



Assessing NFPA 70E® Compliance

Succeeding in an evolving Electrical Safety environment

schneider-electric.us/engineeringservices

Life Is On

Schneider
Electric

Electrical safety is serious business

More than 21,000 U.S. workers were injured in workplace electrical accidents between 2008 and 2019.¹ Ensuring safety over time isn't a one-and-done investment. Policies and practices need to keep up with changes in equipment, distribution systems and personnel.

Arc flash has been identified as one of the leading causes of electrical injuries and deaths. And the U.S. Occupational Safety and Health Administration (OSHA) has developed standards to address electrical safety...OSHA does not specifically address arc flash. It relies on the National Fire Prevention Association (NFPA) Standard 70E: Standard for Electrical Safety in the Workplace® to address specifics for arc flash. These standards require facility owners to initiate electrical safety policies and practices, and to revisit those guidelines on a regular basis to make sure they remain up to date.

OSHA's requirements mandate that work on electrical equipment be performed in a manner that does not expose workers to undue risk of injury, and the industry consensus standard for arc flash safety is NFPA 70E.® This standard doesn't just cover a facility's own employees – outside contractors hired to perform work on facility equipment are also protected. Owners are ultimately responsible for safety at their site, and they must document and communicate known hazards covered by NFPA 70E to any contracted workers.

Compliance with NFPA 70E also protects the heart of a facility's operations, its vital electrical equipment. An arc flash accident can destroy equipment and bring operations to a halt for hours, days or longer.

But mastering the six steps involved in NFPA 70E compliance isn't an easy process, especially when electrical distribution system design isn't your core business. The standard is revised every three years, practices that were once acceptable might now be noncompliant. Additionally, the need to audit facility documentation and practices every three years can strain personnel resources. Schneider Electric™ has the expertise to aid your electrical safety efforts on all these counts.

Our company has a long history supporting electrical safety. Many of our engineers have active roles on the standards committees of the leading power system standards organizations. We can bring that knowledge and commitment to your facility, giving you confidence that your workers and your business are operating safely, and in compliance with all related regulations.



21,000

workers were injured in workplace electrical accidents between 2008 and 2019

¹ Electrical Safety Foundation International, April 2019

Electrical Safe Work Practices policy

The development and enforcement of an Electrical Safe Work Practices (ESWP) policy is at the heart of NFPA 70E compliance. The standard also defines requirements for safe work practices and outlines the schedule of regular audits necessary for ensuring compliance over the long term.

The ESWP sets policy, establishes responsibilities, and defines procedures to address all worker protection issues.

A successful ESWP:

- Provides employees with an awareness of electrical hazards and a definition of safety principles
- Communicates a culture of workplace safety and requires self-discipline
- Defines administrative controls that assure the implementation of the program
- Outlines procedures for safe work practices in electrically hazardous conditions



NFPA 70E Compliance Assessment

Achieving and maintaining compliance with NFPA 70E is a difficult task even for the most experienced facility teams. With changes to the standard occurring every three years, facilities that are continually changing and the pace of power distribution technology accelerating, owners need the assistance of a “world class” engineering team with over almost two decades experience in helping customers achieve and maintain their compliance.

Your organization has likely invested time and money in a wide range of items to address the safety of your electrical employees. How is that investment holding up? Are you receiving the value of that investment? Does more need to be done? These are all great questions. Just as with personal financial investment, your employee safety investment needs an advisor.

Schneider Electric engineers can conduct a comprehensive assessment of your NFPA 70E program and help you maximize the investment you have made to date, make recommendations to correct deficient areas and assist your organization in moving forward to achieve compliance with the latest standard.



NFPA 70E Compliance Assessment

Our engineers will assess and evaluate your compliance in 6 key areas:

Area 1	Area 2	Area 3
ESWP policy	Arc flash hazard assessment and labeling practices	Strategies for mitigating and controlling arc flash risks
• Scope and application of your ESWP • Electrical safety program monitoring • Policies & procedures for energized work • Hazard/risk evaluation process • Electrical task job briefing/review • Electrical safety auditing	• Methodology and approach to system coordination • Cases and scenarios used for determining worst case incident energy • How selectivity between coordination and arc flash mitigation is achieved • Spot check of study assumptions and results • Arc flash label design and application practices	• Review of high incident energy areas within the facility • Evaluation of the overall mitigation approach to areas requiring frequent personnel interaction and/or areas with incident energy >40 cal/cm² • Assessment of the applicability of NEC 240.87
Area 4	Area 5	Area 6
Safety training and worker qualification practices	Current maintenance standards and practices	PPE practices
• Electrical safety training program materials • Worker qualification documentation and record-keeping • Worker audit processes and procedures • Process for controlling energized work areas	• Maintenance scheduling process • How you manage your maintenance record-keeping – including spot reviews of those records • Electrical equipment maintenance procedures	• How you approach identifying appropriate PPE levels for your employees • The ratings and types of PPE you're using • How you maintain and test your PPE



Our expertise

Schneider Electric's professional engineers can provide expertise at every step of the safety-planning process – in both initial assessments and during ESWP renewals required at least every three years, including:

- Helping you build your ESWP from the ground up.
 - We also can evaluate existing safety programs to identify gaps and recommend improvements.
- Performing required incident energy analyses.
 - Our engineers have completed thousands of arc flash analysis studies and have developed a standard methodology for this work. We also offer three predefined label formats that address the majority of arc flash labeling scenarios and can provide custom labels for unique situations.
- Developing arc flash mitigation strategies to suit your facility's unique needs.
- Developing both electrical-safety training programs and required compliance review procedures to ensure your facility's continued compliance with all OSHA electrical safety requirements.
- Performing onsite preventive and predictive maintenance services for any manufacturer's equipment.
 - Our detailed reports identify potential issues, along with corrective recommendations.
- Helping you identify PPE options that meet the specific requirements of your facility's equipment and workers.

Why choose us for NFPA 70E compliance solutions?

Schneider Electric Engineering Services has been proactively engaged in electrical workplace safety and compliance since 1966 when arc flash requirements were first introduced.

Many of our engineers are leaders in IEEE, NFPA, and other power system standard-making organizations. Specifically, we:

- Have over 150 strategically located professional engineers who are collectively registered in every state of the U.S. to meet state licensing requirements
- Are professional engineers who have in-depth knowledge of power distribution and control equipment and expertise of the calculation methods required for arc flash analyses
- Provide full-scope NFPA 70E compliance support and solutions
- Offer a wide range of arc flash mitigation solutions for any manufacturer's equipment
- Established a standardized process to implement arc flash incident energy analysis across enterprise-wide clients with geographically and functionally diverse facilities
- Have staff representation on IEEE and NFPA technical committees



150

professional
engineers
collectively
registered
in every state

Life Is On



Learn more about all our Power System Engineering Services:
schneider-electric.us/engineeringservices

Schneider Electric USA
800 Federal Street
Andover, MA 01810
Phone: 978-794-0800