

DESCRIPTION

What causes an Arc Flash event?

- An arc flash event is introduced when phase conductors are shorted together or to ground, creating an energy release that can damage equipment and injure personnel.
- This is dependent on both the amount of energy in the system, and the amount of time that it takes for the upstream breaker or fuse to open and "clear" the fault.

Common Arc Flash Event Scenarios:

- Dropped tool or loose connection.
- A maintenance activity such as racking a unit in or out of a piece of gear.
- An animal or object touching the bus bars in gear that creates an energy release.

COMPLIANCE

Applicable for Commerical, Industrial, PSM & non-PSM facility types.

1 OSHA General Duty Clause + 29 CFR 1910

- Each employer shall furnish employees and contractors work environments that are free from recognized hazards that are causing or are likely to cause death or serious physical harm to his employees.

2 NEC Section 110.16

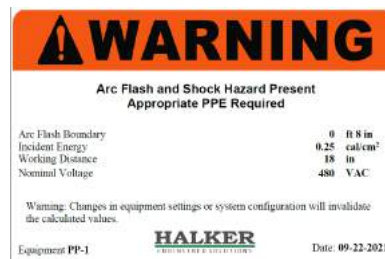
- To satisfy OSHA, it is necessary to look at NEC and NFPA standards.
- Electrical equipment, such as switchboards, switchgear, panel boards, industrial control panels, meter socket enclosures, and motor control centers, that are likely to require examination, adjustment, servicing, or maintenance while energized, shall be field or factory marked to warn qualified persons of potential electric arc flash hazards. The marking shall meet the requirements in 110.21(B) and shall be located so as to be clearly visible to qualified persons before examination, adjustment, servicing, or maintenance of the equipment.

3 NFPA 70E 130.5

- A generic label satisfies NEC, but NFPA 70E 130.5 requires a more detailed study per IEEE 1584 in a program like ETAP or SKM.
- These detailed studies shall be performed and disclose the appropriate PPE levels be given for personnel to work on the equipment under energized conditions.
- These studies must also be updated periodically (no more than 5 years) or after major system modifications or additions.

4 Hazard Labeling

- Generic NFPA 70 Required Label



STUDY COMPONENTS

To satisfy OSHA and NFPA requirements on new and existing sites, a variety of fit-for-purpose studies can be conducted to ensure safety and compliance.

Existing Facilities

- As-built System One-lines & Cable Schedules
- ETAP or SKM Modeling
- Coordination & Arc Flash Study
- Label Production

New Builds

- Facility designed and equipment is specified to minimize hazards
- Small adder when coupled with other design tasks.