**Task:** INSTALLATION, ALTERATION, MAINTENANCE, OR REPAIR OF ELECTRICAL BREAKERS AND PANELS

**Required PPE:**

1. FR Clothing and tools that meet the provisions of NFPA 70E specifications: (Reference Table 1.30.7( C )(10)
2. Gloves (as appropriate for voltage)
3. Eye Protection or Face Shield (as appropriate for voltage)
4. Insulated Mats (as needed)
5. Insulated Tools

**Required Training:** NFPA 70E – Arc Flash Training                   Lockout/Tagout Training (LOTO)

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| Preparing to Access Electrical Panel| Injuries from the Impact of Doors Adjacent to the Panel or from Foot/Cart Traffic | • Post warning signs
• Set-up barriers
• Use an assistant |
|                                     | Slips, Trips and Falls                                                 | • Clear the area surrounding access to the panel
• Clean-up any hazards in the area of the panel |
|                                     | Shock or Electrocution                                                 | • Wear all required FR rated clothing, eye/face protection, gloves, eye/face protection, etc
• Lay down a non-conductive mat to avoid slippage |
| Remove the Outer Cover and Opening Dead Front | Foot or Hand Injury from Handling the Cover | • Obtain assistance with removing panel cover
• Plan for the handling of the panel cover |
|                                     | Muscle Strain                                                         | • Lift using the legs – use safe lifting techniques |
|                                     | Shock or Electrocution                                                 | • Use all required PPE appropriate for voltage load
• Watch the edges of the panel and be sure they do not touch the wires in the panel box
• Use insulated mats (as needed) |
| Accessing and Working on Breaker(s) or Panel | Shock or Electrocution                                                 | • Ensure LOTO is completed –pre-test to ensure power has been disconnected |
|                                     | Arc Flash Injuries including Burns                                    | • Use voltage appropriate PPE: FR clothing, eye/face protection, gloves, and insulated tools |
|                                     | Injuries to Others                                                    | • Use signs, barricades, or cones to mark hazardous area
• Ensure LOTO procedures are followed and tags are visible from 5-feet away |
| Reassembling Panel                  | All Hazards previously listed, considering tasks are in reverse order | • Use care with panel locks to make sure they do not catch on any wires or other components while being replaced
• Use all precautions and all PPE as required for voltage load |

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