



NATIONAL FIRE PROTECTION ASSOCIATION

The leading information and knowledge resource on fire, electrical and related hazards

M E M O R A N D U M

TO: Technical Committee on Electrical Equipment Maintenance
FROM: Sarah Caldwell, *Senior Committee Administrator*
DATE: May 28, 2025
SUBJECT: NFPA 70B Second Draft FINAL Ballot Results (F2025)

According to the final ballot results, all ballot items received the necessary affirmative votes to pass ballot.

27 **Members Eligible to Vote**
3 **Members Not Returned** (*Cunningham, Horne, Sepulveda*)

The attached report shows the number of affirmative, negative, and abstaining votes as well as the explanation of the vote for each revision.

To pass ballot, each revision requires: (1) a simple majority of those eligible to vote and (2) an affirmative vote of $\frac{2}{3}$ of ballots returned. See Sections 3.3.4.3.(c) and 4.3.10.1 of the ***Regulations Governing the Development of NFPA Standards***.



Second Revision No. 24-NFPA 70B-2025 [Global Comment]

[Table 12.3.1, Table 12.3.4, Table 12.3.5, Table 13.3.1, Table 13.3.4, Table 13.3.5, Table 14.3.1, Table 14.3.4, Table 28.3.3, Table 28.3.5, Table 31.3.1, Table 31.3.5, Table 34.3.5 all have a row (typically the last one) that starts with "For individual components ..." The row should be deleted and moved as a note to the table. The following is an example from Table 12.3.1. Note that the wording is not the same for all tables after the "for individual components".]

[Move row 12 to be a table note and delete row 12]

12 For individual components, refer to the appropriate chapter(s) of this standard	NA	NA
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Note: For individual components, refer to the appropriate chapter(s) of this standard

Submitter Information Verification

Committee: EEM-AAA

Submittal Date: Wed Mar 19 14:50:36 EDT 2025

Committee Statement

Committee Statement: The location of the table note is editorially revised without changes to the content.

Response Message: SR-24-NFPA 70B-2025

Ballot Results

✔ This item has passed ballot

27 Eligible Voters

3 Not Returned

24 Affirmative All

0 Affirmative with Comments

0 Negative with Comments

0 Abstention

Not Returned

Cunningham, Karl M.

Horne, Mark C.

Sepulveda, Nathaniel ?Neil?

Affirmative All

Abdelmoumene, Abdelkader

Bishop, Thomas H.

Brady, Scott

Buettner, Daren

Cantor, William P.

Corbett, Adria

Dobrowsky, Paul

Dollar, Randy
Foland, Chris
Grimes, Ryan
Hall, Jeffrey
Hickman, Palmer L.
Huffman, David
Hunter, Christel K.
Moshiri, Ahmad A.
Neary, Robert
Northcott, Thomas Warren
Roettgers, Rob D.
Sullivan, Paul B.
Taylor, Kiley
Tholen, Trent Dean
Valdes, Marcelo E.
West, Rodney J.
Widup, Ron



Second Revision No. 7-NFPA 70B-2025 [Global Comment]

[revise sections 11.2, 12.2, 13.2, 14.2, 15.2, 16.2, 17.2, 18.2, 19.2, 20.2, 21.2, 22.2, 24.2, 25.2, 27.2, 28.2, 29.2, 30.2.1, 31.2, 32.2, 33.2, 34.2, 35.2, 36.2, and 39.2 to change the lead paragraph. This only changes the reference to Chapter 9. The following uses 11.2 as an example of the change to be made.]

11.2* Frequency of Maintenance.

The periodic maintenance procedures specified in Section 11.3 shall be performed in accordance with the frequencies specified in Chapter 9 Table 9.3.2, unless otherwise specified in Table 11.2.

Submitter Information Verification

Committee: EEM-AAA

Submission Date: Wed Mar 19 13:40:39 EDT 2025

Committee Statement

Committee Statement: The NFPA Manual of Style Section 10.1.1.4 requires references to specific sections or applicable parts rather than entire chapters.

Response Message: SR-7-NFPA 70B-2025

[Public Comment No. 42-NFPA 70B-2025 \[Global Input\]](#)

Ballot Results

✔ This item has passed ballot

27 Eligible Voters

3 Not Returned

24 Affirmative All

0 Affirmative with Comments

0 Negative with Comments

0 Abstention

Not Returned

Cunningham, Karl M.

Horne, Mark C.

Sepulveda, Nathaniel ?Neil?

Affirmative All

Abdelmoumene, Abdelkader

Bishop, Thomas H.

Brady, Scott

Buettner, Daren

Cantor, William P.

Corbett, Adria

Dobrowsky, Paul

Dollar, Randy
Foland, Chris
Grimes, Ryan
Hall, Jeffrey
Hickman, Palmer L.
Huffman, David
Hunter, Christel K.
Moshiri, Ahmad A.
Neary, Robert
Northcott, Thomas Warren
Roettgers, Rob D.
Sullivan, Paul B.
Taylor, Kiley
Tholen, Trent Dean
Valdes, Marcelo E.
West, Rodney J.
Widup, Ron



Second Revision No. 15-NFPA 70B-2025 [Detail]

[Revise Table 9.3.2 row for batteries as follows]

Table 9.3.2 Maintenance Intervals

Batteries	Visual inspection	60 12 months	36 12 months	42 1 months
	Cleaning	60 months	36 months	12 months
	Lubrication		Reserved	
	Mechanical servicing		Reserved	
	Electrical testing	60 36 months	36 months	12 months

Submitter Information Verification

Committee: EEM-AAA

Submittal Date: Wed Mar 19 14:18:51 EDT 2025

Committee Statement

Committee Statement: The maintenance intervals in Tables 9.3.2 have been updated and aligned with IEEE PES Energy Storage and Stationary Battery Committee developed changes in IEEE 2962 and formulated consistently with other equipment chapters.

Response Message: SR-15-NFPA 70B-2025

Ballot Results

✔ This item has passed ballot

27 Eligible Voters

3 Not Returned

24 Affirmative All

0 Affirmative with Comments

0 Negative with Comments

0 Abstention

Not Returned

Cunningham, Karl M.

Horne, Mark C.

Sepulveda, Nathaniel ?Neil?

Affirmative All

Abdelmoumene, Abdelkader

Bishop, Thomas H.

Brady, Scott

Buettner, Daren

Cantor, William P.

Corbett, Adria
Dobrowsky, Paul
Dollar, Randy
Foland, Chris
Grimes, Ryan
Hall, Jeffrey
Hickman, Palmer L.
Huffman, David
Hunter, Christel K.
Moshiri, Ahmad A.
Neary, Robert
Northcott, Thomas Warren
Roettgers, Rob D.
Sullivan, Paul B.
Taylor, Kiley
Tholen, Trent Dean
Valdes, Marcelo E.
West, Rodney J.
Widup, Ron



Second Revision No. 18-NFPA 70B-2025 [Detail]

[revise Table 9.3.2 standby stationary batteries row as follows]

Stationary standby batteries	Visual inspection	60 <u>12</u> months	36 <u>12</u> months	42 <u>1</u> months
	Cleaning	60 months	36 months	12 months
	Lubrication		Reserved	
	Mechanical servicing		Reserved	
	Electrical testing	60 <u>3</u> months	36 <u>3</u> months	42 <u>1</u> months

Submitter Information Verification

Committee: EEM-AAA

Submittal Date: Wed Mar 19 14:32:49 EDT 2025

Committee Statement

Committee Statement: The maintenance intervals in Tables 9.3.2 have been updated and aligned with IEEE PES Energy Storage and Stationary Battery Committee developed changes with IEEE 450, IEEE 1188, and IEEE 1106 and formulated consistently with other equipment chapters.

Response Message: SR-18-NFPA 70B-2025

Ballot Results

✔ This item has passed ballot

27 Eligible Voters

3 Not Returned

24 Affirmative All

0 Affirmative with Comments

0 Negative with Comments

0 Abstention

Not Returned

Cunningham, Karl M.

Horne, Mark C.

Sepulveda, Nathaniel ?Neil?

Affirmative All

Abdelmoumene, Abdelkader

Bishop, Thomas H.

Brady, Scott

Buettner, Daren

Cantor, William P.

Corbett, Adria

Dobrowsky, Paul
Dollar, Randy
Foland, Chris
Grimes, Ryan
Hall, Jeffrey
Hickman, Palmer L.
Huffman, David
Hunter, Christel K.
Moshiri, Ahmad A.
Neary, Robert
Northcott, Thomas Warren
Roettgers, Rob D.
Sullivan, Paul B.
Taylor, Kiley
Tholen, Trent Dean
Valdes, Marcelo E.
West, Rodney J.
Widup, Ron



Second Revision No. 3-NFPA 70B-2025 [Detail]

[add title to 7.2.1 as follows]

7.2.1 Quality.

The quality of undisturbed bolted electrical bus connections, conductor terminations, and conductor connectors shall be verified using one or more of the methods described in 7.2.1.1 through 7.2.1.4.

Submitter Information Verification

Committee: EEM-AAA

Submittal Date: Wed Mar 19 13:27:07 EDT 2025

Committee Statement

Committee Statement: Title added to 7.2.1 to be consistent with 7.2.2.

Response Message: SR-3-NFPA 70B-2025

Public Comment No. 41-NFPA 70B-2025 [Section No. 7.2.1]

Ballot Results

✓ **This item has passed ballot**

27 Eligible Voters

3 Not Returned

24 Affirmative All

0 Affirmative with Comments

0 Negative with Comments

0 Abstention

Not Returned

Cunningham, Karl M.

Horne, Mark C.

Sepulveda, Nathaniel ?Neil?

Affirmative All

Abdelmoumene, Abdelkader

Bishop, Thomas H.

Brady, Scott

Buettner, Daren

Cantor, William P.

Corbett, Adria

Dobrowsky, Paul

Dollar, Randy

Foland, Chris

Grimes, Ryan

Hall, Jeffrey
Hickman, Palmer L.
Huffman, David
Hunter, Christel K.
Moshiri, Ahmad A.
Neary, Robert
Northcott, Thomas Warren
Roettgers, Rob D.
Sullivan, Paul B.
Taylor, Kiley
Tholen, Trent Dean
Valdes, Marcelo E.
West, Rodney J.
Widup, Ron



Second Revision No. 4-NFPA 70B-2025 [Detail]

[revise table 7.2.1.4.2(a) note 3 as follows]

Notes:

- (1) This table is based on national coarse thread pitch.
- (2) The fastener grade is SAE 5.
- (3) This table is based on bolts having a minimum 105,000 lb/in.² tensile strength.

Submitter Information Verification

Committee: EEM-AAA

Submittal Date: Wed Mar 19 13:30:54 EDT 2025

Committee Statement

Committee Statement: "Minimum" is added to be consistent with Table 7.2.1.4.2(b) and (c).

Response Message: SR-4-NFPA 70B-2025

Public Comment No. 37-NFPA 70B-2025 [Section No. 7.2.1.4]

Ballot Results

✓ **This item has passed ballot**

27 Eligible Voters

3 Not Returned

24 Affirmative All

0 Affirmative with Comments

0 Negative with Comments

0 Abstention

Not Returned

Cunningham, Karl M.

Horne, Mark C.

Sepulveda, Nathaniel ?Neil?

Affirmative All

Abdelmoumene, Abdelkader

Bishop, Thomas H.

Brady, Scott

Buettner, Daren

Cantor, William P.

Corbett, Adria

Dobrowsky, Paul

Dollar, Randy

Foland, Chris
Grimes, Ryan
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Hickman, Palmer L.
Huffman, David
Hunter, Christel K.
Moshiri, Ahmad A.
Neary, Robert
Northcott, Thomas Warren
Roettgers, Rob D.
Sullivan, Paul B.
Taylor, Kiley
Tholen, Trent Dean
Valdes, Marcelo E.
West, Rodney J.
Widup, Ron



Second Revision No. 42-NFPA 70B-2025 [Section No. 2.4]

2.4 References for Extracts in Mandatory Sections.

NFPA 70[®], *National Electrical Code*[®], 2023 2026 edition.

NFPA 70E[®], *Standard for Electrical Safety in the Workplace*[®], 2024 edition.

NFPA 855, *Standard for the Installation of Stationary Energy Storage Systems*, 2026 edition.

Submitter Information Verification

Committee: EEM-AAA

Submittal Date: Thu Apr 17 09:21:09 EDT 2025

Committee Statement

Committee Statement: Extracts are updated to the 2026 NEC Edition. NFPA 855 is added for extracted definition.

Response Message: SR-42-NFPA 70B-2025

Ballot Results

✓ **This item has passed ballot**

27 Eligible Voters

3 Not Returned

23 Affirmative All

0 Affirmative with Comments

1 Negative with Comments

0 Abstention

Not Returned

Cunningham, Karl M.

Horne, Mark C.

Sepulveda, Nathaniel ?Neil?

Affirmative All

Abdelmoumene, Abdelkader

Bishop, Thomas H.

Brady, Scott

Buettner, Daren

Cantor, William P.

Corbett, Adria

Dobrowsky, Paul

Dollar, Randy

Foland, Chris

Grimes, Ryan

Hall, Jeffrey

Huffman, David
Hunter, Christel K.
Moshiri, Ahmad A.
Neary, Robert
Northcott, Thomas Warren
Roettgers, Rob D.
Sullivan, Paul B.
Taylor, Kiley
Tholen, Trent Dean
Valdes, Marcelo E.
West, Rodney J.
Widup, Ron

Negative with Comment

Hickman, Palmer L.

The Correlating Committee should review this action relative to whether an edition of an NFPA standard that has not yet become effective can be referenced. - in this case "2026" rather than the 2023 editions in two instances here in this SR.



3.3.19* Energy Storage System (ESS).

One or more devices ~~installed as a system, assembled together,~~ capable of storing energy ~~and providing to supply electrical energy into the premises wiring system or an electric power production and distribution network at a future time.~~ [70, -2023 855, 2026]

A.3.3.19 Energy Storage System (ESS).

ESSs include, but are not limited to, the following categories:

- (1) Chemical: hydrogen storage
- (2) Thermal: thermal energy storage
- (3) Electrochemical:
 - (a) Batteries
 - (b) Flow batteries
- (4) Mechanical:
 - (a) Flywheel
 - (b) Pumped hydro
 - (c) Compressed air energy storage (CAES)
- (5) Electrical:
 - (a) Capacitors
 - (b) Superconducting magnetic energy storage (SMES)

[855, 2026]

These systems can have ac or dc output for utilization and can include inverters and converters to change stored energy into electrical energy. It is not the intention for ESSs to include energy generation systems. [855, 2026]

An ESS(s) Energy storage systems can include, but are not limited to, batteries, capacitors, and kinetic energy devices (e.g., flywheels and compressed air). An ESS(s) Energy storage systems can include inverters or converters to change voltage levels or to make a change between an ac or a dc system. These systems differ from other storage systems such as a UPS system, which is a power supply used to provide alternating current power to a load for some period of time in the event of a power failure. [70, -2023] [855, 2026]

These systems differ from a stationary standby battery installation where a battery spends the majority of the time on continuous float charge or in a high state of charge, in readiness for a discharge event. [70, -2023]

Supplemental Information

File Name	Description	Approved
70B_SR-43_3.3.19_Energy_Storage_System.docx		

Submitter Information Verification

Committee: EEM-AAA

Submittal Date: Thu Apr 17 09:28:47 EDT 2025

Committee Statement

Committee Statement: The NEC extracts this definition from NFPA 855.

Response Message: SR-43-NFPA 70B-2025

Ballot Results

✔ This item has passed ballot

27 Eligible Voters

3 Not Returned

24 Affirmative All

0 Affirmative with Comments

0 Negative with Comments

0 Abstention

Not Returned

Cunningham, Karl M.

Horne, Mark C.

Sepulveda, Nathaniel ?Neil?

Affirmative All

Abdelmoumene, Abdelkader

Bishop, Thomas H.

Brady, Scott

Buettner, Daren

Cantor, William P.

Corbett, Adria

Dobrowsky, Paul

Dollar, Randy

Foland, Chris

Grimes, Ryan

Hall, Jeffrey

Hickman, Palmer L.

Huffman, David

Hunter, Christel K.

Moshiri, Ahmad A.

Neary, Robert

Northcott, Thomas Warren

Roettgers, Rob D.

Sullivan, Paul B.

Taylor, Kiley

Tholen, Trent Dean

Valdes, Marcelo E.

West, Rodney J.

Widup, Ron



Second Revision No. 45-NFPA 70B-2025 [Section No. 3.3.27]

3.3.27* Ground-Fault Circuit Interrupter (GFCI) (Class A GFCI) .

A device intended for the protection of personnel that functions to de-energize a circuit or portion thereof within an established period of time when a ground-fault current exceeds the values established for a Class A device. [70,2023 2026]

A.3.3.27 Ground-Fault Circuit Interrupter (GFCI) (Class A GFCI) .

See UL 943, ~~Standard for~~ *Ground-Fault Circuit-Interrupters*, for further information. Class A ground-fault circuit interrupters trip when the ground-fault current is 6 mA or higher and do not trip when the ground-fault current is less than 4 mA. [70,2023 2026]

Submitter Information Verification

Committee: EEM-AAA

Submission Date: Thu Apr 17 09:51:23 EDT 2025

Committee Statement

Committee Statement: The definition and annex is revised to the 2026 NEC edition.

Response Message: SR-45-NFPA 70B-2025

Ballot Results

✓ **This item has passed ballot**

27 Eligible Voters

3 Not Returned

23 Affirmative All

0 Affirmative with Comments

1 Negative with Comments

0 Abstention

Not Returned

Cunningham, Karl M.

Horne, Mark C.

Sepulveda, Nathaniel ?Neil?

Affirmative All

Abdelmoumene, Abdelkader

Bishop, Thomas H.

Brady, Scott

Buettner, Daren

Cantor, William P.

Corbett, Adria

Dobrowsky, Paul

Dollar, Randy
Foland, Chris
Grimes, Ryan
Hall, Jeffrey
Huffman, David
Hunter, Christel K.
Moshiri, Ahmad A.
Neary, Robert
Northcott, Thomas Warren
Roettgers, Rob D.
Sullivan, Paul B.
Taylor, Kiley
Tholen, Trent Dean
Valdes, Marcelo E.
West, Rodney J.
Widup, Ron

Negative with Comment

Hickman, Palmer L.

The Correlating Committee should review this action relative to whether an edition of an NFPA standard that has not yet become effective can be referenced. - in this case "2026" rather than the 2023 edition.



Second Revision No. 46-NFPA 70B-2025 [Section No. 3.3.28]

3.3.28* Ground-Fault Circuit Interrupter, Special Purpose (SPGFCI). (Special Purpose Ground-Fault Circuit Interrupter)

~~A device intended for the detection of ground-fault currents, used in circuits with voltage to ground greater than 150 volts, that functions to de-energize a circuit or portion of a circuit within an established period of time when a ground-fault current exceeds the values established for Class C, D, or E devices. A term used to refer to Class C, Class D, and Class E devices. [70,2023 2026]~~

A.3.3.28 Ground-Fault Circuit Interrupter, Special Purpose (SPGFCI). (Special Purpose Ground-Fault Circuit Interrupter)

~~See UL 943C, UL 943C , Outline of Investigation for Special Purpose Ground-Fault Circuit-Interrupters, for information on Classes Class C, Class D, or and Class E special-purpose ground-fault circuit interrupters SPGFCIs . [70,2023 2026]~~

Supplemental Information

<u>File Name</u>	<u>Description</u>	<u>Approved</u>
70B_SR-46_3.3.28_final.docx		

Submitter Information Verification

Committee: EEM-AAA

Submittal Date: Thu Apr 17 09:59:24 EDT 2025

Committee Statement

Committee Statement: The definition and annex is updated to 2026 NEC edition.

Response Message: SR-46-NFPA 70B-2025

Ballot Results

✓ This item has passed ballot

27 Eligible Voters

3 Not Returned

23 Affirmative All

0 Affirmative with Comments

1 Negative with Comments

0 Abstention

Not Returned

Cunningham, Karl M.

Horne, Mark C.

Sepulveda, Nathaniel ?Neil?

Affirmative All

Abdelmoumene, Abdelkader

Bishop, Thomas H.
Brady, Scott
Buettner, Daren
Cantor, William P.
Corbett, Adria
Dobrowsky, Paul
Dollar, Randy
Foland, Chris
Grimes, Ryan
Hall, Jeffrey
Huffman, David
Hunter, Christel K.
Moshiri, Ahmad A.
Neary, Robert
Northcott, Thomas Warren
Roettgers, Rob D.
Sullivan, Paul B.
Taylor, Kiley
Tholen, Trent Dean
Valdes, Marcelo E.
West, Rodney J.
Widup, Ron

Negative with Comment

Hickman, Palmer L.

The Correlating Committee should review this action relative to whether an edition of an NFPA standard that has not yet become effective can be referenced. - in this case "2026" rather than the 2023 edition.



Second Revision No. 44-NFPA 70B-2025 [Section No. 3.3.60]

3.3.60* Switchboard.

A large single panel, frame, or assembly of panels on which are mounted on the face, back, or both, switches, overcurrent protective devices (OCPDs), and other protective devices, buses, and usually instruments. [~~70,2023~~ 2026]

A.3.3.60 Switchboard.

These assemblies can be accessible from the rear or side as well as from the front and are not intended to be installed in cabinets. [~~70,2023~~ 2026]

Submitter Information Verification

Committee: EEM-AAA

Submittal Date: Thu Apr 17 09:45:17 EDT 2025

Committee Statement

Committee Statement: The extract is revised to 2026 NEC edition.

Response Message: SR-44-NFPA 70B-2025

Ballot Results

✓ **This item has passed ballot**

27 Eligible Voters

3 Not Returned

23 Affirmative All

0 Affirmative with Comments

1 Negative with Comments

0 Abstention

Not Returned

Cunningham, Karl M.

Horne, Mark C.

Sepulveda, Nathaniel ?Neil?

Affirmative All

Abdelmoumene, Abdelkader

Bishop, Thomas H.

Brady, Scott

Buettner, Daren

Cantor, William P.

Corbett, Adria

Dobrowsky, Paul

Dollar, Randy
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Grimes, Ryan
Hall, Jeffrey
Huffman, David
Hunter, Christel K.
Moshiri, Ahmad A.
Neary, Robert
Northcott, Thomas Warren
Roettgers, Rob D.
Sullivan, Paul B.
Taylor, Kiley
Tholen, Trent Dean
Valdes, Marcelo E.
West, Rodney J.
Widup, Ron

Negative with Comment

Hickman, Palmer L.

The Correlating Committee should review this action relative to whether an edition of an NFPA standard that has not yet become effective can be referenced. - in this case "2026" rather than the 2023 edition.



4.2.4.2*

The EMP shall include the following elements:

- (1) Input addressing the condition of maintenance and impact on electrical safety.
- (2) ~~An electrical~~ Electrical safety program that addresses the condition of maintenance
- (3) Identification of personnel responsible for implementing each element of the program
- (4) Survey and analysis of equipment and systems included in the EMP to determine maintenance requirements and priorities
- (5) Developed and documented maintenance procedures for equipment
- (6) ~~An inspection~~ Inspection, servicing, and testing plan
- (7) ~~A maintenance~~ Maintenance, equipment, and personnel documentation and records-retention policy
- (8) ~~A process~~ Process to prescribe, implement, and document corrective measures based on collected data
- (9) ~~A process~~ Process for incorporating design for maintainability in installations included in the EMP
- (10) ~~A program~~ Program review and revision process that considers failures and findings for continuous improvement
- (11)* Where industrial control systems or operational technology (OT) is not limited to a direct connection through a local non-networked interface, risk assessment of the OT cybersecurity

A.4.2.4.2(11)

Maintenance of operational technology (OT) cybersecurity is an integral part of modern connected electrical, electronic, and communications systems and equipment that helps protect networks and critical infrastructure from cyber threats. It is important not only to include cyber threat protection at installation, but maintain such protection as threats evolve over time. Further information on meeting cybersecurity requirements is found in NEMA CY 70001, *Cybersecurity Implementation Guidance for Connected Electrical Infrastructure*.

Cybersecurity is especially important for critical infrastructure where there could be a negative impact on public or worker safety. Industrial or process automation, control, and monitoring can also be disrupted because of cyber threats. Refer to NIST SP 800-82r3, *Guide to Operational Technology (OT) Security*, for guidance in establishing secure OT performance, reliability, and safety requirements. Further information on security risk assessments is found in ANSI/ISA 62443-3-2, *Security for Industrial Automation and Control Systems — Part 3-2: Security Risk Assessment for System Design*.

Submitter Information Verification

Committee: EEM-AAA

Submittal Date: Thu Mar 20 10:09:42 EDT 2025

Committee Statement

Committee Statement: This revision and associated annex adds operational technology (OT) cybersecurity as an element that must be included in the EMP to ensure network connected equipment is maintained for cybersecurity. The addition of maintenance requirements for cybersecurity protections will help prevent the loss of protection over time.

Response Message: SR-36-NFPA 70B-2025

Ballot Results

✔ This item has passed ballot

27 Eligible Voters

3 Not Returned

24 Affirmative All

0 Affirmative with Comments

0 Negative with Comments

0 Abstention

Not Returned

Cunningham, Karl M.

Horne, Mark C.

Sepulveda, Nathaniel ?Neil?

Affirmative All

Abdelmoumene, Abdelkader

Bishop, Thomas H.

Brady, Scott

Buettner, Daren

Cantor, William P.

Corbett, Adria

Dobrowsky, Paul

Dollar, Randy

Foland, Chris

Grimes, Ryan

Hall, Jeffrey

Hickman, Palmer L.

Huffman, David

Hunter, Christel K.

Moshiri, Ahmad A.

Neary, Robert

Northcott, Thomas Warren

Roettgers, Rob D.

Sullivan, Paul B.

Taylor, Kiley

Tholen, Trent Dean

Valdes, Marcelo E.

West, Rodney J.

Widup, Ron



Second Revision No. 1-NFPA 70B-2025 [Section No. 4.3.3.2]

4.3.3.2

The employer shall determine through regular supervision or through inspections conducted on at least an annual basis that each employee is complying with the maintenance procedures and testing required by this standard ~~as appropriate~~ for that employee's work tasks.

Submitter Information Verification

Committee: EEM-AAA

Submittal Date: Wed Mar 19 13:19:29 EDT 2025

Committee Statement

Committee Statement: This revision removes the unenforceable and vague phrase "as appropriate".

Response Message: SR-1-NFPA 70B-2025

[Public Comment No. 40-NFPA 70B-2025 \[Section No. 4.3.3.2\]](#)

Ballot Results

✔ This item has passed ballot

27 Eligible Voters

3 Not Returned

24 Affirmative All

0 Affirmative with Comments

0 Negative with Comments

0 Abstention

Not Returned

Cunningham, Karl M.

Horne, Mark C.

Sepulveda, Nathaniel ?Neil?

Affirmative All

Abdelmoumene, Abdelkader

Bishop, Thomas H.

Brady, Scott

Buettner, Daren

Cantor, William P.

Corbett, Adria

Dobrowsky, Paul

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Moshiri, Ahmad A.
Neary, Robert
Northcott, Thomas Warren
Roettgers, Rob D.
Sullivan, Paul B.
Taylor, Kiley
Tholen, Trent Dean
Valdes, Marcelo E.
West, Rodney J.
Widup, Ron



Second Revision No. 2-NFPA 70B-2025 [Section No. 5.1.2]

5.1.2*

Safety-related work practices to identify hazards and reduce associated risks shall be instituted and followed in accordance with NFPA 70E or applicable state, federal, or local codes and standards.

Submitter Information Verification

Committee: EEM-AAA

Submittal Date: Wed Mar 19 13:25:21 EDT 2025

Committee Statement

Committee Statement: This revision adds NFPA 70E as means to provide safety-related work practices and to identify hazards and reduce associated risks.

Response Message: SR-2-NFPA 70B-2025

Public Comment No. 1-NFPA 70B-2024 [Section No. 5.1.2]

Ballot Results

✔ This item has passed ballot

27 Eligible Voters

3 Not Returned

24 Affirmative All

0 Affirmative with Comments

0 Negative with Comments

0 Abstention

Not Returned

Cunningham, Karl M.

Horne, Mark C.

Sepulveda, Nathaniel ?Neil?

Affirmative All

Abdelmoumene, Abdelkader

Bishop, Thomas H.

Brady, Scott

Buettner, Daren

Cantor, William P.

Corbett, Adria

Dobrowsky, Paul

Dollar, Randy

Foland, Chris

Grimes, Ryan

Hall, Jeffrey
Hickman, Palmer L.
Huffman, David
Hunter, Christel K.
Moshiri, Ahmad A.
Neary, Robert
Northcott, Thomas Warren
Roettgers, Rob D.
Sullivan, Paul B.
Taylor, Kiley
Tholen, Trent Dean
Valdes, Marcelo E.
West, Rodney J.
Widup, Ron



Second Revision No. 5-NFPA 70B-2025 [Section No. 8.4.6]

8.4.6

~~Proper tools~~ Tools , instruments, and other test equipment designed and rated for a given task shall be used when performing maintenance activities.

Submitter Information Verification

Committee: EEM-AAA

Submittal Date: Wed Mar 19 13:33:34 EDT 2025

Committee Statement

Committee Statement: This section is reworded to remove the unenforceable and vague word "proper".

Response Message: SR-5-NFPA 70B-2025

Public Comment No. 36-NFPA 70B-2025 [Section No. 8.4.6]

Ballot Results

✔ This item has passed ballot

27 Eligible Voters

3 Not Returned

24 Affirmative All

0 Affirmative with Comments

0 Negative with Comments

0 Abstention

Not Returned

Cunningham, Karl M.

Horne, Mark C.

Sepulveda, Nathaniel ?Neil?

Affirmative All

Abdelmoumene, Abdelkader

Bishop, Thomas H.

Brady, Scott

Buettner, Daren

Cantor, William P.

Corbett, Adria

Dobrowsky, Paul

Dollar, Randy

Foland, Chris

Grimes, Ryan

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Hickman, Palmer L.
Huffman, David
Hunter, Christel K.
Moshiri, Ahmad A.
Neary, Robert
Northcott, Thomas Warren
Roettgers, Rob D.
Sullivan, Paul B.
Taylor, Kiley
Tholen, Trent Dean
Valdes, Marcelo E.
West, Rodney J.
Widup, Ron



8.6 Condition of Maintenance ~~Indication~~.

~~Information shall be made readily available to communicate the condition of maintenance.~~

8.6.1* Indication.

Information shall be made readily available to ~~communicate~~ indicate the condition of maintenance.

A.8.6.1

An example of providing information on the condition of maintenance is a decal system. A color-coded decal (*see Figure A.8.6.1*) could be placed on the exterior enclosure or surface of the electrical equipment or device to ~~communicate~~ indicate the condition of maintenance or calibration of the tested device; under the conditions of maintenance in 8.6.2.

Figure A.8.6.1 Condition of Maintenance Test Decals.

Nonserviceable	Limited Service	Serviceable
Date: _____	Date: _____	Date: _____
By: _____	By: _____	By: _____

White Decal: Serviceable. ~~Equipment~~ Electrical equipment that passes all tests satisfactorily, is electrically and mechanically sound, and is acceptable for return to service could have a white "serviceable" decal attached to the ~~electrical~~ equipment or device. Issues considered acceptable for the "serviceable" decal are evidence of slight corrosion, incorrect circuit ID, and missing nameplate.

Yellow Decal: Limited Service. ~~Equipment~~ Electrical equipment that has problems ~~that are~~ not detrimental to the protective operation or design characteristics of the equipment, such as trip targets that do not function properly, slightly lower than acceptable insulation resistance readings, ~~and or a~~ chipped arc chute, could have a yellow "limited service" decal attached to the ~~electrical~~ equipment or device.

Red Decal: Nonserviceable. ~~Equipment~~ Electrical equipment that has a problem ~~that is~~ detrimental to the proper electrical or mechanical operation of the equipment, such as no trip on one or more phases, low insulation resistance readings, mechanical trip problems, ~~and or~~ high contact resistance readings, could have a red "nonserviceable" decal attached to the ~~electrical~~ equipment or device.

8.6.2 ~~Conditions of Maintenance~~ Designation.

Equipment shall be designated as serviceable, limited service, or nonserviceable.

Supplemental Information

<u>File Name</u>	<u>Description</u>	<u>Approved</u>
70B_SR-22_8.6.docx		

Submitter Information Verification

Committee: EEM-AAA
Submittal Date: Wed Mar 19 14:47:44 EDT 2025

Committee Statement

Committee Statement: Titles are added and numbering updated for clarity and consistency with the requirements of Section 8.6. There are no changes to the technical provisions.
Response Message: SR-22-NFPA 70B-2025

Ballot Results

✔ **This item has passed ballot**

27 Eligible Voters

3 Not Returned

24 Affirmative All

0 Affirmative with Comments

0 Negative with Comments

0 Abstention

Not Returned

Cunningham, Karl M.

Horne, Mark C.

Sepulveda, Nathaniel ?Neil?

Affirmative All

Abdelmoumene, Abdelkader

Bishop, Thomas H.

Brady, Scott

Buettner, Daren

Cantor, William P.

Corbett, Adria

Dobrowsky, Paul

Dollar, Randy

Foland, Chris

Grimes, Ryan

Hall, Jeffrey

Hickman, Palmer L.

Huffman, David

Hunter, Christel K.

Moshiri, Ahmad A.

Neary, Robert

Northcott, Thomas Warren

Roettgers, Rob D.

Sullivan, Paul B.

Taylor, Kiley

Tholen, Trent Dean

Valdes, Marcelo E.

West, Rodney J.

Widup, Ron



Second Revision No. 6-NFPA 70B-2025 [Section No. 9.2.1.4.1]

9.2.1.4.1

~~When there is evidence that equipment could fail such that it~~ Where signs of impending failure of equipment exist and such failure would lead to injury of personnel or pose an imminent risk to health or the environment, the equipment shall be de-energized and identified as nonserviceable.

Submitter Information Verification

Committee: EEM-AAA

Submittal Date: Wed Mar 19 13:38:16 EDT 2025

Committee Statement

Committee Statement: The revised wording improves clarity and more closely aligns with Section 130.8(K) of NFPA 70E.

Response Message: SR-6-NFPA 70B-2025

Public Comment No. 29-NFPA 70B-2025 [Section No. 9.2.1.4.1]

Ballot Results

✔ This item has passed ballot

27 Eligible Voters

3 Not Returned

23 Affirmative All

0 Affirmative with Comments

1 Negative with Comments

0 Abstention

Not Returned

Cunningham, Karl M.

Horne, Mark C.

Sepulveda, Nathaniel ?Neil?

Affirmative All

Abdelmoumene, Abdelkader

Bishop, Thomas H.

Brady, Scott

Buettner, Daren

Cantor, William P.

Corbett, Adria

Dobrowsky, Paul

Dollar, Randy

Foland, Chris

Grimes, Ryan

Hall, Jeffrey
Huffman, David
Hunter, Christel K.
Moshiri, Ahmad A.
Neary, Robert
Northcott, Thomas Warren
Roettgers, Rob D.
Sullivan, Paul B.
Taylor, Kiley
Tholen, Trent Dean
Valdes, Marcelo E.
West, Rodney J.
Widup, Ron

Negative with Comment

Hickman, Palmer L.

The word "could" should have been used rather than "would" to more closely align with NFPA 70E 130.8(K) as indicated to be the reason for this change in the committee statement for this revision.



Second Revision No. 8-NFPA 70B-2025 [Section No. 10.1]

10.1 Scope.

This chapter identifies the maintenance requirements for ~~power and distribution transformers~~ hazardous (classified) location electrical equipment.

Submitter Information Verification

Committee: EEM-AAA

Submittal Date: Wed Mar 19 13:46:19 EDT 2025

Committee Statement

Committee Statement: The title of Chapter 10 is Hazardous (Classified) Location Electrical Equipment, and the scope improperly identifies power and distribution transformers. The language is modified for consistency with other sections.

Response Message: SR-8-NFPA 70B-2025

[Public Comment No. 10-NFPA 70B-2025 \[Section No. 10.1\]](#)

[Public Comment No. 35-NFPA 70B-2025 \[Section No. 10.1\]](#)

Ballot Results

✓ **This item has passed ballot**

27 Eligible Voters

3 Not Returned

24 Affirmative All

0 Affirmative with Comments

0 Negative with Comments

0 Abstention

Not Returned

Cunningham, Karl M.

Horne, Mark C.

Sepulveda, Nathaniel ?Neil?

Affirmative All

Abdelmoumene, Abdelkader

Bishop, Thomas H.

Brady, Scott

Buettner, Daren

Cantor, William P.

Corbett, Adria

Dobrowsky, Paul

Dollar, Randy

Foland, Chris
Grimes, Ryan
Hall, Jeffrey
Hickman, Palmer L.
Huffman, David
Hunter, Christel K.
Moshiri, Ahmad A.
Neary, Robert
Northcott, Thomas Warren
Roettgers, Rob D.
Sullivan, Paul B.
Taylor, Kiley
Tholen, Trent Dean
Valdes, Marcelo E.
West, Rodney J.
Widup, Ron



Second Revision No. 23-NFPA 70B-2025 [Section No. 10.9.1]

10.9.1

Where material ~~such as grease, paint, or dirt~~ must be cleaned from machined joints, a nonmetallic bristle brush, an acceptable noncorrosive solvent, or other methods ~~recommended~~ permitted by the manufacturer shall be used.

Submitter Information Verification

Committee: EEM-AAA

Submittal Date: Wed Mar 19 14:49:41 EDT 2025

Committee Statement

Committee Statement: The phrase "such as grease, paint, or dirt" is removed as these are examples and not all inclusive. The term "recommended" is replaced with "permitted" for clarity and consistency.

Response Message: SR-23-NFPA 70B-2025

Ballot Results

✓ **This item has passed ballot**

27 Eligible Voters

3 Not Returned

24 Affirmative All

0 Affirmative with Comments

0 Negative with Comments

0 Abstention

Not Returned

Cunningham, Karl M.

Horne, Mark C.

Sepulveda, Nathaniel ?Neil?

Affirmative All

Abdelmoumene, Abdelkader

Bishop, Thomas H.

Brady, Scott

Buettner, Daren

Cantor, William P.

Corbett, Adria

Dobrowsky, Paul

Dollar, Randy

Foland, Chris

Grimes, Ryan

Hall, Jeffrey
Hickman, Palmer L.
Huffman, David
Hunter, Christel K.
Moshiri, Ahmad A.
Neary, Robert
Northcott, Thomas Warren
Roettgers, Rob D.
Sullivan, Paul B.
Taylor, Kiley
Tholen, Trent Dean
Valdes, Marcelo E.
West, Rodney J.
Widup, Ron



Second Revision No. 9-NFPA 70B-2025 [Section No. 11.3.1]

11.3.1 Visual Inspection.

Transformers shall be visually inspected in accordance with Table 11.3.1.

Table 11.3.1 Transformer Visual Inspections

No.	Task	Test Type*			Notes
		Dry Type, Air-Cooled			
		Small, Windings, ≤600 V, ≤167 kVA 1-ph, ≤500 kVA 3-ph	Large, Windings, >600 V, >167 kVA 1-ph, >500 kVA 3-ph	Liquid-Filled	
1	Bolted Inspect bolted connections <u>for corrosion</u>	2	2	2	
2	Cooling Inspect cooling devices <u>for fluid leaks</u>	2	2	1 or 2	
3	Liquid Inspect liquid level gauges and alarms, <u>record values</u>	NA	NA	1 or 2	
4	Neutral Inspect neutral grounding impedance devices <u>for corrosion</u>	1 or 2	1 or 2	1 or 2	
5	Nitrogen Inspect nitrogen bottle pressure systems	NA	NA	1 or 2	
6	Pressure Verify pressure relief devices <u>have not actuated</u>	NA	NA	2	
7	Sudden Verify sudden pressure relays <u>have not actuated</u>	NA	NA	2	
8	Tank Inspect tank over/under pressure gauges and alarms	NA	NA	1 or 2	
9	Transformer Inspect transformer enclosures <u>for corrosion and paint condition</u>	1 or 2	1 or 2	1 or 2	Ensure ventilation and equipment enclosure integrity has not been compromised.

NA: Not applicable.

*Types specified in accordance with Section 8.3, as follows: Type 1 = online standard test; Type 1A = online enhanced test; Type 2 = offline standard test; Type 2A = offline enhanced test.

Supplemental Information

File Name	Description	Approved
SR_9_attachment_Table_11.3.1.docx	attachment for SR 9	

Submitter Information Verification

Committee: EEM-AAA

Submittal Date: Wed Mar 19 13:47:41 EDT 2025

Committee Statement

Committee Statement: Appropriate charging language has been added to the tasks, providing clear direction to the user on the requirements without changing the technical contents of the table.

Response Message: SR-9-NFPA 70B-2025

Public Comment No. 12-NFPA 70B-2025 [Section No. 11.3.1]

Ballot Results

✔ **This item has passed ballot**

27 Eligible Voters
3 Not Returned
24 Affirmative All
0 Affirmative with Comments
0 Negative with Comments
0 Abstention

Not Returned

Cunningham, Karl M.
Horne, Mark C.
Sepulveda, Nathaniel ?Neil?

Affirmative All

Abdelmoumene, Abdelkader
Bishop, Thomas H.
Brady, Scott
Buettner, Daren
Cantor, William P.
Corbett, Adria
Dobrowsky, Paul
Dollar, Randy
Foland, Chris
Grimes, Ryan
Hall, Jeffrey
Hickman, Palmer L.
Huffman, David
Hunter, Christel K.
Moshiri, Ahmad A.
Neary, Robert
Northcott, Thomas Warren
Roettgers, Rob D.
Sullivan, Paul B.
Taylor, Kiley
Tholen, Trent Dean
Valdes, Marcelo E.
West, Rodney J.



Second Revision No. 10-NFPA 70B-2025 [Section No. 11.3.4]

11.3.4 Mechanical Servicing.

Transformers shall be mechanically serviced in accordance with Table 11.3.4.

Table 11.3.4 Transformer Mechanical Servicing

No.	Task	Test Type*			Notes
		Dry Type, Air-Cooled		Liquid-Filled	
		Small, Windings, ≤600 V, ≤167 kVA 1-ph, ≤500 kVA 3-ph	Large, Windings, >600 V, >167 kVA 1-ph, >500 kVA 3-ph		
1	Bolted <u>Service bolted</u> connections				
1A	Verify tightness of accessible bolted electrical connections	2	2	2	
1B	Verify as-left tap connections are as specified	2	2	2	
2	Inspect anchorage, alignment, and grounding	1 or 2	1 or 2	1 or 2	
3 2	Cooling <u>Service cooling</u> devices, as needed	2	2	2	
4 3	Transformer <u>Repair, replace or clean</u> transformer enclosures, ventilation filters, and screens inspected and replaced or cleaned, as needed	1 or 2	1 or 2	NA	
5 4	Control <u>Service control</u> cabinets connections and cleaning	2	2	2	

NA: Not applicable.

*Types specified in accordance with Section 8.3, as follows: Type 1 = online standard test; Type 1A = online enhanced test; Type 2 = offline standard test; Type 2A = offline enhanced test.

Supplemental Information

File Name	Description	Approved
SR_10_attachement_Table_11.3.4.docx	sr 10 attachment table 11.3.4	

Submitter Information Verification

Committee: EEM-AAA

Submission Date: Wed Mar 19 13:50:43 EDT 2025

Committee Statement

Committee Statement: Appropriate charging language has been added to the tasks, providing clear direction to the user on the requirements without changing the technical contents of the table. Task 2 has been deleted because it is an inspection already covered in Table 11.3.1 where it appropriately belongs.

Response Message: SR-10-NFPA 70B-2025

Public Comment No. 13-NFPA 70B-2025 [Section No. 11.3.4]

Ballot Results

✔ **This item has passed ballot**

27 Eligible Voters

3 Not Returned

24 Affirmative All

0 Affirmative with Comments

0 Negative with Comments

0 Abstention

Not Returned

Cunningham, Karl M.

Horne, Mark C.

Sepulveda, Nathaniel ?Neil?

Affirmative All

Abdelmoumene, Abdelkader

Bishop, Thomas H.

Brady, Scott

Buettner, Daren

Cantor, William P.

Corbett, Adria

Dobrowsky, Paul

Dollar, Randy

Foland, Chris

Grimes, Ryan

Hall, Jeffrey

Hickman, Palmer L.

Huffman, David

Hunter, Christel K.

Moshiri, Ahmad A.

Neary, Robert

Northcott, Thomas Warren

Roettgers, Rob D.

Sullivan, Paul B.

Taylor, Kiley

Tholen, Trent Dean

Valdes, Marcelo E.

West, Rodney J.

Widup, Ron



Second Revision No. 11-NFPA 70B-2025 [Section No. 11.3.5]

11.3.5* Electrical Testing.

Transformers shall be electrically tested in accordance with Table 11.3.5.

Table 11.3.5 Transformer Electrical Tests

		Test Type*			
		Dry Type, Air-Cooled			
		Small, Windings, ≤600 V, ≤167 kVA 1-ph, ≤500 kVA 3-ph	Large, Windings, >600 V, >167 kVA 1-ph, >500 kVA 3-ph	Liquid-Filled	
No.	Task	ph	ph		Notes
1	Core <u>Measure core</u> insulation resistance	NA	2A	2A	
2	Excitation <u>Measure excitation</u> current on each phase	NA	2	2	
3	Insulation <u>Measure insulation</u> power factor	NA	2	2	
4	Insulation <u>Measure insulation</u> power factor tip-up	NA	2A	NA	
5	Main insulation resistance <u>Measure insulation quality.</u>	2	2	2	See Section 7.3
6	Neutral <u>Test neutral</u> grounding impedance devices	NA	2	2	
7	Online <u>Perform online</u> partial discharge on MV/HV windings	NA	1A	1A	
8	Insulation <u>Measure insulation</u> power factor on each bushing	NA	NA	2†	
9	Sweep <u>Measure sweep</u> frequency response analysis	NA	NA	2A	
10	Turns <u>Measure turns</u> ratio on all load tap changer (LTC) taps	NA	NA	2A	
11	Turns <u>Measure turns</u> ratio on all no-load tap changer (NLTC) taps	2A	2A	2A	
12	Turns <u>Measure turns</u> ratio on designated tap	2	2	2	
13	Winding <u>Measure winding</u> resistance at designated tap	2A	2A	2	
14	Bolted <u>Measure bolted</u> connection resistance	2	2	2	
15	Applied <u>Perform applied</u> voltage test	NA	2A	NA	
16	Sample insulating fluid and test for the following :				
16A	Dielectric breakdown	NA	NA	1 or 2	
16B	Acid neutralization number	NA	NA	1 or 2	
16C	Specific gravity	NA	NA	1 or 2	
16D	Interfacial tension	NA	NA	1 or 2	
16E	Color	NA	NA	1 or 2	
16F	Visual condition	NA	NA	1 or 2	
16G	Water content	NA	NA	1 or 2	
16H	Power factor	NA	NA	1 or 2	
16I	Dissolved gas analysis	NA	NA	1 or 2	
16J	Furan analysis	NA	NA	1A or 2A	
17	Sweep <u>Perform sweep</u> frequency response analysis	NA	NA	2A	
18	Percent <u>Measure percent</u> oxygen in insulating blanket	NA	NA	2A	

No.	Task	Test Type*			Notes
		Dry Type, Air-Cooled			
		Small, Windings, ≤600 V, ≤167 kVA	Large, Windings, >600 V, >167 kVA	Liquid-Filled	
		1-ph, ≤500 kVA 3-ph	1-ph, >500 kVA 3-ph		
19	Testing Perform testing of transformer alarms, including temperature, liquid level, nitrogen bottle pressure, tank over/under pressure, sudden pressure	NA	2	2	

NA: Not applicable.

*Types specified in accordance with Section 8.3, as follows: Type 1 = online standard test; Type 1A = online enhanced test; Type 2 = offline standard test; Type 2A = offline enhanced test.

†Transformers applied at voltages greater than 1000 volts.

Supplemental Information

File Name	Description	Approved
SR_11_attachement_Table_11.3.5.docx	SR 11 attachment Table 11.3.5.	

Submitter Information Verification

Committee: EEM-AAA

Submittal Date: Wed Mar 19 13:54:12 EDT 2025

Committee Statement

Committee Statement: Appropriate charging language has been added to the tasks, providing clear direction to the user on the requirements without changing the technical contents of the table.

Response Message: SR-11-NFPA 70B-2025

[Public Comment No. 14-NFPA 70B-2025 \[Section No. 11.3.5\]](#)

Ballot Results

✔ This item has passed ballot

27 Eligible Voters

3 Not Returned

24 Affirmative All

0 Affirmative with Comments

0 Negative with Comments

0 Abstention

Not Returned

Cunningham, Karl M.

Horne, Mark C.

Sepulveda, Nathaniel ?Neil?

Affirmative All

Abdelmoumene, Abdelkader

Bishop, Thomas H.

Brady, Scott
Buettner, Daren
Cantor, William P.
Corbett, Adria
Dobrowsky, Paul
Dollar, Randy
Foland, Chris
Grimes, Ryan
Hall, Jeffrey
Hickman, Palmer L.
Huffman, David
Hunter, Christel K.
Moshiri, Ahmad A.
Neary, Robert
Northcott, Thomas Warren
Roettgers, Rob D.
Sullivan, Paul B.
Taylor, Kiley
Tholen, Trent Dean
Valdes, Marcelo E.
West, Rodney J.
Widup, Ron



Second Revision No. 40-NFPA 70B-2025 [Section No. 15.1]

15.1 Scope.

This chapter identifies maintenance requirements for the following circuit breakers and their enclosures:

- (1) Molded-case circuit breakers (MCCBs) rated less than or equal to 1000 V ac
- (2) Insulated-case circuit breakers (ICCBs) rated less than or equal to 1000 V ac
- (3) Low-voltage power circuit breakers (LVPCBs) rated less than or equal to 1000 V ac
- (4) Medium-voltage power circuit breakers (MVPCBs) rated greater than 1000 V ac to less than or equal to 69 kV ac

15.1.4

Supplemental Information

<u>File Name</u>	<u>Description</u>	<u>Approved</u>
70B_SR-40_15.1.docx		

Submitter Information Verification

Committee: EEM-AAA

Submittal Date: Mon Mar 31 13:57:26 EDT 2025

Committee Statement

Committee Statement: The subsection numbering is editorially removed for consistency with the numbering in other chapters. There are no changes to the technical provisions.

Response Message: SR-40-NFPA 70B-2025

Ballot Results

✔ This item has passed ballot

27 Eligible Voters

3 Not Returned

24 Affirmative All

0 Affirmative with Comments

0 Negative with Comments

0 Abstention

Not Returned

Cunningham, Karl M.

Horne, Mark C.

Sepulveda, Nathaniel ?Neil?

Affirmative All

Abdelmoumene, Abdelkader

Bishop, Thomas H.

Brady, Scott
Buettner, Daren
Cantor, William P.
Corbett, Adria
Dobrowsky, Paul
Dollar, Randy
Foland, Chris
Grimes, Ryan
Hall, Jeffrey
Hickman, Palmer L.
Huffman, David
Hunter, Christel K.
Moshiri, Ahmad A.
Neary, Robert
Northcott, Thomas Warren
Roettgers, Rob D.
Sullivan, Paul B.
Taylor, Kiley
Tholen, Trent Dean
Valdes, Marcelo E.
West, Rodney J.
Widup, Ron



Second Revision No. 26-NFPA 70B-2025 [Section No. 17.1]

17.1 Scope.

This chapter identifies maintenance requirements for the following:

- (1) Enclosed and dead-front (safety) switches, bolted-pressure switches (BPSs), and high-pressure contact (~~HPC~~) switches (~~HPC~~) rated 1000 volts or less
- (2) Switches used in metal-enclosed load interrupter switchgear rated over 1000 volts

~~17.1.1~~

Supplemental Information

<u>File Name</u>	<u>Description</u>	<u>Approved</u>
70B_SR-26_17.1.docx		

Submitter Information Verification

Committee: EEM-AAA

Submittal Date: Wed Mar 19 15:04:53 EDT 2025

Committee Statement

Committee Statement: The subsection numbering is editorially removed for consistency with the numbering in other chapters. There are no changes to the technical provisions.

Response Message: SR-26-NFPA 70B-2025

Ballot Results

✔ This item has passed ballot

27 Eligible Voters

3 Not Returned

24 Affirmative All

0 Affirmative with Comments

0 Negative with Comments

0 Abstention

Not Returned

Cunningham, Karl M.

Horne, Mark C.

Sepulveda, Nathaniel ?Neil?

Affirmative All

Abdelmoumene, Abdelkader

Bishop, Thomas H.

Brady, Scott

Buettner, Daren

Cantor, William P.
Corbett, Adria
Dobrowsky, Paul
Dollar, Randy
Foland, Chris
Grimes, Ryan
Hall, Jeffrey
Hickman, Palmer L.
Huffman, David
Hunter, Christel K.
Moshiri, Ahmad A.
Neary, Robert
Northcott, Thomas Warren
Roettgers, Rob D.
Sullivan, Paul B.
Taylor, Kiley
Tholen, Trent Dean
Valdes, Marcelo E.
West, Rodney J.
Widup, Ron



Second Revision No. 41-NFPA 70B-2025 [Section No. 17.3.4]

17.3.4 Mechanical Servicing.

Switches shall be mechanically serviced in accordance with Table 17.3.4.

Table 17.3.4 Switch Mechanical Servicing

No.	Task	Test Type*		Notes
		1000 V or Less	Greater than 1000 V	
1	If accessible, verify main blade alignment, penetration, travel stops, and mechanical operation	2	2	
2	Check all accessible electrical hardware connections	2	2	See Chapter 7.
3	Operate the switch at least a minimum of three times to work the lubricant between the contacts	2	NA	
4	Verify operation and alignment of mechanical interlocks	2	2	
5	Verify the contact pressure is within specification using a force gauge or other device that measures forces	NA	2A	
6	With the door closed and latched, close and open the switch at least a minimum of three times to confirm the switch and operator lever is operating; view switch position through the window after each operation, where available; when open, verify that switch blades have cleared the arc chutes; when closed, verify that the switch blades are inside the arc chutes and vertical; and, if they are not, perform alignment adjustments per the manufacturer's instructions	NA	2	

NA: Not applicable.

*Types specified in accordance with Section 8.3, as follows: Type 1 = online standard test; Type 1A = online enhanced test; Type 2 = offline standard test; Type 2A = offline enhanced test.

Supplemental Information

File Name	Description	Approved
SR_41attachment_Table_17._3.4.docx	SR 41 attachment Table 17.3.4	

Submitter Information Verification

Committee: EEM-AAA

Submittal Date: Mon Mar 31 14:02:21 EDT 2025

Committee Statement

Committee Statement: Re phased the tasks to include the required language in the statement per the NFPA Manual of Style 4.2.5 for maximum and minimum limits.
Response Message: SR-41-NFPA 70B-2025

[Public Comment No. 34-NFPA 70B-2025 \[Section No. 17.3\]](#)

Ballot Results

✔ This item has passed ballot

27 Eligible Voters

3 Not Returned

24 Affirmative All

0 Affirmative with Comments

0 Negative with Comments

0 Abstention

Not Returned

Cunningham, Karl M.

Horne, Mark C.

Sepulveda, Nathaniel ?Neil?

Affirmative All

Abdelmoumene, Abdelkader

Bishop, Thomas H.

Brady, Scott

Buettner, Daren

Cantor, William P.

Corbett, Adria

Dobrowsky, Paul

Dollar, Randy

Foland, Chris

Grimes, Ryan

Hall, Jeffrey

Hickman, Palmer L.

Huffman, David

Hunter, Christel K.

Moshiri, Ahmad A.

Neary, Robert

Northcott, Thomas Warren

Roettgers, Rob D.

Sullivan, Paul B.

Taylor, Kiley

Tholen, Trent Dean

Valdes, Marcelo E.

West, Rodney J.

Widup, Ron



Second Revision No. 39-NFPA 70B-2025 [Section No. 18.1.1]

18.1.1

This chapter identifies maintenance requirements for the following:

- (1) Power cables and conductors operating at 1000 V or less
- (2) Power cables and conductors that are purpose-built, multilayered, and operating at greater than 1000 V to less than or equal to 69 kV

18.1.2

This chapter applies to circuit cables and conductors between the service point or other power supply source and the final branch-circuit overcurrent device.

18.1.3

This chapter does not apply to the cables and conductors between the final overcurrent device protecting the circuit and the outlet(s).

Submitter Information Verification

Committee: EEM-AAA

Submittal Date: Thu Mar 20 10:55:19 EDT 2025

Committee Statement

Committee Statement: Section were renumbered for consistency with other chapters.

Response Message: SR-39-NFPA 70B-2025

Ballot Results

✓ **This item has passed ballot**

27 Eligible Voters

3 Not Returned

24 Affirmative All

0 Affirmative with Comments

0 Negative with Comments

0 Abstention

Not Returned

Cunningham, Karl M.

Horne, Mark C.

Sepulveda, Nathaniel ?Neil?

Affirmative All

Abdelmoumene, Abdelkader

Bishop, Thomas H.

Brady, Scott

Buettner, Daren

Cantor, William P.

Corbett, Adria
Dobrowsky, Paul
Dollar, Randy
Foland, Chris
Grimes, Ryan
Hall, Jeffrey
Hickman, Palmer L.
Huffman, David
Hunter, Christel K.
Moshiri, Ahmad A.
Neary, Robert
Northcott, Thomas Warren
Roettgers, Rob D.
Sullivan, Paul B.
Taylor, Kiley
Tholen, Trent Dean
Valdes, Marcelo E.
West, Rodney J.
Widup, Ron



Second Revision No. 30-NFPA 70B-2025 [Section No. 18.3.5]

18.3.5* Electrical Testing.

Power cables and conductors shall be electrically tested in accordance with Table 18.3.5.

Table 18.3.5 Power Cable and Conductor Electrical Tests

No.	Task	Test Type*		Notes
		1000 V or Less	Over 1000 V	
1	Airborne ultrasonic acoustic emissions	NA	1A	
2	Insulation resistance	2A	NA	For cable and conductor ratings not exceeding 1000 V
3	Insulation resistance:			For cables and conductors over ratings exceeding 1000 volts choose at least one of the following tests as appropriate 3A through 3E .
3A	Very low frequency (VLF <1 Hz)	NA	2	
3B	DC overpotential test (hi-pot)	NA	2	
3C	AC insulation power factor/dissipation factor	NA	2	
3D	Partial discharge	NA	1 or 2	
3E	Power frequency	NA	2	
4	Connection quality	1 or 2	1 or 2	Millivolt drop, digital low-resistance ohmmeter, infrared thermography. Circuits tested are based on criticality of the circuit.

NA: Not applicable.

*Types specified in accordance with Section 8.3, as follows: Type 1 = online standard test; Type 1A = online enhanced test; Type 2 = offline standard test; Type 2A = offline enhanced test.

Supplemental Information

File Name	Description	Approved
SR_30_attachment_Table_18.3.5.docx	SR 30 attachment Table 18.3.5	

Submitter Information Verification

Committee: EEM-AAA

Submittal Date: Wed Mar 19 15:10:25 EDT 2025

Committee Statement

Committee Statement: The notes in rows 2 and 3 are modified for clarity. There are no changes to the technical provisions.

Response Message: SR-30-NFPA 70B-2025

Ballot Results

✓ This item has passed ballot

27 Eligible Voters

3 Not Returned

24 Affirmative All

0 Affirmative with Comments

0 Negative with Comments

0 Abstention

Not Returned

Cunningham, Karl M.

Horne, Mark C.

Sepulveda, Nathaniel ?Neil?

Affirmative All

Abdelmoumene, Abdelkader

Bishop, Thomas H.

Brady, Scott

Buettner, Daren

Cantor, William P.

Corbett, Adria

Dobrowsky, Paul

Dollar, Randy

Foland, Chris

Grimes, Ryan

Hall, Jeffrey

Hickman, Palmer L.

Huffman, David

Hunter, Christel K.

Moshiri, Ahmad A.

Neary, Robert

Northcott, Thomas Warren

Roettgers, Rob D.

Sullivan, Paul B.

Taylor, Kiley

Tholen, Trent Dean

Valdes, Marcelo E.

West, Rodney J.

Widup, Ron



Second Revision No. 31-NFPA 70B-2025 [Section No. 19.3.1]

19.3.1 Visual Inspection.

Cable tray shall be visually inspected in accordance with Table 19.3.1.

Table 19.3.1 Cable Tray Visual Inspections

<u>No.</u>	<u>Task</u>	<u>Test Type*</u>	<u>Notes</u>
1	Verify equipment grounding and bonding for the following:		
1A	Cable tray	1 or 2	
1B	Transition raceways	1 or 2	
2	Check for overfilling	1 or 2	
3	Inspect for the following:		
3A	Incorrect cables (small, not TC listed)	1A or 2A	
3B	Cable damage	1A or 2A	
3C	Cables support damage	1 or 2	
3D	Intrusive items (e.g., pipes, hangers)	1 or 2	
4	Inspect for the following:		
4A	Spacing of cables, for cables that have minimum spacing requirements	1 or 2	
4B	Cable tie-downs	1 or 2	
4C	Supports of cable trays	1 or 2	
4D	Damaged tray or supports	1 or 2	
4E	Expansion joints in sufficient distances	1 or 2	

*Types specified in accordance with Section 8.3, as follows: Type 1 = online standard test; Type 1A = online enhanced test; Type 2 = offline standard test; Type 2A = offline enhanced test.

Supplemental Information

<u>File Name</u>	<u>Description</u>	<u>Approved</u>
SR_31_attachment_Table_19.3.1.docx	SR 31 attachment Table 19.3.1	

Submitter Information Verification

Committee: EEM-AAA

Submittal Date: Wed Mar 19 15:12:59 EDT 2025

Committee Statement

Committee Statement: Table numbering is editorially revised to add subsection letters to the row entries. There are no changes to the technical provisions.
Response Message: SR-31-NFPA 70B-2025

Ballot Results

✔ This item has passed ballot

27 Eligible Voters

3 Not Returned

24 Affirmative All

- 0 Affirmative with Comments
- 0 Negative with Comments
- 0 Abstention

Not Returned

Cunningham, Karl M.
Horne, Mark C.
Sepulveda, Nathaniel ?Neil?

Affirmative All

Abdelmoumene, Abdelkader
Bishop, Thomas H.
Brady, Scott
Buettner, Daren
Cantor, William P.
Corbett, Adria
Dobrowsky, Paul
Dollar, Randy
Foland, Chris
Grimes, Ryan
Hall, Jeffrey
Hickman, Palmer L.
Huffman, David
Hunter, Christel K.
Moshiri, Ahmad A.
Neary, Robert
Northcott, Thomas Warren
Roettgers, Rob D.
Sullivan, Paul B.
Taylor, Kiley
Tholen, Trent Dean
Valdes, Marcelo E.
West, Rodney J.
Widup, Ron



Second Revision No. 28-NFPA 70B-2025 [Section No. 28.1]

28.1 Scope.

This chapter identifies maintenance requirements for low-voltage single- and three-phase ac and dc motor control equipment, medium-voltage single- and three-phase motor control equipment, and motor control centers.

~~28.1.1~~

Supplemental Information

<u>File Name</u>	<u>Description</u>	<u>Approved</u>
70B_SR-28_28.1.docx		

Submitter Information Verification

Committee: EEM-AAA

Submittal Date: Wed Mar 19 15:08:28 EDT 2025

Committee Statement

Committee Statement: The subsection numbering is editorially removed for consistency with the numbering in other chapters. There are no changes to the technical provisions.

Response Message: SR-28-NFPA 70B-2025

Ballot Results

✓ **This item has passed ballot**

27 Eligible Voters

3 Not Returned

24 Affirmative All

0 Affirmative with Comments

0 Negative with Comments

0 Abstention

Not Returned

Cunningham, Karl M.

Horne, Mark C.

Sepulveda, Nathaniel ?Neil?

Affirmative All

Abdelmoumene, Abdelkader

Bishop, Thomas H.

Brady, Scott

Buettner, Daren

Cantor, William P.

Corbett, Adria

Dobrowsky, Paul
Dollar, Randy
Foland, Chris
Grimes, Ryan
Hall, Jeffrey
Hickman, Palmer L.
Huffman, David
Hunter, Christel K.
Moshiri, Ahmad A.
Neary, Robert
Northcott, Thomas Warren
Roettgers, Rob D.
Sullivan, Paul B.
Taylor, Kiley
Tholen, Trent Dean
Valdes, Marcelo E.
West, Rodney J.
Widup, Ron



Second Revision No. 32-NFPA 70B-2025 [Section No. 30.2]

[Global SR-7](#)

30.2* Frequency of Maintenance.

The periodic maintenance procedures specified in Section 30.3 shall be performed in accordance with ~~the frequencies in Chapter 9 Table 9.3.2~~; unless otherwise specified in this chapter.

~~30.2.4~~

Supplemental Information

<u>File Name</u>	<u>Description</u>	<u>Approved</u>
70B_SR-32_30.2.docx		

Submitter Information Verification

Committee: EEM-AAA

Submittal Date: Wed Mar 19 15:16:37 EDT 2025

Committee Statement

Committee Statement: Subsection numbering is editorially revised for consistency. There are no changes to the technical provisions.

Response Message: SR-32-NFPA 70B-2025

Ballot Results

✔ This item has passed ballot

27 Eligible Voters

3 Not Returned

24 Affirmative All

0 Affirmative with Comments

0 Negative with Comments

0 Abstention

Not Returned

Cunningham, Karl M.

Horne, Mark C.

Sepulveda, Nathaniel ?Neil?

Affirmative All

Abdelmoumene, Abdelkader

Bishop, Thomas H.

Brady, Scott

Buettner, Daren

Cantor, William P.

Corbett, Adria

Dobrowsky, Paul
Dollar, Randy
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Grimes, Ryan
Hall, Jeffrey
Hickman, Palmer L.
Huffman, David
Hunter, Christel K.
Moshiri, Ahmad A.
Neary, Robert
Northcott, Thomas Warren
Roettgers, Rob D.
Sullivan, Paul B.
Taylor, Kiley
Tholen, Trent Dean
Valdes, Marcelo E.
West, Rodney J.
Widup, Ron



Second Revision No. 13-NFPA 70B-2025 [Section No. 32.1]

32.1 Scope.

32.1.1*

This chapter identifies maintenance requirements and applies to all flow and traditional battery energy storage systems (ESSs) having a capacity greater than 3.6 MJ (1 kWh) that could be stand-alone or interactive with other electric power production sources. ~~These systems are primarily intended to store and provide energy during normal operating conditions.~~

A.32.1.1

~~These systems types of ESSs~~ are primarily intended to store and provide energy during normal operating conditions.

32.1.2*

This chapter does not apply to the following stationary standby lead-acid or aqueous alkaline chemistry battery applications (see Chapter 36):

~~Stationary standby batteries that meet the requirements of Chapter 36 and are comprised of lead-acid or nickel-cadmium (NiCd) cells~~

- (1) Uninterruptible power supplies (UPS)
- (2) Standby battery systems for substation or switchgear control power
- (3) Batteries for telecommunications backup power

Supplemental Information

<u>File Name</u>	<u>Description</u>	<u>Approved</u>
70B_SR-13_32.1.docx		

Submitter Information Verification

Committee: EEM-AAA

Submittal Date: Wed Mar 19 14:01:55 EDT 2025

Committee Statement

Committee Statement: The scope is clarified that flow batteries are included in this maintenance chapter. Specific common applications of stationary battery applications are listed to assist the reader to the appropriate maintenance chapter.

Response Message: SR-13-NFPA 70B-2025 Electric double-layer capacitors are not “battery” energy storage systems that are covered by Chapter 32 and no maintenance tasks have been developed for them. The Chapter could be renamed “Energy storage system” and separate maintenance tasks developed for electric double-layer capacitors. The standard does not contain any information on the maintenance of flywheels which may confuse readers if called out.

Public Comment No. 32-NFPA 70B-2025 [Section No. 32.1]

Ballot Results

✓ This item has passed ballot

27 Eligible Voters

3 Not Returned

24 Affirmative All

0 Affirmative with Comments

0 Negative with Comments

0 Abstention

Not Returned

Cunningham, Karl M.

Horne, Mark C.

Sepulveda, Nathaniel ?Neil?

Affirmative All

Abdelmoumene, Abdelkader

Bishop, Thomas H.

Brady, Scott

Buettner, Daren

Cantor, William P.

Corbett, Adria

Dobrowsky, Paul

Dollar, Randy

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Grimes, Ryan

Hall, Jeffrey

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Huffman, David

Hunter, Christel K.

Moshiri, Ahmad A.

Neary, Robert

Northcott, Thomas Warren

Roettgers, Rob D.

Sullivan, Paul B.

Taylor, Kiley

Tholen, Trent Dean

Valdes, Marcelo E.

West, Rodney J.

Widup, Ron



32.2 Frequency of Maintenance.

The periodic maintenance procedures specified in Section 32.3 shall be performed in accordance with ~~the frequencies in Chapter 9 Table 9.3.2~~; unless otherwise specified in Table 32.2.

Table 32.2 Maintenance Intervals

<u>Test to be Performed</u>	<u>Equipment Condition Assessment</u>			<u>Notes</u>
	<u>Condition 1</u>	<u>Condition 2</u>	<u>Condition 3</u>	
Visual	12 months	12 months	1 month	When batteries are accessible, see Section 36.2 for specific battery technology and maintenance test intervals.
Connection resistances	12 months	12 months	1 month	
Battery management system data and associated alarms	12 months	12 months	1 month	
Battery performance testing	36 months	36 months	12 months	<u>See Task No. 5 in Table 32.3.5.</u>

Supplemental Information

<u>File Name</u>	<u>Description</u>	<u>Approved</u>
SR_14_attachment_Table_32.2.docx	SR 14 attachment Table 32.2.	

Submitter Information Verification

Committee: EEM-AAA

Submittal Date: Wed Mar 19 14:05:49 EDT 2025

Committee Statement

Committee Statement: The maintenance intervals in Table 32.2 have been updated and aligned with IEEE PES Energy Storage and Stationary Battery Committee developed changes in IEEE 2962 and formulated consistently with other equipment chapters.

Response Message: SR-14-NFPA 70B-2025

Public Comment No. 38-NFPA 70B-2025 [Section No. 32.2]

Ballot Results

✔ This item has passed ballot

27 Eligible Voters

3 Not Returned

24 Affirmative All

0 Affirmative with Comments

0 Negative with Comments

0 Abstention

Not Returned

Cunningham, Karl M.

Horne, Mark C.

Sepulveda, Nathaniel ?Neil?

Affirmative All

Abdelmoumene, Abdelkader

Bishop, Thomas H.

Brady, Scott

Buettner, Daren

Cantor, William P.

Corbett, Adria

Dobrowsky, Paul

Dollar, Randy

Foland, Chris

Grimes, Ryan

Hall, Jeffrey

Hickman, Palmer L.

Huffman, David

Hunter, Christel K.

Moshiri, Ahmad A.

Neary, Robert

Northcott, Thomas Warren

Roettgers, Rob D.

Sullivan, Paul B.

Taylor, Kiley

Tholen, Trent Dean

Valdes, Marcelo E.

West, Rodney J.

Widup, Ron



36.1* Scope.

This chapter identifies maintenance requirements for all stationary installations of storage stationary standby batteries comprised of lead-acid or aqueous alkaline chemistries.

A.36.1

See Chapter 32 for installations that do not meet the definition of stationary standby batteries or are comprised of cells other than lead-acid or aqueous alkaline chemistries, including nickel-cadmium (NiCd), nickel zinc (NiZn), nickel-iron (NiFe), and zinc-manganese dioxide (ZnMnO₂). ~~See Chapter 32 for installations that do not meet the definition of stationary standby batteries or are comprised of cells other than lead-acid or NiCd.~~

Battery Hazard Awareness. Personnel should be aware of the types of hazards associated with stationary batteries, such as flammable/explosive gas hazards, chemical hazards, electric shock hazards, and arc flash/thermal hazards. Not all stationary batteries have the same types or degrees of hazards. Personnel must understand the potential hazards and do a risk assessment prior to any work. Personnel should also follow the manufacturer's instructions. IEEE 1657, *Recommended Practice for Personnel Qualifications for Installation and Maintenance of Stationary Batteries*, provides recommended curriculum for various skill levels.

Flammable Gas Hazard. Lead-acid and ~~NiCd~~ aqueous alkaline chemistries batteries will emit hydrogen gas; ~~and~~ if not vented, the hydrogen concentration will reach a flammable level. Where lead-acid and ~~NiCd~~ aqueous alkaline chemistries batteries are charging, the following steps should be taken:

- (1) Verify that the ventilation system in the room or compartment where the batteries are located is operating as required, including both the intake and exhaust systems.
- (2) Prevent the use of open flames, sparks, and other ignition sources in the vicinity of storage batteries, gas ventilation paths, and places where flammable gas can accumulate.

AC and DC Voltage Hazard. Voltage is always present on battery systems; ~~so~~ the safety procedures provided in NFPA 70E and IEEE 3007.3, *Recommended Practice for Electrical Safety in Industrial and Commercial Power Systems*, for energized equipment should be followed. Voltages present on large systems, including chargers, can cause injury or death. Personnel should determine the voltages that are present, use insulated tools, and use PPE as appropriate. Conductive objects should not be used near battery cells.

Chemical Hazard. Electrolyte can cause severe injury to the eyes and mucus linings and can cause rash or burns to skin if not treated promptly. Not all battery maintenance activities expose personnel to electrolyte, so the service person must understand the potential exposure as part of the risk assessment prior to doing any work on a battery system.

Arc Flash and Thermal Hazard. Prior to performing the task, personnel should perform a risk assessment and note the potential arc flash and thermal hazards, which should be already posted, and wear the appropriate level of PPE. Measures to avoid arc flash can include separating the battery into low-voltage segments and ensuring that positive and negative conductive paths are not exposed at the same time.

Submitter Information Verification

Committee: EEM-AAA

Submittal Date: Wed Mar 19 14:24:31 EDT 2025

Committee Statement

Committee Statement: NFPA 855 has categorized several chemistries similar to nickel-cadmium (NiCd) under aqueous alkaline chemistries, which share similar maintenance requirements.

**Response
Message:**

SR-16-NFPA 70B-2025

[Public Comment No. 31-NFPA 70B-2025 \[Section No. 36.1\]](#)

Ballot Results

✔ **This item has passed ballot**

27 Eligible Voters

3 Not Returned

24 Affirmative All

0 Affirmative with Comments

0 Negative with Comments

0 Abstention

Not Returned

Cunningham, Karl M.

Horne, Mark C.

Sepulveda, Nathaniel ?Neil?

Affirmative All

Abdelmoumene, Abdelkader

Bishop, Thomas H.

Brady, Scott

Buettner, Daren

Cantor, William P.

Corbett, Adria

Dobrowsky, Paul

Dollar, Randy

Foland, Chris

Grimes, Ryan

Hall, Jeffrey

Hickman, Palmer L.

Huffman, David

Hunter, Christel K.

Moshiri, Ahmad A.

Neary, Robert

Northcott, Thomas Warren

Roettgers, Rob D.

Sullivan, Paul B.

Taylor, Kiley

Tholen, Trent Dean

Valdes, Marcelo E.

West, Rodney J.

Widup, Ron



36.2 Frequency of Maintenance.

The periodic maintenance procedures specified in Section 36.3 shall be performed in accordance with the frequencies in Chapter 9 Table 9.3.2; unless otherwise specified in Table 36.2.

Table 36.2 Maintenance Intervals

Battery Technology	Test to be Performed	Equipment Condition Assessment			Notes
		Condition 1	Condition 2	Condition 3	
Vented lead-acid	Overall float voltage	3 months	3 months	4 month	
	Visual inspections	12 months	12 months	4 month	
	Electrolyte levels	3 months	3 months	4 month	
	Ambient temperature	3 months	3 months	4 month	
	Float current	3 months	3 months	4 month	
	Individual cell/unit float voltages	12 months	12 months	1 month	See Task No. 9 in Table 36.3.5.
	Representative cell temperatures	3 months	3 months	4 month	
	Inspect electrical connection for high resistance	12 months	12 months	1 month	See Task No. 5 in Table 36.3.5.
	Performance testing	60 months	60 months	12 months	See Task No. 6 in Table 36.3.5.
Valve-regulated lead-acid	Overall float voltage	4 month	4 month	4 month	
	Visual inspections	12 months	12 months	4 month	
	Ambient temperature	3 months	3 months	4 month	
	Float current	4 month	4 month	4 month	
	Ohmic testing	3 months	3 months	4 month	
	Individual cell/unit float voltages	3 months	3 months	4 month	
	Representative cell temperatures	3 months	3 months	4 month	
	Inspect electrical connection for high resistance	12 months	12 months	1 month	See Task No. 5 in Table 36.3.5.
	Performance testing	24 months	24 months	12 months	See Task No. 6 in Table 36.3.5.
Ni-Cad Aqueous alkaline chemistries	Overall float voltage	3 months	3 months	4 month	
	Visual inspections	12 months	12 months	4 month	
	Electrolyte levels	3 months	3 months	4 month	
	Ambient temperature	3 months	3 months	4 month	
	Float current	3 months	3 months	4 month	
	Individual cell/unit float voltages	12 months	12 months	1 month	See Task No. 9 in Table 36.3.5.
	Representative cell temperatures	3 months	3 months	4 month	
	Inspect electrical connection for high resistance	12 months	12 months	1 month	See Task No. 5 in Table 36.3.5.
	Performance testing	60 months	60 months	12 months	See Task No. 6 in Table 36.3.5.

Supplemental Information

File Name	Description	Approved
SR_17_attachment_Table_36.2.docx	sr 17 attachment Table 36.2	

Submitter Information Verification

Committee: EEM-AAA

Submittal Date: Wed Mar 19 14:28:21 EDT 2025

Committee Statement

Committee Statement: The maintenance intervals in Table 36.2 have been updated and aligned with IEEE PES Energy Storage and Stationary Battery Committee developed changes with IEEE 450, IEEE 1188, and IEEE 1106 and formulated consistently with other equipment chapters.

Response Message: SR-17-NFPA 70B-2025

Public Comment No. 20-NFPA 70B-2025 [Section No. 36.2]

Ballot Results

✔ **This item has passed ballot**

27 Eligible Voters

3 Not Returned

24 Affirmative All

0 Affirmative with Comments

0 Negative with Comments

0 Abstention

Not Returned

Cunningham, Karl M.

Horne, Mark C.

Sepulveda, Nathaniel ?Neil?

Affirmative All

Abdelmoumene, Abdelkader

Bishop, Thomas H.

Brady, Scott

Buettner, Daren

Cantor, William P.

Corbett, Adria

Dobrowsky, Paul

Dollar, Randy

Foland, Chris

Grimes, Ryan

Hall, Jeffrey

Hickman, Palmer L.

Huffman, David

Hunter, Christel K.

Moshiri, Ahmad A.

Neary, Robert

Northcott, Thomas Warren

Roettgers, Rob D.

Sullivan, Paul B.

Taylor, Kiley

Tholen, Trent Dean

Valdes, Marcelo E.

West, Rodney J.

Widup, Ron



Second Revision No. 19-NFPA 70B-2025 [Section No. 36.3.5]

36.3.5* Electrical Testing.

Stationary standby batteries and their associated equipment shall be electrically tested in accordance with Table 36.3.5.

Table 36.3.5 Stationary Standby Battery Electrical Tests

<u>No.</u>	<u>Task</u>	<u>Test Type*</u>	<u>Notes</u>
1	Overall <u>Measure overall</u> float voltage	1	Measured at the battery and verified annually to be in accordance with the battery manufacturer's instructions.
2	Measure cell temperature	1	
3	Specific <u>Measure specific</u> gravity	1A	No less than 10% of the units in the string(s).
4	Ohmic <u>Perform ohmic</u> testing (VRLA batteries only)	1A	Resistance, impedance, or conductance.
5	Inspect electrical connections for high resistance	1 or 1A	See Section 7.2.
6	Performance <u>Conduct performance</u> testing	1	
7	Thermal <u>Perform thermal</u> imaging	1	Under full load of performance testing.
8	Float <u>Measure float</u> current	1	
9	Individual <u>Measure individual</u> cell/unit float voltage	1	Record voltage measurements on individual cells or units to two decimal places.

*Types specified in accordance with Section 8.3, as follows: Type 1 = online standard test; Type 1A = online enhanced test; Type 2 = offline standard test; Type 2A = offline enhanced test.

Supplemental Information

<u>File Name</u>	<u>Description</u>	<u>Approved</u>
SR_19_attachment_Table_36.3.5.docx	SR 19 attachment Table 36.3.5	

Submitter Information Verification

Committee: EEM-AAA

Submittal Date: Wed Mar 19 14:35:45 EDT 2025

Committee Statement

Committee Statement: The maintenance interval was removed from the notes section to prevent conflict with the prescribed maintenance intervals of Table 9.3. Ohmic testing is only applicable to VRLA type batteries which is clarified in the task list.

Appropriate charging language has been added to the tasks, providing clear direction to the user on the requirements without changing the technical contents of the table.

Response Message: SR-19-NFPA 70B-2025

[Public Comment No. 39-NFPA 70B-2025 \[Section No. 36.3.5\]](#)

Ballot Results

✔ This item has passed ballot

27 Eligible Voters

3 Not Returned

24 Affirmative All

0 Affirmative with Comments

0 Negative with Comments

0 Abstention

Not Returned

Cunningham, Karl M.

Horne, Mark C.

Sepulveda, Nathaniel ?Neil?

Affirmative All

Abdelmoumene, Abdelkader

Bishop, Thomas H.

Brady, Scott

Buettner, Daren

Cantor, William P.

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Dobrowsky, Paul

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Huffman, David

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Moshiri, Ahmad A.

Neary, Robert

Northcott, Thomas Warren

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Taylor, Kiley

Tholen, Trent Dean

Valdes, Marcelo E.

West, Rodney J.

Widup, Ron



Second Revision No. 29-NFPA 70B-2025 [Section No. 39.1]

39.1 Scope.

This chapter identifies maintenance requirements for the following: enclosed automatic transfer switches, bypass-isolation switches, and other transfer switch equipment.

~~Enclosed automatic transfer switches, bypass-isolation switches, and other transfer switch equipment rated 1000 volts or less~~

~~Enclosed automatic transfer switches, bypass-isolation switches, and other transfer switch equipment rated over 1000 volts~~

39.1.4

Supplemental Information

<u>File Name</u>	<u>Description</u>	<u>Approved</u>
70B_SR-29_39.1.docx		

Submitter Information Verification

Committee: EEM-AAA

Submittal Date: Wed Mar 19 15:09:19 EDT 2025

Committee Statement

Committee Statement: The subsection numbering is editorially removed for consistency with the numbering in other chapters. There are no changes to the technical provisions.
Response Message: SR-29-NFPA 70B-2025

Ballot Results

✔ This item has passed ballot

27 Eligible Voters

3 Not Returned

24 Affirmative All

0 Affirmative with Comments

0 Negative with Comments

0 Abstention

Not Returned

Cunningham, Karl M.

Horne, Mark C.

Sepulveda, Nathaniel ?Neil?

Affirmative All

Abdelmoumene, Abdelkader

Bishop, Thomas H.

Brady, Scott

Buettner, Daren
Cantor, William P.
Corbett, Adria
Dobrowsky, Paul
Dollar, Randy
Foland, Chris
Grimes, Ryan
Hall, Jeffrey
Hickman, Palmer L.
Huffman, David
Hunter, Christel K.
Moshiri, Ahmad A.
Neary, Robert
Northcott, Thomas Warren
Roettgers, Rob D.
Sullivan, Paul B.
Taylor, Kiley
Tholen, Trent Dean
Valdes, Marcelo E.
West, Rodney J.
Widup, Ron



Second Revision No. 20-NFPA 70B-2025 [Section No. A.9.1.1.3]

A.9.1.1.3

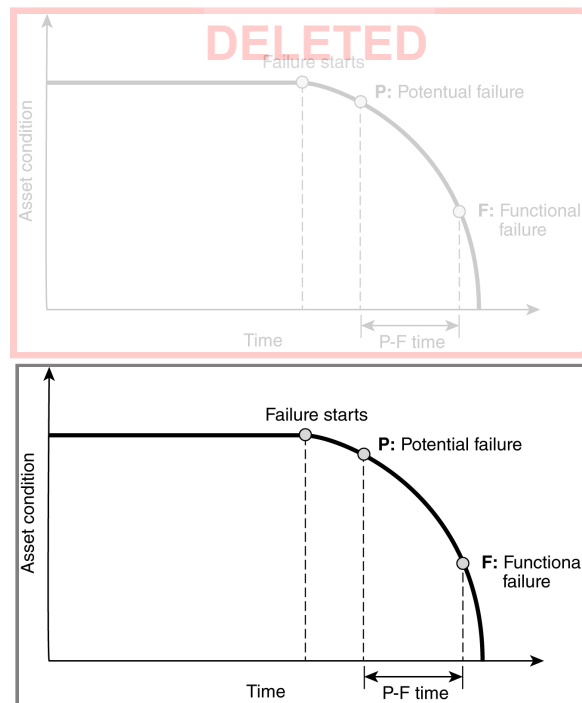
A P-F curve (see Figure A.9.1.1.3) is a graph that shows the health of equipment over time to identify the interval between potential failure and functional failure.

Potential failure indicates the detectable point at which equipment is starting to deteriorate and fail.

Functional failure is the point at which equipment has reached its useful limit and is no longer operational.

Even though these failure points might take a very long time to occur, the P-F curve characterizes the behavior of failure and the time between the two points. The time between the two points is the P-F interval. To prevent a failure, the applicable time-based preventive maintenance interval needs to be half of the P-F interval or less. This method also allows for the maximum usage that can be gained from the equipment.

Figure A.9.1.1.3 P-F Curve.



Supplemental Information

<u>File Name</u>	<u>Description</u>	<u>Approved</u>
SR_20_attachment_Figure_A.9.1.1.3.docx	SR 20 attachment Figure A.9.1.1.3	

Submitter Information Verification

Committee: EEM-AAA
Submittal Date: Wed Mar 19 14:39:23 EDT 2025

Committee Statement

Committee Statement: Potential is spelled as "Potentual" in the diagram and is corrected.

Response Message: SR-20-NFPA 70B-2025

Public Comment No. 33-NFPA 70B-2025 [Section No. A.9.1.1.3]

Ballot Results

✔ This item has passed ballot

27 Eligible Voters

3 Not Returned

24 Affirmative All

0 Affirmative with Comments

0 Negative with Comments

0 Abstention

Not Returned

Cunningham, Karl M.

Horne, Mark C.

Sepulveda, Nathaniel ?Neil?

Affirmative All

Abdelmoumene, Abdelkader

Bishop, Thomas H.

Brady, Scott

Buettner, Daren

Cantor, William P.

Corbett, Adria

Dobrowsky, Paul

Dollar, Randy

Foland, Chris

Grimes, Ryan

Hall, Jeffrey

Hickman, Palmer L.

Huffman, David

Hunter, Christel K.

Moshiri, Ahmad A.

Neary, Robert

Northcott, Thomas Warren

Roettgers, Rob D.

Sullivan, Paul B.

Taylor, Kiley

Tholen, Trent Dean

Valdes, Marcelo E.

West, Rodney J.

Widup, Ron



Second Revision No. 33-NFPA 70B-2025 [Section No. H.1 [Excluding any Sub-Sections]

]

Preferably, all types of electrical equipment should be stored in a clean, climate-controlled facility affording good physical protection and providing controlled access to prevent unauthorized tampering with the equipment. However, equipment can be stored in other inside and outside environments with proper provisions to satisfy the general recommendations of this section and the requirements specified in the particular equipment sections. The manufacturer's instructions for the specific equipment and environment should be followed.

Submitter Information Verification

Committee: EEM-AAA

Submittal Date: Wed Mar 19 15:19:00 EDT 2025

Committee Statement

Committee Statement: A phrase is editorially removed from the introduction of this informative annex to improve clarity and remove ambiguity.

Response Message: SR-33-NFPA 70B-2025

Ballot Results

✔ This item has passed ballot

27 Eligible Voters

3 Not Returned

23 Affirmative All

0 Affirmative with Comments

1 Negative with Comments

0 Abstention

Not Returned

Cunningham, Karl M.

Horne, Mark C.

Sepulveda, Nathaniel ?Neil?

Affirmative All

Abdelmoumene, Abdelkader

Bishop, Thomas H.

Brady, Scott

Buettner, Daren

Cantor, William P.

Corbett, Adria

Dobrowsky, Paul

Dollar, Randy

Foland, Chris

Grimes, Ryan
Hall, Jeffrey
Huffman, David
Hunter, Christel K.
Moshiri, Ahmad A.
Neary, Robert
Northcott, Thomas Warren
Roettgers, Rob D.
Sullivan, Paul B.
Taylor, Kiley
Tholen, Trent Dean
Valdes, Marcelo E.
West, Rodney J.
Widup, Ron

Negative with Comment

Hickman, Palmer L.

It is recommended that the Correlating Committee review and determine whether the word "proper" is in compliance with the NFPA Manual of Style. While the NEC Style manual allows for such a term to be reviewed in context, style for this standard does not.



Second Revision No. 35-NFPA 70B-2025 [Section No. M.1.1]

M.1.1 NFPA Publications.

National Fire Protection Association, 1 Batterymarch Park, Quincy, MA 02169-7471.

NFPA 70[®], National Electrical Code[®], 2023 2026 edition.

NFPA 70E[®], Standard for Electrical Safety in the Workplace[®], 2024 edition.

NFPA 110, Standard for Emergency and Standby Power Systems, 2025 edition.

NFPA 111, Standard on Stored Electrical Energy Emergency and Standby Power Systems, 2025 edition.

NFPA 496, Standard for Purged and Pressurized Enclosures for Electrical Equipment, 2024 edition.

NFPA 780, Standard for the Installation of Lightning Protection Systems, 2026 edition.

NFPA 791, Recommended Practice and Procedures for Unlabeled Electrical Equipment Evaluation, 2024 edition.

Submitter Information Verification

Committee: EEM-AAA

Submission Date: Wed Mar 19 15:21:03 EDT 2025

Committee Statement

Committee Statement: All annex references used in NFPA 70B refer to the 2026 edition of NFPA 70, National Electrical Code

Response Message: SR-35-NFPA 70B-2025

Ballot Results

✓ **This item has passed ballot**

27 Eligible Voters

3 Not Returned

23 Affirmative All

0 Affirmative with Comments

1 Negative with Comments

0 Abstention

Not Returned

Cunningham, Karl M.

Horne, Mark C.

Sepulveda, Nathaniel ?Neil?

Affirmative All

Abdelmoumene, Abdelkader

Bishop, Thomas H.

Brady, Scott

Buettner, Daren

Cantor, William P.
Corbett, Adria
Dobrowsky, Paul
Dollar, Randy
Foland, Chris
Grimes, Ryan
Hall, Jeffrey
Huffman, David
Hunter, Christel K.
Moshiri, Ahmad A.
Neary, Robert
Northcott, Thomas Warren
Roettgers, Rob D.
Sullivan, Paul B.
Taylor, Kiley
Tholen, Trent Dean
Valdes, Marcelo E.
West, Rodney J.
Widup, Ron

Negative with Comment

Hickman, Palmer L.

The Correlating Committee should review this action relative to whether an edition of an NFPA standard that has not yet become effective can be referenced. - in this case "2026" rather than the 2023 edition.



Second Revision No. 21-NFPA 70B-2025 [Section No. M.1.2.6]

M.1.2.7 NEMA Publications.

National Electrical Manufacturers Association, ~~4300 North 17th~~ 1812 N. Moore Street, Suite ~~900~~ 2200 , Arlington, VA 22209.

NEMA AB-4, *Guidelines for Inspection and Preventive Maintenance of Molded-Case Circuit Breakers Used in Commercial and Industrial Applications*, 2023.

NEMA BU1.1, *General Instructions for Handling, Installation, Operation and Maintenance of Busway Rated 600 V or Less*, 2010.

ANSI/NEMA C84.1, *American National Standard for Electric Power Systems and Equipment — Voltage Ratings (60 Hz)*, 2020.

NEMA GD 1, *Evaluating Water-Damaged Electrical Equipment*, 2019.

NEMA GD 2, *Evaluating Fire- and Heat-Damaged Electrical Equipment*, 2016.

NEMA ICS 2.3, *Instructions for the Handling, Installation, Operation and Maintenance of Motor Control Centers Rated Not More Than 600 V*, 2019.

NEMA KS-3, *Guidelines for Inspection and Preventive Maintenance of Switches Used in Commercial and Industrial Applications*, 2023.

ANSI/NEMA WD 6, *Wiring Devices — Dimensional Specifications*, 2021.

NEMA CY 70001 , *Cybersecurity Implementation Guidance for Connected Electrical Infrastructure* , 2023.

Submitter Information Verification

Committee: EEM-AAA

Submittal Date: Wed Mar 19 14:44:12 EDT 2025

Committee Statement

Committee Statement: The NEMA address has been corrected and a document referenced in the annex has been added.

Response Message: SR-21-NFPA 70B-2025 Publication NEMA BS 31050-2010 (R2024) is not referenced in NFPA 70B.

Public Comment No. 11-NFPA 70B-2025 [Section No. M.1.2.6]

Ballot Results

✔ This item has passed ballot

27 Eligible Voters

3 Not Returned

24 Affirmative All

0 Affirmative with Comments

0 Negative with Comments

0 Abstention

Not Returned

Cunningham, Karl M.

Horne, Mark C.

Sepulveda, Nathaniel ?Neil?

Affirmative All

Abdelmoumene, Abdelkader

Bishop, Thomas H.

Brady, Scott

Buettner, Daren

Cantor, William P.

Corbett, Adria

Dobrowsky, Paul

Dollar, Randy

Foland, Chris

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Hall, Jeffrey

Hickman, Palmer L.

Huffman, David

Hunter, Christel K.

Moshiri, Ahmad A.

Neary, Robert

Northcott, Thomas Warren

Roettgers, Rob D.

Sullivan, Paul B.

Taylor, Kiley

Tholen, Trent Dean

Valdes, Marcelo E.

West, Rodney J.

Widup, Ron



Second Revision No. 37-NFPA 70B-2025 [New Section after M.1.2.10]

M.1.2.6 ISA Publications.

International Society of Automation, P.O. Box 12277, Research Triangle Park, NC 27709.

ANSI/ISA 62443-3-2, *Security for Industrial Automation and Control Systems — Part 3-2: Security Risk Assessment for System Design*, 2020.

Submitter Information Verification

Committee: EEM-AAA

Submittal Date: Thu Mar 20 10:16:48 EDT 2025

Committee Statement

Committee Statement: A document referenced in the annex has been added.

Response Message: SR-37-NFPA 70B-2025

Ballot Results

✔ This item has passed ballot

27 Eligible Voters

3 Not Returned

24 Affirmative All

0 Affirmative with Comments

0 Negative with Comments

0 Abstention

Not Returned

Cunningham, Karl M.

Horne, Mark C.

Sepulveda, Nathaniel ?Neil?

Affirmative All

Abdelmoumene, Abdelkader

Bishop, Thomas H.

Brady, Scott

Buettner, Daren

Cantor, William P.

Corbett, Adria

Dobrowsky, Paul

Dollar, Randy

Foland, Chris

Grimes, Ryan

Hall, Jeffrey

Hickman, Palmer L.
Huffman, David
Hunter, Christel K.
Moshiri, Ahmad A.
Neary, Robert
Northcott, Thomas Warren
Roettgers, Rob D.
Sullivan, Paul B.
Taylor, Kiley
Tholen, Trent Dean
Valdes, Marcelo E.
West, Rodney J.
Widup, Ron



Second Revision No. 38-NFPA 70B-2025 [New Section after M.1.2.10]

M.1.2.9 NIST Publications.

National Institute of Standards and Technology, 100 Bureau Drive, Gaithersburg, MD 20899.

NIST SP 800-82r3, *Guide to Operational Technology (OT) Security* , September 2023.

Submitter Information Verification

Committee: EEM-AAA

Submittal Date: Thu Mar 20 10:17:56 EDT 2025

Committee Statement

Committee Statement: A document referenced in the annex has been added.

Response Message: SR-38-NFPA 70B-2025

Ballot Results

✓ **This item has passed ballot**

27 Eligible Voters

3 Not Returned

24 Affirmative All

0 Affirmative with Comments

0 Negative with Comments

0 Abstention

Not Returned

Cunningham, Karl M.

Horne, Mark C.

Sepulveda, Nathaniel ?Neil?

Affirmative All

Abdelmoumene, Abdelkader

Bishop, Thomas H.

Brady, Scott

Buettner, Daren

Cantor, William P.

Corbett, Adria

Dobrowsky, Paul

Dollar, Randy

Foland, Chris

Grimes, Ryan

Hall, Jeffrey

Hickman, Palmer L.

Huffman, David
Hunter, Christel K.
Moshiri, Ahmad A.
Neary, Robert
Northcott, Thomas Warren
Roettgers, Rob D.
Sullivan, Paul B.
Taylor, Kiley
Tholen, Trent Dean
Valdes, Marcelo E.
West, Rodney J.
Widup, Ron



Second Revision No. 34-NFPA 70B-2025 [Section No. M.3]

M.3 References for Extracts in Informational Sections.

NFPA 70[®], National Electrical Code[®], 2020 2026 edition.

~~NFPA 70[®], National Electrical Code[®], 2023 edition.~~

NFPA 855, Standard for the Installation of Stationary Energy Storage Systems, 2026 edition.

Submitter Information Verification

Committee: EEM-AAA

Submittal Date: Wed Mar 19 15:20:13 EDT 2025

Committee Statement

Committee Statement: All extracted material used in NFPA 70B refers to the 2026 edition of NFPA 70, National Electrical Code. The reference to the 2020 edition of NFPA 70, National Electrical Code is not necessary and has been removed.

Response Message: SR-34-NFPA 70B-2025

Ballot Results

✔ This item has passed ballot

27 Eligible Voters

3 Not Returned

23 Affirmative All

0 Affirmative with Comments

1 Negative with Comments

0 Abstention

Not Returned

Cunningham, Karl M.

Horne, Mark C.

Sepulveda, Nathaniel ?Neil?

Affirmative All

Abdelmoumene, Abdelkader

Bishop, Thomas H.

Brady, Scott

Buettner, Daren

Cantor, William P.

Corbett, Adria

Dobrowsky, Paul

Dollar, Randy

Foland, Chris

Grimes, Ryan
Hall, Jeffrey
Huffman, David
Hunter, Christel K.
Moshiri, Ahmad A.
Neary, Robert
Northcott, Thomas Warren
Roettgers, Rob D.
Sullivan, Paul B.
Taylor, Kiley
Tholen, Trent Dean
Valdes, Marcelo E.
West, Rodney J.
Widup, Ron

Negative with Comment

Hickman, Palmer L.

The Correlating Committee should review this action relative to whether an edition of an NFPA standard that has not yet become effective can be referenced. - in this case "2026" rather than the 2023 edition.