

Steps required to complete an Arc Flash study

- ☐ Site audit to determine requirements for quotation. (by 70e Advisors – **no charge**)
- ☐ Update or create electrical singleline diagrams. (by customer or 70e Advisors)

One line electrical diagram(s) for all devices in the electrical distribution system. This will include everything from the incoming utility substation down through all 3-phase devices that are greater than 208 V, having greater than or equal to 2000 amps of available short circuit current.

- ☐ Field Investigations (by customer or 70e Advisors)

A database will be created that lists all pertinent data associated with the electrical devices. The following data will be included:

Device Manufacturer and model number.

Transformer rating, impedance, and voltages.

Emergency generator sizing and protections.

Switchgear nameplate data, withstand voltage of bus, and interrupt rating of the switchgear circuit breakers.

Motor Control Center (MCC) nameplate data and main and bucket circuit breaker data.

Distribution Panels breaker information for all breakers.

Circuit Breaker and Protective overcurrent relay settings and ratings.

Determine conductor size, length, and quantity to and from all devices.

- ☐ Create a software model of the electrical distribution system (by 70e Advisors)

A software model will be developed and calculations performed using IEEE 1584 standards.

Optional calculations can be made with the available data.

Short Circuit Analysis – maximum fault levels for each device is calculated to identify potential problem areas.

Time – Current Coordination Study – to ensure that downstream devices clear the short circuit fault before the upstream devices.

- ☐ Print and apply arc flash labels on required devices (by customer or 70e Advisors)
- ☐ Personal Protection Equipment (PPE) – PPE recommendations and training of customer personnel. (by 70e Advisors)
- ☐ Mitigation Plan–Recommendations for electrical system modifications to minimize incident energy levels and to decrease the amount of PPE required (by 70e Advisors)
- ☐ Training–A documented arc-flash electrical safety class