



Safety Message of the Day for IMEA Members



Arc Flash Precautions: A Review

UD Transformer Switching

Switching elbows in a dead-front transformer on the end of a switch stick is another topic often discussed.

One of the greatest dangers is the ejected arc from a failed load-break bushing. But the distance must be considered. The level of PPE is determined by how much exposure is at the 18-inch working distancing. There is far greater exposure on a 6-foot stick than on an 8-foot or a 10-foot stick because of the distance from the arc. While some may still use a 4-foot stick, I highly recommend against it. If the employee must use a shorter hot stick, wearing rubber gloves with leather protectors is a valuable addition to limit arc flash exposure. Rubber gloves have no recognized arc thermal protective value. Arc flash testing has proven that Class 2 rubber gloves with cowskin or goatskin leather protectors will not break down up to 40 to 100-plus calories. Leather protectors can be rated up to 28 calories. The gloves add more protection from the heat effects of the arc. Sticks for primary protection are for electrical shock, and rubber gloves provide additional protection from heat exposure. In any case, the gloves will lessen the exposure to arc flash.

Many times, live-front transformers have no additional barrier between the employee and the exposed live parts/ bushings and UD terminations once the door is opened. I advise my clients to unlock the door, remove the bolt and stay behind the door as they're opening it to avoid potentially violating the minimum approach distance of the energized parts. Also, you never know what is behind that door. An inspection of all terminations and environmental conditions may indicate additional hazards even when the equipment is in working condition. Employees should wear all PPE necessary for protection against unanticipated equipment failures and arcs even when there is no sign of past failure.