

Arc Flash Hazard Analysis Protective Device Coordination Short Circuit Analysis

All Building Types

Industrial/Factory

Government/Military

Hospitals/Healthcare

Educational

Commercial

NFPA 70E, STANDARD for ELECTRICAL SAFETY in the WORK-PLACE

Nearly every type of building, regardless of use, has some form of electrical power distribution to supply lighting, equipment, convenience outlets etc., with the electrical power required for the building to function according to design.

The National Fire Protection Association, NFPA, is responsible for over 300 consensus codes and standards designed to mitigate risk of damage to buildings and structures as well as harm to the humans that occupy and maintain them.

Standard 70E codifies the responsibilities of the employer and employee, the frequency of review, and the processes and procedures to follow when there is no alternative to working on energized equipment.

Other applicable code and standards organization include NEC, ANSI, OSHA.

ARC FLASH HAZARD ANALYSIS

An 'Arc Flash Hazard' is a source of possible injury or damage to health and/or equipment associated with the release of energy caused by an electric arc.

An Arc Flash Hazard Analysis by Plant Engineering Consultants outlines the electrical system being studied, including components (loads) and their related distances from various electrical sources, and protective devices. With the aid of computer modeling, we calculate the stored energy between a source and any potential fault. This information is then used to determine what labeling is to be installed on specific equipment indicating arc-flash energy levels, and safety requirements that apply to be able to work on energized equipment that is part of the system.

PROTECTIVE DEVICE COORDINATION

Faults occur, that is a fact. The ultimate goal of completing a protective device coordination of an electrical system is to de-energize the circuit as close to the fault as possible. Protective breakers and fuses in a system can be sized, and trip settings adjusted, to keep a single fault from cutting power to the entire facility.

We will coordinate protective devices in the system to limit the loss of power from a fault to as small a portion of the system as possible.

SHORT CIRCUIT ANALYSIS

Short circuit fault currents can introduce a large amount of destructive energy into an electrical system. This energy can be in the form of heat or magnetic force and can cause damage from minor to catastrophic.

The goal of the analysis is to determine the potential short circuit currents downstream of each protective device, and ensure the protective device can interrupt the power without sustaining damage to functionality.

REPORTS

Plant Engineering's Arc Flash Hazard, & Protective Device Coordination analysis provides a report including breaker settings and fault duties, discussions and recommended mitigations for any deficiencies found.

PLANT
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Call to discuss, we will arrange to walk your facility
and provide a fixed price written proposal.

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