



Content
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Arc Flash Analysis Training

[View Course Details](#)

COURSE DATES AND TIMES

Why Arc Flash Analysis Training Matters

Arc flash hazards cannot be managed using rules of thumb or generic PPE categories. Arc Flash Analysis Training matters because it teaches how real electrical system conditions translate into measurable injury risk and equipment damage potential. By understanding incident energy calculations, arc flash boundary determination, equipment labeling requirements, and PPE selection, organizations can make defensible engineering decisions that reduce severe burn hazards, meet regulatory requirements, and support safer energized work practices.

Modern electrical systems contain complex protection schemes, varying fault current levels, and multiple operating conditions that directly influence arc flash severity. Without proper hazard analysis based on IEEE 1584 calculation methods, safety programs often underestimate risk or apply overly conservative controls that reduce operational efficiency. Formal arc flash study training provides the technical knowledge required to interpret study results, validate engineering assumptions, and integrate arc flash analysis into a comprehensive electrical safety management program.

This course should be taken with our [Power System Fundamentals](#) Course - April 10, 2026

This course is also a companion to our [Short Circuit Analysis/Study And Protective Device Coordination](#) Course - April 16-17, 2026

Arc Flash Analysis Training Overview

Arc Flash Analysis Training equips electrical professionals with the technical knowledge required to perform comprehensive arc flash calculation hazard studies, calculate incident energy levels, and apply NFPA 70E, CSA Z462, and IEEE 1584-2018 engineering methods to real electrical distribution systems. Participants learn how to evaluate available fault current, determine arc flash boundaries, and develop compliant equipment labels that

accurately communicate hazard levels and required PPE for energized work activities. This two-day instructor-led program combines engineering theory, practical calculation exercises, and live software demonstrations to help participants confidently interpret and apply the results of a complete arc flash study.

Our arc flash engineering course emphasizes the engineering relationship between arc flash studies, short-circuit analysis, and protective device coordination. Participants learn how equipment ratings, relay settings, fuse characteristics, and breaker clearing times directly influence incident energy levels and worker risk. Through practical examples and modelling demonstrations, the program explains how electrical system parameters, arcing-current behavior, and protective device performance interact within professional arc flash study software. The course also incorporates the most recent IEEE 1584-2018 updates, including electrode configurations, effects of enclosure size, and refined incident energy calculation methods.

Beyond performing calculations, participants learn how to implement and sustain a compliant electrical safety program that integrates arc flash labelling, system documentation, and worker protection procedures. The course explains when arc flash studies must be updated following system modifications, how results are reviewed during safety audits, and how organizations maintain long-term compliance with OSHA, NFPA 70E, and CSA Z462 requirements. Participants will also learn how to develop practical corporate strategies for maintaining arc flash studies and supporting continuous electrical safety improvement across industrial and commercial facilities.

This arc flash study training course is designed for electrical engineers, maintenance supervisors, safety professionals, and facility managers responsible for electrical distribution systems in industrial, commercial, and institutional environments. The course is also valuable for consultants, engineering firms, utilities, and contractors involved in the design, analysis, or maintenance of electrical systems that require documented arc flash hazard assessments and safety compliance programs.

Arc Flash Analysis Training Outcomes

Upon completing this Arc Flash Analysis Training course, participants will be able to:

- Perform complete arc flash hazard analyses for industrial and commercial electrical distribution systems.
- Conduct short-circuit analysis and protective device coordination studies that support accurate arc flash calculations.
- Calculate incident energy, arcing current, and arc flash boundaries using IEEE 1584-2018 methods.
- Apply NFPA 70E and CSA Z462 requirements to determine PPE categories and worker protection strategies.
- Create compliant arc flash equipment labels and integrate them into an electrical safety program.
- Model electrical distribution systems using professional arc flash study software tools.

- Interpret arc flash study results to identify high-risk equipment and evaluate mitigation options.
- Develop engineering strategies to reduce arc flash incident energy through system design and protection improvements.
- Maintain documentation, labelling, and study updates required for regulatory audits and insurance compliance.
- Improve efficiency and accuracy in arc flash studies through proven data collection methods and engineering workflows.

Related Courses

- [Electrical Safety Training Courses](#)
- [Arc Flash Training - CSA Z462](#)
- [Electrical Safety For EHS Managers](#)
- [Electrical Safety Program Development](#)
- [OSHA Lockout Tagout \(LOTO\)](#)
- [Electrical Safety For Non-Electrical Workers](#)
- [Arc Flash Channel](#)

WHO SHOULD ATTEND

This Arc Flash Analysis Training course is designed for professionals managing electrical safety and compliance in industrial, commercial, and institutional facilities. Ideal participants include:

- Electrical engineers performing arc flash studies and ensuring NFPA 70E / CSA Z462 compliance.
- Plant and facility engineers are responsible for power distribution system reliability.
- Utility and consulting engineers conducting short-circuit and coordination studies.

- Maintenance supervisors oversee electrical safety programs and ensure compliance with labelling requirements.
- Electricians and contractors are working on energized equipment and implementing safe work practices.
- Architect-engineers involved in system design or protection coordination projects.

This training benefits anyone overseeing arc flash hazard analysis, PPE selection, or electrical safety program development in accordance with NFPA 70E, CSA Z462, and IEEE 1584 standards.

STUDENTS RECEIVE

- Arc Flash Analysis/Study Training Certificate
- 1.2 Continuing Education Unit (CEU) Credits (12 Professional Development Hours)
- FREE 100-Page Digital Electrical Safety Handbook (Value \$20)
- \$100 Coupon Toward Any Future Electricity Forum Event (Restrictions Apply)
- FREE Magazine Subscription (Value \$25.00)
- Course Materials In PDF Format

COURSE OUTLINE

Arc Flash Analysis Training Course Outline

DAY ONE

1. An Overview of Fault Current Analysis

- Fault Current Sources
- Short Circuit Current Parameters
- Actual Fault Types
- Balanced Fault Analysis
- Impedance Diagrams
- Fault Current Calculations

2. Overcurrent Coordination Fundamentals:

- Overcurrent protection general consideration

- Protection guidelines
- TCC Plots
- CTIs

3. Fuse Characteristics:

- Low Voltage Fuses
- Power Fuses
- TCC Curves
- Fuse Coordination Criteria

4. LV Circuit Breaker Characteristics:

- Molded Case Circuit Breakers (MCCBs)
- Low Voltage Power Circuit Breakers
- TCC Curves
- Coordination Criteria

5. An Introduction to Arc Flash Calculations

- Arc Flash Analysis
- Causes Of Electrical Flash Events
- Why Perform Arc Flash Studies? Who Should Perform Them?
- CSA Z462/NFPA 70ENF
- IEEE Standard 1584
- Fault Magnitudes
- Overcurrent device responses

6. Major Changes to IEEE 1584.

- Electrode configurations
- Typical working distance
- Classes of equipment and typical gap
- Transformer exception at 240V

DAY TWO

7. Calculation Methodology

- Overview Of Protective Device Coordination
- Understanding Time-Current Curves
- Fault Current Vs. Energy Released
- Calculating With Uncertainty

- Protective Device Trip Time

8. Data Collection Process

- How To Improve Outcomes
- Data Collection Activities & Skill Sets
- Obstacles In Data Collection
- Required Equipment/Device Information
- Understanding Short-Circuit Ratings

9. Arc Flash Calculations Continued

- Accumulated Energy
- Minimum and Maximum Faults
- Use Of Tolerances
- Current-Limited Devices
- System Modes of Operation
- Calculating arcing current
- Determination of arc duration
- Calculate the incident energy
- Arc-flash boundary calculations

10. Mitigating Risk of Arc Flash Hazards

- Clearly Understanding Risk Vs Hazard
- Overview Of Electrical Equipment
- How To Reduce Arc Flash Levels
- Fuse-Protected Vs. Non-Fuse-Protected Circuit Breakers
- Arc-Resistant Switchgear
- Arc Flash Label Issues
- Safety: The Overriding Concern

Exercise: Arc Flash Analysis/Study using Popular Software

COURSE SCHEDULE:

Start: 10 a.m. Eastern Time

Finish: 4:30 p.m. Eastern Time

Contact us Today for a FREE quotation to deliver this course at your company's location.

Request Quote