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## Naval Facilities Engineering Command

# Abstract of an Accident

99-13

**Accident Type:**                **Electrocution**  
**Injury:**                        **Fatality**  
**Type of Work:**               **Demolition in Electrical Substation**  
**Equipment Involved:**      **Air Powered Chipping Gun**

### DESCRIPTION OF THE ACCIDENT:

A contractor laborer received an electric shock when the air powered chipping gun he was using penetrated an unidentified live buried 4.16kV cable. Intrusive demolition activities were started under an electrical outage the previous workday (Friday). Worker was clearing obstructions around an inactive conduit that crossed above the live line to allow for planned electrical work accessibility. The Substation was energized at the time of accident.

### DIRECT CAUSE:

Unauthorized intrusive activity without an electrical outage in place. Scanning area with electromagnetic or sonic equipment not performed. Non-electrical qualified workers working without qualified supervision on site.

### INDIRECT CAUSE:

- Accident prevention plan, general task related job hazard analyses, and contract specifications applicable to positive utilities identification and isolation not followed. The site-specific, task-specific JHA was not inclusive as proposed demolition and intrusive activities were not addressed.
- Cable was not located to scale on as-built electrical site plan drawing used by subcontractor as a utility locator.
- No site-specific safety training was provided to non-electrical qualified workers prior to intrusive activities. Worker may have assumed no harm would come from the additional chipping in substation.

### LESSONS LEARNED:

- Strict adherence to USACE EM 385-1-1, Section 11.A.02 and 11.J and OSHA 29 CFR 1926.416 and 1926.957 and contract safety requirements for utility identification and coordination of power outages with the appropriate base personnel and ROICC by contractor is critical.
- Each intrusive work activity should be treated as a single event and on its own merit. No work task is too insignificant not to ensure that all required safety precautions are in place.
- As-built's accuracy is questionable, inclusion of field changes not guaranteed. Underground cables shown as schematic connections between two points, not actual physical locations of installed conduits.
- Training as required by USACE EM 385-1-1, Section 01.B.02 and 29 CFR 1926.21 (b)(2) should be initiated prior to field activities to increase worker safety awareness.



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**YOUR SAFETY CONTACT IS....**