

ARC FLASH

What is an Arc Flash?

Arc Flash is the release of energy that travels through air from one conductor to another or from a conductor to ground. An Arc Flash may occur as a result of the following items:

- Faulty installation
- Material failure
- Corrosion
- Dust
- Dropping of tools while working on equipment
- Accidental touching
- Condensation



What are the results of an Arc Flash?

An Arc Flash could result in damage to electrical equipment and serious injury to people.

Results of a typical Arc Flash can include:

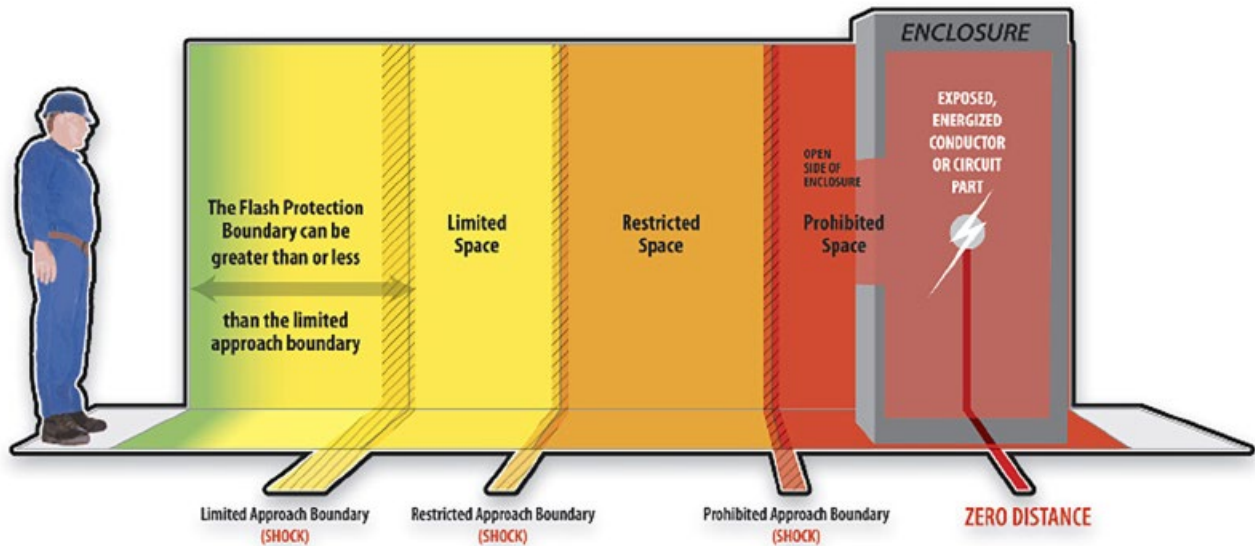
- Fire
- Flying objects
- Heat
- Blast—with pressure and sound
- Burns
- Loss of life

Why is an Arc Flash Study Necessary?

NFPA 70 (NEC), Article 110.16 requires that electrical equipment have labels to identify the potential for electric arc flash hazards. The equipment shall be labeled of the hazard to identify the risk for qualified persons working on the equipment while energized.

There are five Hazard Risk Categories identified by NFPA-70E and the Arc Flash Study will identify the hazard at the equipment by affixing the appropriate label and indicating appropriate Personal Protective Equipment (PPE) required by both NFPA and OSHA.





What does the Study Provide?

A study will provide a comprehensive fault analysis for three phase, line-to-line, and line-to-ground faults on the electrical system based on field observations and engineering calculations. The fault analysis will identify the magnitude of the fault current at any point in the system.

Using the Arc Flash and fault analysis information, a Protective Device Coordination study can also be generated to insure that all device trip settings and short circuit levels are properly coordinated in the system. Under normal conditions a fault should be cleared by the protective device serving the load. A properly coordinated system will trip the device closest to the fault and prevent any incidental tripping of upstream devices under fault conditions. The Protective Device Coordination study can identify where arc flash incident energy can be reduced by time adjustments on the protective device. A properly coordinated system can eliminate the risk of unnecessary downtime of critical equipment or unwanted building shutdown.

WARNING	
Arc Flash and Shock Hazard Appropriate PPE Required	
1'-8.7" 27.7 #4	Flash Hazard Boundary cal/cm ² Flash Hazard 15 18 Inches PPE Level Cotton Underwear + FR Shirt & Pants + Multi Layer Flash Suit
480V 0'-8" 0'-4.5" 0'-3.6"	Voltage Shock Hazard When Cover Is Removed Limited Approach Restricted Approach Prohibited Approach
Equipment: MDP	



For more information on what C1S can do for you, contact us for a free consultation.

4231 Sigma Road, #110 | Dallas, Texas 75244 | 972.386.7005

www.c1sinc.com