



POWR-GARD™ SERVICES

THE STEPS TO ELECTRICAL SAFETY COMPLIANCE



Engineering Services

Power Studies

Arc-Flash Hazard Analysis

Data Gathering and Inspection

One-Line Drawings

Training and Consultation



The Process to Achieving

ELECTRICAL SAFETY & OSHA COMPLIANCE

1

UNDERSTAND

OSHA/NFPA 70E —
Improve Current Limitation

2

COLLECT DATA

And Document Your
Electrical System

3

EVALUATE

Your Electrical System

Electrical Safety and Compliance Consultation Service

Littelfuse has built its reputation on safety. For decades, we've been the leader in designing and manufacturing products that meet NEC®, UL®, NFPA®, CSA, and other safety standards. Littelfuse's team of power and safety experts are now available to provide on-site consulting to help you understand electrical hazards and develop an electrical safety program that meets the unique needs of your facility.

Current-limiting Fuse Audit

This free service helps manufacturing and commercial facilities improve employee safety and optimize on-hand fuse inventory. As part of this service, Littelfuse will analyze your existing fuse inventory and provide you with detailed summary reports that identify:

- Available opportunities to reduce dangerous energy levels with current-limiting fuses
- Unsafe or obsolete products to be replaced with current-limiting fuses
- A detailed downtime reduction study
- A storage system with bin labels to initiate the fuse upgrade

One-line Drawing Development and Review Service

An essential ingredient of all successful electrical system safety programs is an up-to-date one-line electrical system drawing. Short Circuit calculations, Coordination studies, and Arc-Flash calculations all depend on a complete and accurate one-line electrical drawing. Littelfuse's POWR-GARD™ Services can provide an up-to-date one-line electrical system drawing of your plant or facilities with all power sources, electrical components and electrical equipment located and identified. The drawing will be as detailed or complete as necessary for your engineers to perform their own calculations, if desired.

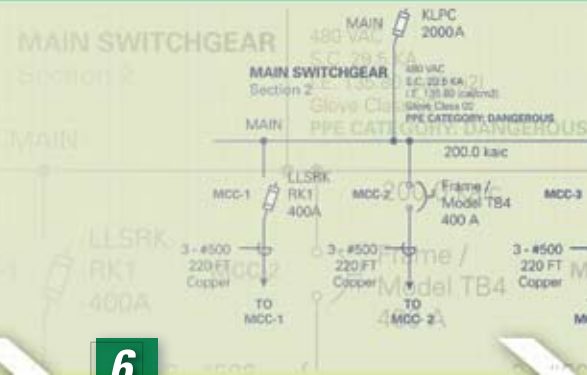
Every effective electrical safety program should include a scheduled review and maintenance of one-line drawings. Littelfuse's POWR-GARD Services can provide annual or periodic reviews of one-line drawings to make sure they are always up-to-date and still provide users with a clear and precise understanding of installed equipment, power flow, power demand analysis, and potential hazards.

Short Circuit and Coordination Studies

In order to assess the hazards of your electrical system, an up-to-date Short Circuit Current and Coordination Study must be performed. Littelfuse's team of services experts will analyze your electrical system to determine if the overcurrent protective devices are capable of providing safe and reliable protection if an overload or a short circuit fault occurs.

- Short Circuit Fault Current Analysis
- Equipment Deficiency Analysis
- Circuit Protection Coordination Study
- Identifying inappropriately sized components
- Evaluating devices to identify potential problem areas such as short circuit current rating (SCCR) issues

1910 Subpart S, 1910.330 to 1910.336, NEC 110.16 and NFPA 70E
(As the Guidelines for Safe Work Practices)



4

IDENTIFY

Hazards & Re-engineer to Reduce Hazards

5

LABEL

Equipment per Code Specifications

6

DEVELOP

An Electrical Safety Program

Arc-Flash Hazard Assessment Service

An experienced team of Littelfuse electrical system safety engineers will inspect your electrical system and analyze your electrical safety program and procedures for exposure to Arc-Flash and other electrical hazards. The assessment includes:

- Arc-Flash Incident Energy calculations
- Shock and Arc-Flash Protection Boundary Calculations
- Hazard Risk Categories
- Personal Protection Equipment (PPE) Required
- Recommended Code Compliant Warning Labels
- Identification of other electrical hazards and electrical deficiencies

Re-engineering Service to Reduce Hazards

- Specifying new overcurrent protection devices
- Adjusting circuit breaker trip settings
- Recommendations for correction of electrical deficiencies
- Providing consultation on future engineering efforts

Arc-Flash Hazard Warning Label Service

In 2002, electrical codes started requiring Arc-Flash warning labels for all equipment that may be worked on while energized. This equipment would include switchboards, panelboards, motor control centers, meter sockets, and industrial control panels. Littelfuse's POWR-GARD Services provide code compliant warning labels for all equipment analyzed. The Littelfuse's POWR-GARD Services' label not only meets the minimum code requirements, but also clearly identifies and indicates the following:

- Shock Protection Boundaries
- Flash Protection Boundary
- Hazard Risk Category
- Required PPE

If you subscribe to one of Littelfuse's POWR-GARD Services' electrical safety maintenance agreements, we will update and maintain these labels annually or when changes are made to your electrical system.

Electrical Safety Program Development

Littelfuse's team of experienced electrical design and safety engineers can analyze your facilities and current safety programs. Based on their findings, you will receive a comprehensive electrical safety program that meets the requirements of OSHA, NFPA, CCOHS or other nationally and locally enforced codes and standards. The recommended program will include a written manual with all policies, standard operating procedures, as well as forms and reports necessary to maintain and improve worker safety.

Electrical Systems Review and Safety Program Audit

POWR-GARD Services experts can audit your existing safety program for compliance with internal standards and procedures as well as those of OSHA, NEC, NFPA, CCOHS, CSA or other accepted standards. Our electrical system safety audits include but are not limited to:

- Electrical System Hazard Analysis
- Electrical System Safety Testing and Maintenance Programs
- Comprehensive Review of Existing or Planned Safety Program and Procedures
- Creation of New SOP's (Standard Operating Procedures) and Job Aides for New Safety Processes.
- Electrical Safety Training Programs



Personal Protection Equipment Assessment

Littelfuse's POWR-GARD Services can provide advice and consultation to define the proper types of personal protective equipment that is required to comply with applicable OSHA, NFPA, CCOHS, and CSA codes and standards.

On-site Electrical Safety Training

All electrical safety programs must include documented safety training and self certification for qualified and unqualified employees. Littelfuse's POWR-GARD Services will provide certified instructors to train your employees on how to identify electrical hazards, how to assess and minimize the hazards, and how to improve equipment or procedures—thereby increasing safety and reducing downtime due to equipment failures and accidents.

Annual Electrical Safety Review and Re-certification

Littelfuse's POWR-GARD Services can provide annual, bi-annual, or quarterly electrical safety maintenance audits, as well as agreements to maintain your electrical safety program, update one-line drawings, review, analyze, and verify shock and Arc-Flash hazards, update safety records, and apply updated equipment warning labels.

LITTELFUSE PROVIDES EVERYTHING YOU NEED TO IMPROVE SAFETY IN YOUR FACILITY:

- Standards Training
- Qualified and Unqualified Safety Training for Workers
- Electrical Safety Literature
- Educational Videos
- Arc-Flash Calculation Tools
- Facility Signage and Job Aids
- Current-limiting Fuses



TO IDENTIFY AND REDUCE HAZARDS CONTACT LITTELFUSE:

800-TEC-FUSE

www.littelfuse.com/services

