

Take 5 for Safety

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Arc Flash Event at INL Involving Situational Awareness Barrier

- On April 15, 2015, Idaho National Lab workers were performing tri-annual preventative maintenance on a 12.5 kV substation breaker (B44) when their actions caused an arc flash
- There were no injuries
- Although the hazard was recognized, the established administrative barrier failed due to unintended action on the part of the workers
- Engineered barriers could have been established (electricity could have been re-routed or the equipment could have been taken out of service) to provide greater distance between the linemen and the hazard or to remove the hazard entirely

Situational Awareness Barrier – L2 Warns L1 When L1 is Within 2 feet of the B42 Electrical Line, Which is Live



Figure 1- Shotgun Hot Stick

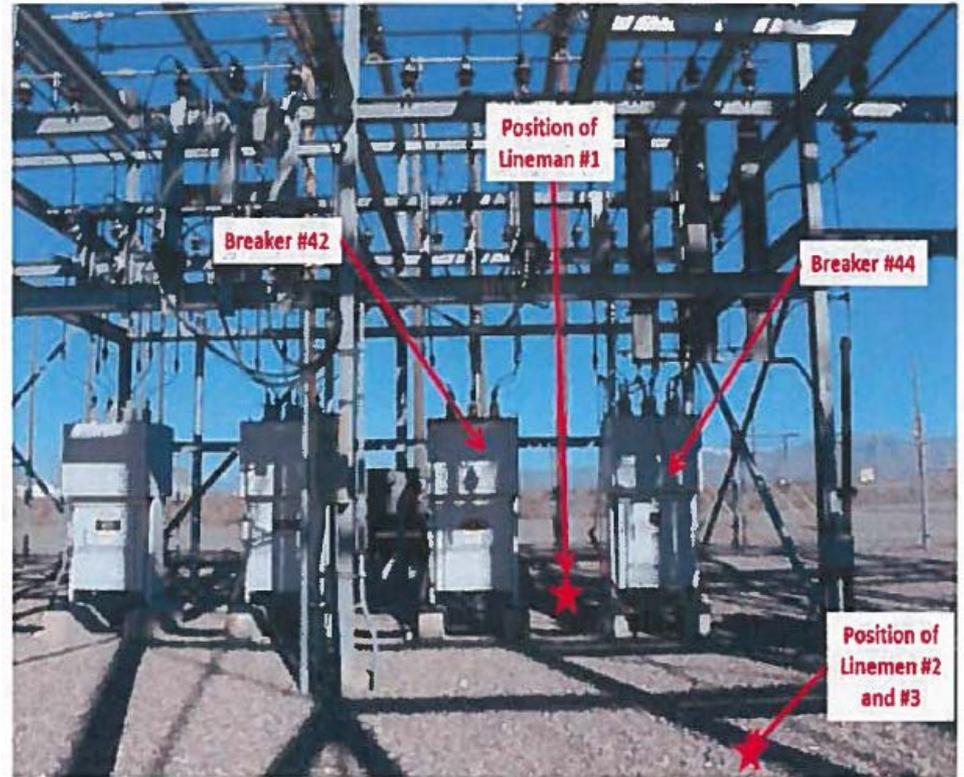


Figure 2 - Position of Linemen during Work Evolution

Situational Awareness Failure



Figure 3 - Location Where Ground Cable Became Entangled on Breaker Panel



Figure 5 - Charred Top of Breaker B42

Look for Hazards in Every Direction

- Although INL personnel (Supervision, System Engineer, and the linemen) recognized the hazard present in the work location, they did not question or request additional controls on the hazard
- They instead accepted maintaining situational awareness as a suitable means of mitigating the hazard presented by the energized line above Breaker B42