POTELCO INC.

Accident

Investigation

February 14, 2014

Investigated and Reported by
Damian Hernandez
IBEW Local 77 Accident Investigator

Potelco, Inc. Accident Investigation for February 14, 2014

On Friday, February 14, 2014 at approximately 9:30 a.m. an apprentice lineman made electrical contact, in Olympia, Washington while working for Potelco, Inc. The weather was dry and partially sunny.

The four-man crew was removing old de-energized conductors from hot arms after a recent re-conductor project. The crew consisted of one journeyman line foremen, two journeymen linemen and one 7th step line apprentice. The crew had recently re-conducted a single phase circuit, installing new 336 ACSR, three phase tree wire and was in the process of removing the old #4 ACSR wire from the hot arms. The new 12,470 volt three-phase circuit was fed from a 600 amp breaker that had been placed in the non-reclose position and the hot line work switch was activated while work was being performed. The crew had a documented tail board, where they discussed PPE, energy source control, hazards of the job and special precaution for the single phase laterals.

The old primary # 4 ACSR wire had been spread to the field and was in the furthest position in the hot arms, providing approximately 34 inches of clearance between the old conductor and the new energized 336 conductor. The #4 ACSR was de-energized, grounded and using sling and grips secured at the neutral level at pole #10, located at the east end of the job. To prevent against accidental re-energizing the crew de-energized all three of the single phase laterals extending north between the locations on the ground and where they were going to begin letting the wire down, approximately 9 spans away.

At pole #1 the crew used two bucket trucks to cut, clear and remove the old wire from above the energized single phase lateral. The tail to the west was completely removed and the tail to the east was lying on the ground, causing the wire to sag low across a driveway in between pole #2 and pole #3. The foreman cut the #4 ACSR mid span at ground level to clear the driveway leaving approximately 120 feet of wire between the cut and pole #3. The wire between pole #1 and the driveway was removed and the hot arm was removed from pole #2.

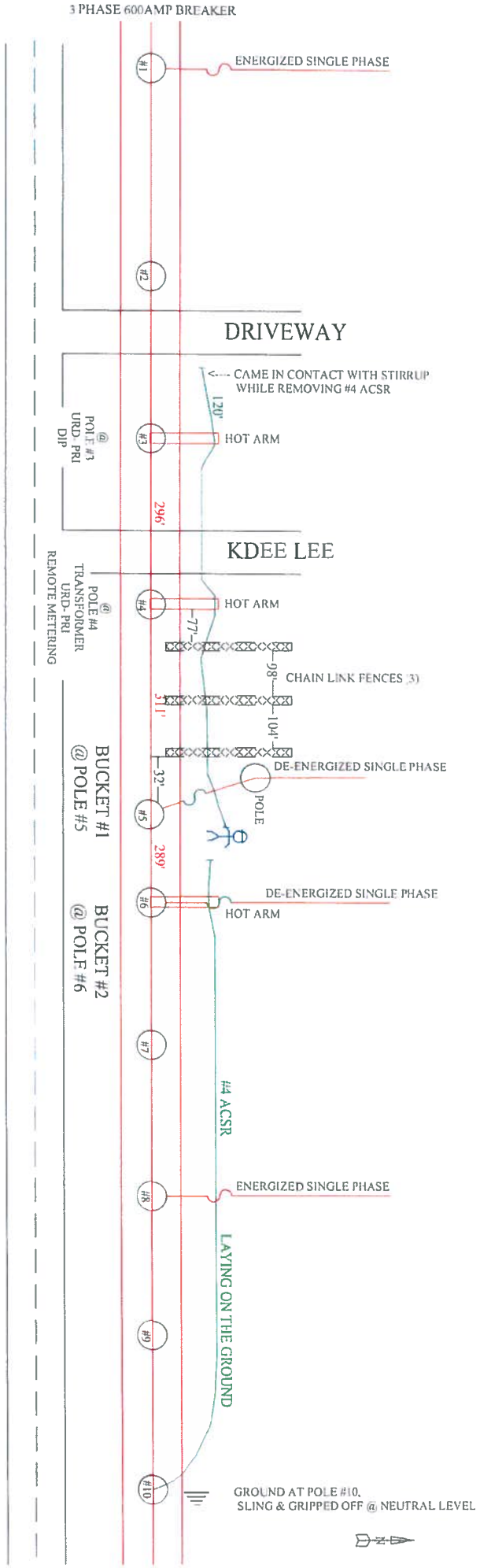
At poles 7-9 the crew cut, cleared and lowered the ACSR #4 conductor to the ground, and re-energized one of the single phase laterals at pole # 8. Bucket truck # 2 was parked at pole # 6; there were two crew members at that site. The wire remained in the hot arm above a de-energized single phase lateral. Bucket truck #1 was set up at pole #5 with a de-energized single phase lateral. One crew member cut, cleared and lowered the wire to the ground both ways. After the wire had been lowered to the ground both ways at pole #5 the apprentice pulled the wire tail from the west making an attempt to sleeve the two tails together on the ground to prepare for roll up. The wire to the west was lying on top of three chain link fences and at poles 3 and 4 the wire was still in hot arms. During the attempt to sleeve the wire together the wire tail slid through the hot arm at pole #3 making contact with the energized stirrup on the field phase of the new three phase system. The 600 amp breaker operated once and remained open. The #4 ACSR had two burn marks where it had been in contact with the chain link fences. The apprentice was wearing leather gloves and received a shock he said felt "similar to an electric fence". There were no apparent injuries or side effects as a result of this incident.

However, the apprentice was transported to the hospital by the employer for an evaluation. The hospital's policy is to monitor the patient for 12 hours. He was later released with no restrictions or signs of injury.

Recommendations:

1. Proper use of Insulate, Isolate or EPZ grounding work methods.
2. Use of rubber gloves (for accidental contact protection).
3. Perform task as a crew, allowing proper personnel to be at correct locations giving the foremen the ability to observe the task being completed.
4. Maintain tension and positive control when conductors are being removed.

DH:ekk/opeiu8/afl-cio


3 PHASE 600AMP BREAKER
ENERGIZED SINGLE PHASE
#1
#2
DRIVEWAY
<---- CAME IN CONTACT WITH STIRRUP
WHILE REMOVING #4 ACSR
120'
@
POLE #3
URD PRI
DIP
#3
HOT ARM
296'
KDEE LEE
@
POLE #4
TRANSFORMER
URD- PRI
REMOTE METERING
#4
HOT ARM
77'
98'
CHAIN LINK FENCES (3)
311'
104'
DE-ENERGIZED SINGLE PHASE
32'
POLE
#5
BUCKET #1
@ POLE #5
289'
DE-ENERGIZED SINGLE PHASE
#6
HOT ARM
BUCKET #2
@ POLE #6
#7
#4 ACSR
ENERGIZED SINGLE PHASE
#8
LAYING ON THE GROUND
#9
#10
GROUND AT POLE #10,
SLING & GRIPPED OFF @ NEUTRAL LEVEL