

Power Systems Study

The Electrician, Inc can give you peace of mind and potentially prevent an expensive mistake.

A power systems study will put your current electrical configuration, and the proposed additional equipment, into one system model. This is done so that TEI can identify for you any possible issues with the proposed additional equipment. The power systems study consists of three segments of the electrical system which include a short-circuit audit, a coordination assessment, and an incident energy calculation. The study results will validate the proposed bill of materials for your project, define the settings for adjustable breakers, and provide a preview of the incident energy results prior to installation. As the additional components become part of your arc flash risk assessment, the power study will assure that problems and system violations are identified before the investment is made, avoiding additional expense to resolve an issue later.

Short Circuit Study

The Electrician, Inc can identify fault current hazards in your system.

A Short Circuit Study provides you knowledge and data to accurately assess the fault current hazards within your electrical system. Fault current can be a nuisance and a danger to your electrical system, and more importantly, to your employees. Fault current is most notably influenced by the utility service feed to your site as well as internal transformers, and motors. Fault current can trip protective devices resulting in unexpected outages. At its worst, fault current is capable of creating an explosion within under-rated equipment resulting in extreme heat, intense light, and shrapnel from the equipment. Identifying and eliminating fault current anomalies are an important safety audit – protecting your people and your equipment; and it is required under NEC and OSHA standards.

Protective Device Coordination study

The Electrician, Inc can create a study to show you which protective devices will trip when there are equipment issues.

When there is an issue with a piece of equipment, you want the overcurrent protective device serving that piece of equipment to trip. Time and money can be lost due to the wrong protective devices tripping. An example of this issue is an Air Handling Unit on the rooftop that causes the main breaker feeding Production Area "A" bus duct to trip.

The Coordination Study audits all of your electrical system looking for device pairs that will trip out of sequence, and includes recommendations to eliminate or reduce the out of sequence trips within your electrical system.

One-Line Diagram

The Electrician, Inc can create a one-line diagram for your electrical system.

A one-line diagram is a simplified representation of your electrical system. This diagram is used to show power flow from device to device within your electrical system. It allows the user to evaluate where to implement a shutdown to plan maintenance or other de-energized tasks as well to assess additional affected equipment.

Arc Flash Risk Assessment

TEI can do an arc flash risk assessment for you

In order to properly assess the level of hazards associated with your electrical equipment, you'll need to know incident energy factors. When de-energized work cannot be performed, an electrician must understand and utilize incident energy information to ensure safe work practices. Information needed includes incident energy levels in a cal/cm², the arc flash boundary, and voltage. With this information the electrician/ qualified individual can wear the proper personal protective equipment (PPE). Without knowledge of the incident energy factors electricians may not understand the level of danger that lies within the equipment they're working on. Improper PPE combined with an electrical arc flash can be deadly, and without doubt will affect the electrician, and that electrician's family, coworkers, the company, and the community. To avoid this tragedy get the (OSHA required) Arc Flash Risk Assessment done on your electrical system.

Please see the Arc Flash Risk Assessment brochure for more information.