

Message from Power Chapter Chairman:

The IEEE Berkshire Section Power Chapter hosted a “Live Demonstration” of Distribution ARC FLASH at the Electric Power Research Institute (EPRI) Laboratory in Lenox, MA on Wednesday, October 8th. The event consisted of lunch, an excellent presentation on the topic by George Gela, Ph.D., P.Eng., a Technical Executive at the Lenox Lab and a live arc flash event.

The presentation touched on arc flash rule changes, practices that have applicability across the industry, and identify practice areas of contrast / uncertainty. Arc flash dangers include shock, electrocution, and arc blast. These dangers are always present in the electrical world, but proper awareness, training and the development of arc flash safety personal protection strategies can minimize the likelihood of injury and fatality.

The live demonstration showed what could happen during a phase-to-phase fault initiating on a 4160 Volt over-head system.

The event was well attended by a group of over 20 local engineers, guests and utility personnel.

For questions or comments on this event please contact David Rueger, the IEEE Berkshire Section Power Chair at (413) 448 2452.

See photos below:



Figure 1 EPRI High Voltage Laboratory, Lenox, MA.



Figure 2 Transmission Test Line, one of many, Tower 1



Figure 3 Tower 1 supports a 3-phase transmission line section with both horizontal and vertical adjustment



Figure 4 IEEE Berkshire Section Group to view the Arc Flash Demonstration





Figure 5 Arc Flash Demo utilizing a three-phase 4160 V distribution system, Full-scale mockup with mannequin "Joe the Lineman"



Figure 6 Close-up of fault arrangement. Outer phases are tied together with thin gauge solid copper wire to simulate fault. Outer phases are bonded to cut-out, as being worked on by "Joe the Lineman"





Figure 7 Arc Flash at 4000 to 5000 amps fault current. Note that arc flash engulfs "Joe the Lineman"



Figure 8 Aftermath of Arc Flash shows burned area on "Joe the Lineman"