

GREEN SHEET

California Department of Forestry and Fire Protection

Informational Summary Report of Serious CAL FIRE Injuries, Illnesses, Accidents and Near-Miss Incidents



NEAR MISS INCIDENT

September 4, 2008

SWISS FIRE

**Incident Number CA-TCU-008404
Investigation Number CA-CSR-000087**

California Southern Region

A Board of Review has not approved this Summary Report. It is intended as a safety and training tool, an aid to preventing future occurrences, and to inform interested parties. Because it is published on a short time frame, the information contained herein is subject to revision as further investigation is conducted and additional information is developed.

SUMMARY

On September 4, 2008, at approximately 1900 hours, a CAL FIRE employee was involved in a near-miss incident and sustained minor injuries. The firefighter was participating in fire suppression activities at the Swiss Fire and made incidental contact with a downed 12 KV powerline, receiving an electrical shock. After an examination at a local hospital, the firefighter was evaluated and released to full duty approximately 2 ½ hours later.

CONDITIONS

The accident occurred to the rear of a residence located at 6278 Swiss Ranch Rd. in Calaveras County. The GPS coordinates of the site are 38.263 N. Latitude. 120.487 W. Longitude. The accident site was approximately 75 feet southwest and downhill (1 -2% grade) from a PG&E power pole.

WEATHER

Weather conditions at the time of the incident were clear, warm and dry as recorded by RAWS (Esperanza FFS) with a temperature of 88° (F), Relative Humidity of 12%, Wind Speed at 2 mph out of the WNW and a 10 Hour Fuel Moisture of 4 gm.

FUEL TYPE

Oak woodland transitioning to pine forest with grass understory.

SEQUENCE OF EVENTS

On September 4, 2008, at approximately 1900 hours, a CALFIRE firefighter was directed to scout the perimeter of a vegetation fire and flag any life safety hazards. The fire was caused by a large branch falling into powerlines attached to a power pole at the rear of a single family residence. He began by scouting the left flank. He moved toward a fence located to the south of the pole and southwest of the downed power line. While scouting, he made contact with a local government engine crew and confirmed that they were aware of the downed powerline. He redirected the hand line that the engine crew was constructing to a distance approximately 25 feet from the existing perimeter of the fire, and about 40 feet from the power line. He observed the large branch from a heritage oak (approximately 24 to 30 inches in diameter), that had fallen onto the powerline, causing the powerline to fail. He noticed that the branch was also lying over a wire fence. The fence was approximately 55 feet from the power pole and approximately 50 feet from the downed powerline. The powerline was in contact with the downed branch.

The firefighter continued to scout the left flank and began working his way around the perimeter of the fire. As he approached the wire fence, he observed that the failed power lines were suspended on tree limbs above the wire fence.

The firefighter was able to open a gate in the wire fence and continue flagging and scouting the perimeter to a point where the large branch was lying over the fence. At that time, A CAL FIRE helicopter that had been working the fire, made 2 water drops on his location at the large branch / wire fence. The firefighter believes that at that point he made contact with the large branch using his ungloved hand. He began to feel the electrical shock throughout his body and dropped his portable radio, which landed on the opposite side of the wire fence. The electric shock lasted approximately 4 to 5 seconds. The firefighter has no memory of dropping his portable radio or removing his hand from the branch.

The firefighter believed that he was not injured but immediately notified other firefighters in the area that the downed branch was energized. He flagged the area and continued scouting the perimeter. After completing his assignment, the firefighter met with a representative from PG&E at the scene. The PG&E representative identified the downed powerlines as 12KV lines. The firefighter advised the PG&E representative that he had been shocked while touching the tree. The PG&E representative began to immediately de-energize the downed powerlines.

The firefighter met with the Incident Commander and advised him that he had been shocked but did not believe that he was injured or required medical attention. The Incident Commander determined that the firefighter needed to be medically cleared and had him transported to a local hospital by CAL FIRE vehicle. The firefighter was seen at a local emergency room and released for full duty approximately 2 ½ hours later.

INJURIES/DAMAGES

The firefighter did not receive burns as a result of the exposure but did suffer moderate pain during the incident as well as a 3 to 5 second loss of memory.

SAFETY ISSUES FOR REVIEW

- * Maintain Situational Awareness on all incidents regardless of their size and/or complexity.
- * Water, as well as many solid objects, may conduct electricity. In particular, water with particulate (dirt, foam, gel, etc) mixed in will conduct electricity more effectively than pure distilled water.
- * Full Personal Protective Equipment (**PPE**) including leather gloves must be worn to reduce the risk of exposure to and subsequent injuries in hazardous environments.
- * Incidents that present a life hazard shall be flagged with a continuous three stripes of hazard flagging separated at 18"-24" intervals. In areas where the life hazard is too large to utilize flagging around the entire hazard a lookout shall be posted at all points of access to the hazard. Smaller sections of three stripe hazard flagging

- shall be placed between two uprights, such as trees or brush, for visibility. (**CAL FIRE Policy 1738**)
- * Powerlines, as well as anything in contact with powerlines, shall be considered energized and appropriate isolation distances provided. Many references including **CAL FIRE Procedure 4331.2, IFSTA and NIOSH** recommend a minimum isolation distance of at least the distance between two power poles or 25 feet if the power poles are closer. Items in contact with powerlines should be considered part of the powerline.
 - * Consider delaying the use of water dropping helicopters in areas deemed to be a life hazard specific to powerlines until confirmation that the powerlines are de-energized and grounded by the appropriate utility company.
 - * Electrical injuries shall be considered a “Serious” burn injury. Those persons meeting the "serious" burn criteria should be transported to the nearest facility offering basic or comprehensive full service emergency care for initial evaluation and stabilization. After stabilization, patients with serious burns will be transported to a qualified regional burn center as soon as possible for evaluation, treatment and follow up. (**CAL FIRE Policy 1811 – 1813**)