive outcome.
- An engine in our strike team had ALS equipment.
- The other engines in our strike team were all well trained, and all pitched in and helped where needed. They took orders when given and took care of essential tasks with out being asked.
- A CHP (California Highway Patrol) helicopter was willing to land on an unimproved landing zone on the dozer line when the medical helicopter could not.
- The incident happened during daylight hours.
- All crews had 4 people on their engines which gave us enough man power to get all the tasks done.

### After Transport to the hospital

- I had a liaison from Cal Fire (the home unit) at the hospital within 30 mins. of me arriving.
- I had Officials from Cal Fire and Sacramento Fire Department contact my home fire department within a hour of the incident.
- Cal Fire, Sacramento Fire, and Wild Land Firefighter Association worked together to fly my wife out and arranged for a place for her to stay.
- Cal Fire arranged for my crew to come visit me at the hospital.

## LESSONS LEARNED:

- Make sure the crews you send out are competent and skilled. You may need to rely on them in a tough situation. Or someone may be relying on you.
- Have trained EMT's and Paramedics on each crew or at least on each strike team.
- Carry ALS equipment on each engine that has a paramedic, and have at least one ALS engine per strike team.
- Be educated on burn care. How to handle minor first degree burns as well as bad third degree burns.
- Whoever is on the radio relaying information about the situation needs to have a strong command presence, and needs to stand up for the patients. Those who you are communicating with are not there and do not have as clear of a picture as you do. Do what's best for the patient.
- Standard issue "Green Jeans" will not keep you from getting burned. I am not sure if the thicker new style wildland pants would work better or not.
- Always wear cotton or natural fibred non melting socks.
- My burns stopped where my cotton underwear started. A light weight cotton or non melting base layer (example: Drifire, Massif or other brands) may prevent some first and second degree burns. Most race car drivers are required to wear these under there nomex suits.

How to handle a burned Firefighter:

- Communication is the first thing. Advise your supervisor and get resources coming early. Hand crews, medical supplies, transportation (helicopters, ambulances, stokes baskets, ect.) The earlier the better. Resources take a while to round up on large incidents.
- Get the firefighter into a comfortable place and position. Try to find some shade and elevate the burn.
- Only put clean cool water on the burned area. Water out of a tender or an engine may have been drafted from a cattle tank or pond. It is not clean and is usually warm.
- If you have medical supplies establish an IV and cover the burned areas with clean gauzes and saline solution or cool water.
- Treat for shock. If the weather is cool be concerned with heat loss.
- Hydrate burnt fire fighter.

Things for Management teams to consider:

- Have a trained position to deal with line injuries. A medical/liaison officer who can leave the fire and the team to accompany the injured firefighter to the hospital to help firefighter contact those he needs to and to keep the team informed.
- Contact home unit ASAP.
- Call the Wildland Firefighter Association if any help is needed with getting the family to the hospital.
- Using Local IAFF Unions to help if the firefighter is from an organized department.
- Allow crew to visit the injured firefighter if they are at a local facility.
- Have solid pre plans in place.
- Know who and where your ALS engines are. They are usually trained to the same or higher level than the medical unit and ambulances that staff the fire.
- Have an adequate number of Stokes baskets on the fire. They are the only way to get injured firefighters off the fire line sometimes.