



NFPA, NEC, 70B & 70E,
NECA & NEIS,
Working Together to
Strengthen the
Electrical Industry

This session is eligible for 2.5 Continuing Education Hours.

For these hours to appear on your certificate, you must:

- Have your badge scanned at the door
- Attend 90% of this presentation
- Fill out the online evaluation for this session

KYLE KRUEGER
CESCP

Executive Director
NECA - Codes & Standards

WESLEY L. WHEELER SMS, CEMCP, MSP



NECA
ELECTRICAL CONTRACTORS ASSOCIATION



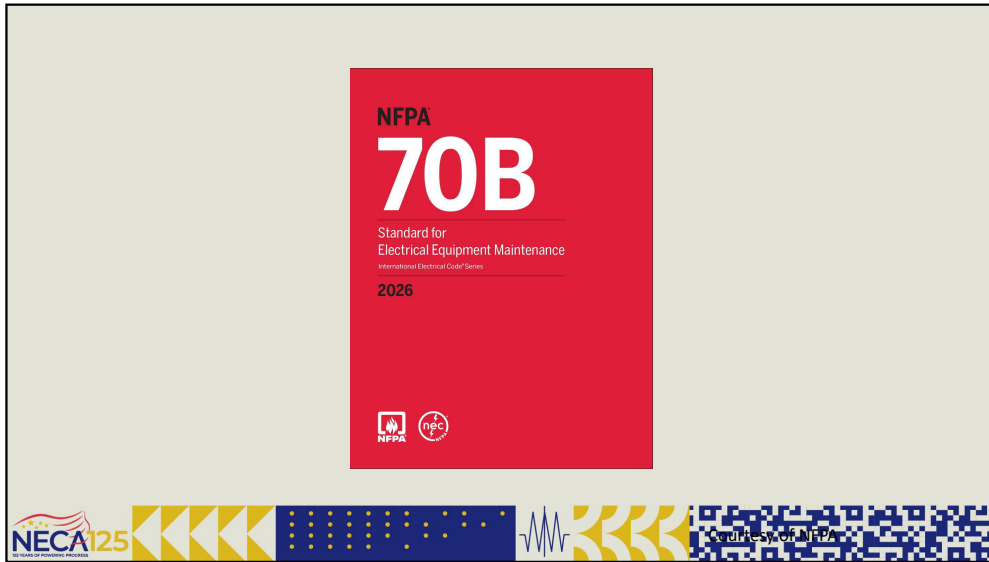
NECA Executive Director Safety



2026 NECA SAFETY PROFESSIONALS CONFERENCE

NFPA Approach to Electrical Safety





NFPA 70B[®] Standard for Electrical Equipment Maintenance

- 2023 became a **“Standard”** in lieu of a Recommended Practice, updated in 2026.
- NFPA 70B details the preventive maintenance requirements for electrical, electronic and communication systems and equipment, such as those used in industrial facilities, institutional and commercial buildings, and large multi-family residential complexes to prevent equipment failures and worker injuries.



NFPA 70E[®] Current and Next Editions

NFPA 70E
Standard for Electrical Safety in the Workplace[®]

Status: Active | Notify Me About Document Updates

NFPA 70E requirements for safe work practices to protect personnel by reducing exposures to major electrical hazards. Originally developed at OSHA's request, NFPA 70E helps companies and employees avoid workplace injuries and fatalities due to shock, electrocution, arc flash, and arc blast, and assists in complying with OSHA 1910 Subpart S and OSHA 1926 Subpart K.

Current Edition: 2024

Purchase Options Available in NFPA LINKS Ask a Technical Question

Highlights of the 2024 NFPA 70E®

- Significant Updates in the 2024 edition:
 - Added a **"Scope"** to each section at ".1" to align with the **NEC Style Manual from NFPA**
 - Moved all definitions from individual articles to **Article 100**.
 - *If a definition applies only to one article, that article will be listed in parenthesis at the end of the definition.*
 - Added the term **"electric"** in front of the word **"shock"** globally to correctly indicate intent.
 - Updated Tables 130.4(E)(a) and 130.4(E)(b) with accurate measurement conversions
 - Added Informative **Annex S – Assessing the Condition of Maintenance**, to provide information on a key requirement of "Normal Operation" that must be considered when performing proper arc flash and shock risk assessments.



Assessing the Condition of Maintenance NFPA 70E® Informative Annex (S)

- **Introduction** – Electrical Safety Programs must contain requirements that consider the condition of maintenance of electrical equipment and systems.
- **Assess the Risk** – Safe work practices should be employed when gathering information used to assess the condition of maintenance of electrical equipment.
- **Visual Inspection** – A Visual inspection of the equipment might be used to verify that it is installed in a professional and skillful manner in accordance with applicable industry codes and standards and the manufacturer's instructions.
- **Periodic Testing and Inspection** – Periodic testing and detailed inspections are used to help workers determine the condition of the equipment at the time of the test.
- **Permanently Installed Monitoring** – Continuous monitoring of specific equipment conditions can be performed using an uninterrupted method of data collection.
- **Predictive Techniques** – Predictive techniques monitor conditions in equipment using sensors and analyze and interpret the data using analytical methods and algorithms.
- **Maintenance History** – The maintenance history of electrical equipment is an important factor to consider when assessing if the equipment has been properly maintained in accordance with the manufacturer's recommendations and applicable industry codes and standards.
- **Labels** – Labels, decals, or other markings might be placed on the exterior enclosure or surface of the electrical equipment or device to communicate the condition of maintenance as of the last assessment.
- **Digital and other Electronic Methods** – Digital technology is used as a method of storing and sharing maintenance related information.
- **NFPA 70B® Standard for Electrical Equipment Maintenance** – NFPA 70B provides a means to establish and maintain an acceptable condition of maintenance of electrical equipment and systems to address safety and reliability. (See NFPA 70B® for additional information!)



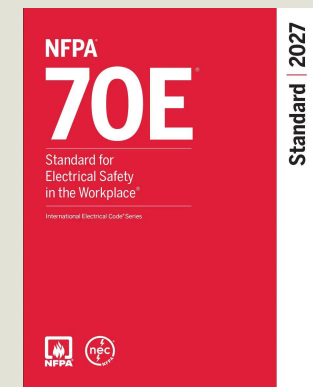
Highlights from the 2027 NFPA 70E

- **Article 90** – Now every article includes a scope to match the NEC, Section 90.3 is now the Scope of the Standard
- **Article 100** – Editorial changes including the deletion of the term, "Competent Person" mainly due to the definitions conflict with OSHA definitions and terminology.
- **Article 105** – was renamed Employer and Employee Responsibilities – a key facet of "Shared Responsibilities" that exist.
- **Section 110.8** - updated/clarified GFCI requirements and other circumstances.
- **Article 120** – Put information found in this Article into list format for clarity and to match NFPA NEC Style Manual
- **Section 120.6** - Now provides the prescriptive steps for Establishing and Verifying an Electrical Safe Work Condition.
- **Section 130.2** - *now clarifies that an additional person meeting the emergency response requirements must be present when work is performed under an Energized Electrical Work Permit.*
- New **Article 380** and **Annex T** for Electrical Double Layer Capacitors (EDLCs).



2027 NFPA 70E

- 110.3 (L) – Auditing
 - Safety programs not to exceed every 3 years
 - Work Practices Audit annually every year
 - LOTO not to exceed 3 years
 - All audits shall be documented



2027 NFPA 70E

- 110.4 Training Requirements – Employees trained.....
 - (A) Electrical Safety Training
 - (1) Training Requirements
 - Hazards with electrical energy
 - Safety-related work practices and procedural requirements.....
 - Identify and understand hazard and injury relationship



2027 NFPA 70E

- 110.4 Training Requirements –
 - (A) Electrical Safety Training.....
 - (4) Additional training and retraining.....
 - not to exceed 3 years.....
 - employee not complying.....
 - new technology.....
 - Task done performed less than 1 year.....
 - Safety related work practices not normally used.....
 - Job duties change



2027 NFPA 70E

- 110.4 Training Requirements –
 - (C) Emergency Response Training
 - 1) Contact Release
 - a) Employees exposed to electric shock hazards and those responsible for the safe release of victims from contact with electrical conductors and circuit parts shall be trained in methods of safe release.
 - b) Refresher training shall occur annually.
 - 2) First Aid, Emergency Response and Resuscitation
 - a) FA/CPR/AED at the frequency of the certifying body
 - 3) Training Verification
 - 4) Documentation



Contact Release

- Contact Release: “Employees exposed to shock hazards shall be trained in methods of safe release of victims from contact with exposed energized electrical conductors or circuit parts.” This insulated rescue hook is used to safely withdraw victims from contact with exposed energized electrical conductors or circuit parts.
- Best Practice: Rescue hooks are stored (with a rubber glove kit) on a safety board or mounted for easy retrieval near the work area: utility vehicle storage compartment, confined spaces, underground vault areas or electrical control rooms.
- Insulated Rescue Hooks require re-testing every 2 years. Live line tools (for example, hot sticks, switch sticks, shotgun sticks) must be wiped clean and inspected for defects before each day’s use. The “269” standard (1910.269(j)(2)) requires that if any potential defect is found, the live line tool must be removed from service for formal examination and testing. When live line tools are used as primary protection, they must be removed from service at least every 2 years for examination, cleaning, and any required testing. Repaired tools must be retested. [See 1910.269(j)(2)(iii) and IEEE Std. 978, Guide for In-Service Maintenance and Electrical Testing of Live-Line Tools.]



2027 NFPA 70E

- 110.4 Training Requirements – Additional training and retraining....
 - not to exceed 3 years.....
 - employee not complying.....
 - new technology....
 - Task done performed less than 1 year.....
 - Safety related work practices not normally used...
 - Job duties change
- 110.4(C) Emergency Response Training
 - Training in method of safe release and shall be completed annually



Electric Double Layer Capacitor (EDLC)

- Electric Double Layer Capacitor (EDLC) – A device having properties of both capacitors and electrochemical cells that stores energy in a non-Faradic fashion in an electric field similar to a conventional capacitor, but instead of utilizing a dielectric, an electrode-electrolyte interface is used.
- Informative Annex T – Electrical Double Layer Capacitor (EDLC) Characteristics
 - T.1 Introduction to ELDCs



QUESTIONS???



Please complete the Online Evaluation



<https://www.surveymonkey.com/r/2026NSPC>

