

What is Arc Flash?

Arc flash is conductance of electrical current through ionized air that can occur during an electrical fault. Energy released can create a hazardous environment surrounding the electrical equipment by discharging tremendous amounts of heat and intense light. Results can range from minor burns to death.

Why do I need an Arc Flash Risk Assessment?

1. Employee safety is as important as production, quality and budget.
2. Occupational Safety and Health Administration (OSHA):
 - » Requires employers to calculate incident energy of any electrical hazard by January 1, 2015 – OSHA 1910.269(l)(3)(ii)
 - » Requires employers to provide workers with arc-rated clothing and appropriate PPE by April 1, 2015. – OSHA 1910.269(l)(3)(ii)
 - » Requires training for workers to recognize and control or avoid electrical hazards – OSHA 1910.269(a)(2)
 - » Requires electrical safe work practices – 1910.331-336
3. National Fire Protection Association – NFPA70 (NEC):
 - » Requires warning labels on electrical equipment – Article 110.16
 - » Requires equipment duty verification – Article 110.10
4. National Fire Protection Association – NFPA70E 2015:
 - » Requires Arc Flash Risk Assessment to determine safe work practice, arc flash boundary and PPE-Article 130.5(1)
 - » Requires selection of PPE using Incident Energy Analysis Method or PPE Category Method -Article 130.5(C)
 - » Specifies Arc Flash Protective Equipment -Article 130.7(C)(10)
 - » Requires written electrical safety program -Article 110.1
 - » Requires periodic training for both qualified and unqualified employees -Article 110.2 (D)
 - » Requires up-to-date single-line diagrams -Article 120.2(f)(1)(a), 205.2
 - » Requires up-to-date documentation and periodic verification – 205.2, 120.2(F)(1)(a)
 - » Requires periodic assessment - Article 130.5(2)
5. Insurance/Litigation/Fines/Medical/Facility Cost:
 - » Complying with OSHA can reduce insurance premiums
 - » Non-compliance incident litigation costs can exceed \$15M
 - » Non-compliance OSHA fines can exceed \$100K
 - » Non-compliance incident medical costs can exceed \$2M
 - » Damage to equipment/facility and downtime



What Electrical Equipment needs to be evaluated?

1. Low Voltage (50-600 VAC) single and three phase systems
2. Medium Voltage Systems
3. Large DC systems



What can TESCO do to help me with OSHA Compliance and increasing worker safety?

1. Arc Flash Risk Assessment
2. Labeling and Hazard Communication Plan
3. Design and Methods Review
4. Accurate Single-Line Diagrams
5. Short Circuit and Coordination Studies
6. Electrical Safety Program Review/Development
7. Arc Flash Training Program and PPE Plan Development
8. Documentation
9. Periodic Reviews
10. Electrical Equipment Modification for Hazard Mitigation
11. Preventive Maintenance (EMASS Agreements)

