Rapid Lesson Sharing

Event Type: Electrical Shock from Wooden Power Pole

Date: August 1, 2025

Location: Oregon

The Engine Boss received an electrical shock from touching an energized wooden power pole that had started a fire at its base.

The Story and Lessons from this Electrical Shock Incident

"If you have black spots underneath a wooden pole, call the power company before you do anything."
Fire Management Officer

The pole that shocked the Engine Boss.

Close-up of the pole that shocked the Engine Boss. Notice the burned creosote and charring on pole. The Engine Boss's footprints can be seen in the lower left of image. This is where he was located when the electrical shock occurred.

Incident Timeline

July 31

1158 – A Wildland Engine responds to a wildfire near power poles and a local road. The Battalion Chief is already on scene with rural fire cooperators and Utility Company employees.

1210 – Utility Company employees de-energize power lines and inspect for damage.

1238 – The Battalion Chief on scene notices multiple poles, each with minimal ground fire at their base, the largest fire area being 40 ft. x 15 ft., along with ATV tracks in area. Due to this, and other fires in the area that were suspected arson starts, he requests a Fire Investigator. Rural fire cooperators begin mopping-up the fires. Utility workers continue to climb poles and inspect lines to look for any problems. No problems with lines detected in the vicinity.

1253 – The Wildland Engine is on scene. Engine crew members begin mop-up around power poles, following SOPs of keeping water from hose low and angled directly at the burned area. The power company re-energizes the power lines with all firefighters clear, with no noticeable unusual electrical activity.

1257 – Command turned over to Engine Boss of Wildland Engine with the Incident Commander Type 5 (ICT5) Trainee. Due to the suspicion of these fires being arson/human-caused, the Engine Boss proceeds to inspect and document ATV tracks around the fire areas.

1409 – Dispatch relays to IC: No Fire Investigator available.

"It was definitely a surprise and a shocking experience."

Engine Boss

1447 – After containing all three of the fires at the base of three power poles, the Wildland Engine (and all other personnel) depart scene and return to station with the plan of checking on the area tomorrow.

Another power pole with a fire perimeter that started from the electrified pole.

August 1

1541 – The Wildland Engine checks fires and power poles from the previous day. They find heat and smoke around the power poles—and smoke coming from inside one of the power poles. They proceed to mop-up around the base of one of the poles with their hard-line hose, spraying water. While he was close to the pole, the Engine Boss observed the water boiling around the base of the pole, with some arcing and buzzing.

At this moment he started to realize electricity was involved in the situation—and the hazardous spot they were all standing in.

He went to stand up from a crouch, put his right knee on the ground, braced his right hand against the pole and received a significant shock when his hand made contact with the pole.

The electrical shock was brief. As soon as he pulled his hand away it was over. The Engine Boss was then extremely agitated, but was still focused on the incident. He gathered himself together and remained on scene.

Engine requests Utility Company truck back to the fire.

He went to stand up from a crouch, put his right knee on the ground, braced his right hand against the pole and received a significant shock when his hand made contact with the pole.

1544 – The Wildland Engine reports seeing small sparks emitting from one of the cracks near the grounding cable on the pole. There is smoke and heat at the pole's base and they notice creosote burning. The pole is emitting "a hum" noise. They state they are remaining away from the poles and move upwind due to the odor of burning creosote.

1708 – The Utility Company arrives on scene.

2003 – The Wildland Engine reports that five poles have fire around them and were arcing. After a broader inspection of the entire line, the Utility Company found a short in the substation that transfers power to these lines that was causing the electrical poles to not be grounded. The Utility Company determines that this short caused each of the poles to be energized with approximately 3.5 kilowatts (KW) of electricity. These energized poles were then starting fires in the dry vegetation at the base of the poles. The Utility Company repaired the short in the system.

After the Utility Company states that the problem is fixed, they re-test poles and remain on scene while engine personnel proceed to put fireline around all five fires/poles. After these fires are contained, all resources depart fire area and head back to station. The Engine Boss goes home and reports a restless night of sleep.

August 2

0930 – The Engine Boss reports an increase in symptoms (uneasy feeling, exhaustion, head throbbing, tunnel vision). The Battalion Chief transports him to the local hospital emergency room for medical testing and evaluation. After getting cleared, medical staff direct the Engine Boss to take time off to rest and recover.

"This could happen any time, any day, anywhere.
After this incident, I'm not going to look at wooden poles the same again."

Battalion Chief

Lessons

- Looks can be deceiving: Seemingly normal-looking power poles were actually very dangerous and became the main hazard to firefighters as well as the source of multiple ignitions. Wooden poles can act as conductors in certain situations such as a short in a line, causing electricity to follow the grounding wire. Recent wet storms and high humidity can contribute to conductivity.
- New SOPs created by the local unit: A 20-foot stand-off distance is now given to power poles with wildland fire present. Foam is only directed low to ground to contain wildland fire. Poles will be treated as non-wildland/infrastructure.
- Medical evaluation of electrical shock is challenging. A patient can present normally at first, but undergo change as time passes. Delayed fatigue and secondary damage to the body is a distinct possibility. Due to the mechanism of injury (MOI) and given the unknowns of electrical impacts to an individual after being electrocuted (possible significant internal damage with minimal external signs) medical evaluation and continued assessment is highly recommended. (See pages 22-23 and 107-121 in the IRPG.)

Successes and Challenges

- The Utility Company responded rapidly to assist in the initial response to de-energizing the lines. On their next shift, they responded again when requested to de-energize the lines again and to problem-solve the energized poles.
- The Supervisor remained in constant contact with Engine Boss to assess his condition. When the Engine Boss communicated a change in symptoms, the Supervisor promptly got him to medical care at the hospital.
- After encountering the energized poles, the engine crew made a prudent decision to leave the area and stand by for the Utility Company to arrive.

This RLS was submitted by:

Evan Karp on behalf of the Oregon/Washington BLM State Office

Do you have a Rapid Lesson to share?
Click this button:

Share Your Lessons