

# THE DANGERS OF ARC FLASH

The higher the voltages, the larger the danger zone.

## Arc Flash

Why should you be concerned about arc flash? Arc flash explosions are known to cause serious damage to your facility and personnel. The arc causes an ionization of the air, and arc flash temperatures can reach as high as 35,000 degrees Fahrenheit.



An arc flash is a phenomenon where a flashover of electric current leaves its intended path and travels through the air from one conductor to another, or to ground. The results are often violent and when a human is near the arc flash, serious injury and even death can occur. A combination of proper analysis, labeling, personal protective equipment and clothing, and training can prevent injuries and expensive equipment downtime caused by arc flash events.

# ELECTRICAL ARC FLASH ASSESSMENT SOLUTIONS

**NFPA70E Requirements** — An arc flash assessment is required and must be audited (updated) at least every five years **OR** whenever an equipment change takes place which impacts the electrical distribution system. Additionally, arc flash training must be refreshed at least once every three years.

**Additional Requirements from NFPA70E 2018** — Electrical equipment shall be maintained in accordance with manufacturers' instructions or industry consensus standards to reduce the risk associated with failure. The equipment owner (or the owner's designated representative) shall be responsible for maintenance of the electrical equipment and documentation. Overcurrent protective devices shall be maintained in accordance with the manufacturers' instructions or industry consensus standards. Maintenance, tests, and inspections shall be documented.

## Horizon Solutions Arc Flash Risk Assessments Services

- An electrical system single-line diagram modeled in power system analysis software (if needed)
- A fault current study
- A protective device coordination study
- Recommendations for improving arc flash safety and reducing incident energy levels
- Corresponding arc flash labels and label installation

## Horizon Solutions Detailed Audit Reports

- Identification of non-compliance issues and potentially hazardous electrical situations
- Noted errors in previous arc flash hazard assessment (if applicable)
- Recommended corrective actions for a path forward to a safer and more compliant workplace
- The applicable OSHA regulation or consensus standard (NFPA 70E)

## Horizon Solutions Electrical Hazard Remediation Solutions

- Power distribution equipment decommissioning and replacement (LV and MV)
- Breaker refurbishment and replacement
- Rebuild and reconditioning
- Arc Flash Mitigation — digitrip retrofit, high resistance grounding systems; arc-resistant switchgear; window disconnects with local controls for lockout/tagout (LOTO); infrared scanning windows for LV/MV assemblies; maintenance bypass; remote racking
- Personal Protection Equipment (PPE); Cal rated kits; fire resistant garments; voltage gloves and glove inspection programs; eye, face and hearing protection
- Short circuit studies; visual LOTO procedures writing; harmonics; load flow studies
- Thermographic testing
- Safety training

Horizon Solutions helps improve our customers efficiency, productivity and safety through expertise in Electrical, Automation, Industrial, Energy, and Safety products and services. We seek to understand your needs and apply solutions that solve your most demanding challenges.

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To learn more about the impact of NFPA 70E 2018 or our arc flash assessment services call (800) 724-4750

