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M E M O R A N D U M

TO: Technical Committee on Electrical Systems

FROM: Elena Carroll, *Project Administrator*

DATE: November 20, 2018

SUBJECT: NFPA 99 First Draft Technical Committee FINAL Ballot Results (A2020)

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

29 **Members Eligible to Vote**
3 **Members Not Returned** *(Fiske, Meade, Sappington)*

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 $^{2}/_{3}$ of ballots returned. See Sections 3.3.4.3.(c) and 4.3.10.1 of the ***Regulations Governing the Development of NFPA Standards***.

First Revision No. 1100-NFPA 99-2018 [Global Input]

In Sections 6.7.5.3, 6.7.6.1, 6.7.6.2, 6.7.6.4 remove the parenthetical reference to Type 1 or Type 2 where used in the section title.

Submitter Information Verification

Committee: HEA-ELS
Submittal Date: Fri Aug 10 12:54:44 EDT 2018

Committee Statement

Committee Statement: Editorially revised for consistency.
Response Message: FR-1100-NFPA 99-2018

Ballot Results

✔ **This item has passed ballot**

29 Eligible Voters
3 Not Returned
25 Affirmative All
1 Affirmative with Comments
0 Negative with Comments
0 Abstention

Not Returned

Fiske, William T.
Meade, James E.
Sappington, Steve R.

Affirmative All

Beckstrand, Gary A.
Chandler, H. David
Chilton, Nancy W.
Chisholm, Sr., Dan
Cowles, Charles
D'Antona, Jason
Dagenais, David A.
Daugherty, Herbert H.
Day, Richard L.
Finen, Chris M.
Gwynn, Pamela
Krupa, Gary J.

McKinch, Terrance L.

Parrish, Thomas J.

Peterson, John W.

Rabel, Don

Rea, Vincent M.

Riechers, Keith

Romano, Christopher M.

Smidt, Ronald M.

Vann, Joshua

Vernon, IV, Walter N.

Walker, Kent

White, Leonard W.

Wolff, Robert

Affirmative with Comment

Rock, Brian E.

The Sections identified in the First Revision FR-1100 as "6.7.5.3, 6.7.6.1, 6.7.6.2, 6.7.6.4" should be indicated as 6.7.6.3, 6.7.7.1, 6.7.7.2, and 6.7.7.4, respectively, as displayed in TerraView.

First Revision No. 1105-NFPA 99-2018 [Detail]

Add a new section 6.7.1 immediately following the 6.7 title. Renumber everthing that follows.

6.7.1
Where required by Sections 6.4 , 6.5 , and 6.6 , an essential electrical system (EES) shall be supplied by a source, including an emergency power supply (EPS), an emergency power supply system (EPSS), and all related distribution equipment to the EES load.

Submitter Information Verification

Committee: HEA-ELS
Submittal Date: Fri Aug 10 18:52:03 EDT 2018

Committee Statement

Committee Statement: This addition clarifies the relationship between the essential electrical system (EES), defined in NFPA 99, and emergency power supply (EPS) and emergency power supply system (EPSS) as defined in NFPA 110.
Response Message: FR-1105-NFPA 99-2018

Ballot Results

✔ **This item has passed ballot**

29 Eligible Voters
3 Not Returned
23 Affirmative All
1 Affirmative with Comments
2 Negative with Comments
0 Abstention

Not Returned
Fiske, William T.
Meade, James E.
Sappington, Steve R.

Affirmative All
Beckstrand, Gary A.
Chandler, H. David
Chilton, Nancy W.
Chisholm, Sr., Dan
Cowles, Charles
D'Antona, Jason
Daugherty, Herbert H.
Day, Richard L.

Finen, Chris M.

Gwynn, Pamela

Krupa, Gary J.

McKinch, Terrance L.

Parrish, Thomas J.

Peterson, John W.

Rabel, Don

Rea, Vincent M.

Riechers, Keith

Romano, Christopher M.

Vann, Joshua

Vernon, IV, Walter N.

Walker, Kent

White, Leonard W.

Wolff, Robert

Affirmative with Comment

Rock, Brian E.

• In accordance with 1.8.3.2 of the Manual of Style for NFPA Technical Committee Documents, because all other Subsections of this Section have titles, for consistency this Subsection should have a title as well, such as "Emergency Power Supply (EPS) and Emergency Power Supply System (EPSS)". . • This addition of an organizing title might in part address the AHJ confusion concern raised by Mr. Smidt's ballot comment.

Negative with Comment

Dagenais, David A.

This implies that the EES should be made up of 3 parts that will be confusing for the AHJ

Smidt, Ronald M.

This paragraph seems to say that you're essential electrical systems must be made up by at least three distinct parts – the source, the emergency power supply (EPS) and the emergency power supply system (EPSS) which I think will be confusing to AHJ's looking for these distinct parts of the essential electrical system. Although those are all covered by the EES, they are rarely distinct systems within the EES

First Revision No. 1093-NFPA 99-2018 [New Section after 3.3.45]

3.3.46 Electrical Preventive Maintenance (EPM).

A managed program of inspecting, testing, analyzing, and servicing electrical systems and equipment with the purpose of maintaining safe operations and production by reducing or eliminating system interruptions and equipment breakdowns. [**70B,** 2016] (ELS)

Submitter Information Verification

Committee: HEA-ELS
Submittal Date: Fri Aug 10 09:38:13 EDT 2018

Committee Statement

Committee Statement: Electrical Preventive Maintenance is mentioned extensively in Chapter Six, and should be a defined term in NFPA 99.
Response Message: FR-1093-NFPA 99-2018

Public Input No. 359-NFPA 99-2018 [New Section after 3.3]

Ballot Results

✔ **This item has passed ballot**

29 Eligible Voters
3 Not Returned
25 Affirmative All
1 Affirmative with Comments
0 Negative with Comments
0 Abstention

Not Returned
Fiske, William T.
Meade, James E.
Sappington, Steve R.

Affirmative All
Beckstrand, Gary A.
Chandler, H. David
Chilton, Nancy W.
Chisholm, Sr., Dan
Cowles, Charles
D'Antona, Jason
Dagenais, David A.
Daugherty, Herbert H.
Day, Richard L.

Finen, Chris M.

Gwynn, Pamela

Krupa, Gary J.

McKinch, Terrance L.

Parrish, Thomas J.

Peterson, John W.

Rabel, Don

Rea, Vincent M.

Riechers, Keith

Romano, Christopher M.

Smidt, Ronald M.

Vann, Joshua

Vernon, IV, Walter N.

Walker, Kent

White, Leonard W.

Wolff, Robert

Affirmative with Comment

Rock, Brian E.

Correlation Note 1: The defined term is "Electrical Preventive Maintenance", consistent with the extraction from NFPA 70B, 3.3.22. The term used in A.6.8.1, throughout 6.9, and in A.6.9.1.1, however, is "Electrical Preventative Maintenance". See FR-1091. While "preventive" and "preventative" have identical meanings, the NFPA 70B extract is predicated upon "preventive", and that word "preventive" should be used consistently throughout NFPA 99 in relation to "Electrical Preventive Maintenance". Correlation Note 2: Further correlating revision are needed as follows: • in 1.1.4.2, list item (1), revise "equipment" to "electrical systems and components thereof" to avoid confusion with electrical equipment addressed in 1.1.8. • in 1.1.4.2, insert between existing list items (1) and (2) a NEW list item (2):"(2) Specific requirements for maintenance of electrical systems and components thereof are covered in NFPA 70B, NFPA 110, NFPA 111, NEMA ICS 2.3, and ANSI/NEMA PB 1.1." • in 1.1.4.2, renumber existing list items (2) through (5) as list items (3) through (6). Correlation Note 3: • in 2.2, insert NEW entry for "NFPA 70B, Recommended Practice for Electrical Equipment Maintenance, 2016 edition." • in 2.3, insert NEW entry as: "2.3.14 NEMA Publications. National Electrical Manufacturers Association, 1300 N 17th Street, Arlington VA 22209. "NEMA Standards Publication ANSI/NEMA PB 1.1, General Instructions for Proper Installation, Operation and Maintenance of Panelboards Rated 600 V or Less, 2013. "NEMA Standards Publication NEMA ICS 2.3, Instructions for the Handling, Installation, Operation and Maintenance of Motor Control Centers Rated Not More Than 600 V, 1995, reaffirmed 2008."

First Revision No. 1099-NFPA 99-2018 [Section No. 6.3.2.2.1]

6.3.2.2.1* Types of Receptacles.

A.6.3.2.2.1

It is best, if possible, to employ only one type of receptacle (i.e., standard three-prong type) for as many receptacles being served by the same line voltage to avoid the inability to connect life-support equipment in emergencies. The straight-blade, three-prong receptacle is now permitted in all locations in a hospital. Previously, special receptacles were specified in operating room locations and ~~have~~ caused compatibility problems.

Hospital grade requirements are in addition to the basic construction and performance requirements for general-purpose receptacles. These requirements enhance the safety of patients who might be more susceptible to stray currents, evaluate the integrity of the receptacle's grounding path where subjected to the conditions encountered in health care facilities, and apply to receptacles that are non-locking-type, 125-volt, 15- or 20-ampere grounding receptacles of NEMA configurations 5-15R, 5-20R, 5-20RA, 6-15R, 6-20R, and 6-20RA. For the evaluation requirements of hospital-grade receptacles, see UL 498, *Standard for Attachment Plugs and Receptacles* . For receptacle configuration dimensions, see ANSI/NEMA WD 6, *Wiring Devices — Dimensional Requirements* .

(A)

Each receptacle shall provide at least one separate, grounding terminal capable of maintaining low-contact resistance with its mating plug, despite severe electrical and mechanical use of the receptacle. The grounding terminal of each receptacle shall be connected to the reference grounding point by means of an insulated copper equipment grounding conductor.

(B)

Special receptacles, such as the following, shall be permitted:

(1) Four-pole units providing an extra pole for redundant grounding or ground continuity monitoring

(2) Locking-type receptacles

(C)

All non-locking-type, 125-volt, 15- or 20-ampere single, duplex, or quadruplex type receptacles, or any combination thereof, located in operating rooms and at patient bed locations in Category 1 and Category 2 spaces shall be listed and identified as " hospital grade."

(D)

Receptacles that are located within patient rooms, bathrooms, playrooms, and activity rooms of pediatric units or spaces with similar risk as determined by the health care facility's governing body by conducting a risk assessment, other than infant nurseries, shall be listed and identified as "tamper resistant" or shall employ a listed tamper-resistant cover.

Submitter Information Verification

Committee: HEA-ELS

Submittal Date: Fri Aug 10 12:16:36 EDT 2018

Committee Statement

Committee Statement: Category 2 spaces, by definition, have risks to patients which warrant the use of hospital grade receptacles.

Response Message: FR-1099-NFPA 99-2018

Ballot Results

This item has passed ballot

29 Eligible Voters
3 Not Returned
23 Affirmative All
1 Affirmative with Comments
2 Negative with Comments
0 Abstention

Not Returned

Fiske, William T.

Meade, James E.

Sappington, Steve R.

Affirmative All

Beckstrand, Gary A.

Chandler, H. David

Chilton, Nancy W.

Chisholm, Sr., Dan

Cowles, Charles

D'Antona, Jason

Daugherty, Herbert H.

Day, Richard L.

Finen, Chris M.

Gwynn, Pamela

Krupa, Gary J.

McKinch, Terrance L.

Parrish, Thomas J.

Peterson, John W.

Rabel, Don

Rea, Vincent M.

Riechers, Keith

Romano, Christopher M.

Vann, Joshua

Vernon, IV, Walter N.

Walker, Kent

White, Leonard W.

Wolff, Robert

Affirmative with Comment

Rock, Brian E.

• With the 2018 edition of NFPA 99®, Chapter 6 was reorganized extensively from the 2015 edition. . • 2015 edition of NFPA 99®, Section 6.3.2.2.6.2, "Minimum NUMBERS of Receptacles", in its Subsections (A) [Category 2 patient bed locations] and (B) [Category 1 patient bed locations] and (C) [Operating Rooms] segregated the differing QUANTITIES but also EACH repeated the same TYPE [Hospital Grade] requirement for such receptacles. . • For the 2018 edition, the common TYPE specification was separated from the QUANTITY

specifications to improve readability and avoid confusion. In relocating the Hospital Grade TYPE specification to the post-reorganized 6.3.2.2.1(C) TYPE requirement common to BOTH Category 2 AND Category 1 patient bed locations, First Revision FR-9 HEA-ELS Committee Statement explicitly noted that "Many of the requirements of 6.3.2.2.6.2 relate to TYPES of receptacles rather than MINIMUM NUMBERS. This revision also removes redundant language from the final sentence of 6.3.2.2.6.2(A) for Category 1 spaces and RELOCATES THE SIMILAR REQUIREMENT FROM CATEGORY 2 SPACES AND OPERATING ROOMS in the final sentences of 6.3.2.2.6.2(B) and (C). References to receptacles being LISTED AS “HOSPITAL GRADE” in those sections HAVE BEEN RELOCATED for clarity to the code users." This Committee Statement was balloted AFFIRMATIVE by all Members, save one NEGATIVE related to tamper-resistant. . • Since at least as early as the 1990 edition of NFPA 70/NEC®, nonlocking-type, 15- and 20-ampere, 125-volt receptacles at patient bed locations in BOTH General Care (now known as Category 2) AND Critical Care (now known as Category 1) have been mandated to be listed and identified as Hospital Grade. . • Since as at least as early as the 2002 edition of NFPA 99® [ref 4.3.2.2.7.1] has mandated that nonlocking-type, 15- and 20-ampere, 125-volt receptacles at patient bed locations in BOTH General Care (now known as Category 2) AND Critical Care (now known as Category 1) have been mandated to "provide at least one separate, highly dependable grounding pole capable of maintaining low-contact resistance with its mating plug despite electrical and mechanical abuse"; the only TYPE of receptacle to be so certified are those listed and identified as Hospital Grade.

Negative with Comment

Dagenais, David A.

It is unnecessary to require hospital grade receptacles in category space, the type of care that is provided in category space would not provide a clear electrical path to the patent.

Smidt, Ronald M.

There is no necessary reason to require Category 2 spaces and systems to require hospital grade receptacles. The nature of category 2 (minor injury) identifies that there is no hazard where a hospital grade receptacle would be necessary. The integrity of the ground is necessary only where you have a direct pathway to the heart. Patients laying in a category 2 bed are normal every day patients, not hooked to heart monitors and not on life support. The primary reason to use a hospital-grade receptacle at a patient bed location is to ensure that a receptacle with a greater contact tension is provided to minimize possibilities that an attachment plug supplying medical or life support equipment may be disconnected because the attachment plug slipped out of the receptacle. In non-category 1 spaces this isn’t as critical. Hospitals should be able to voluntary decide to take advantage of the integrity, strength and durability of hospital grade plugs. The committee shouldn’t make this change without any justification such as a study that shows what the potential hazards are to non-critical patients.

First Revision No. 1050-NFPA 99-2018 [Sections 6.3.2.2.2(A), 6.3.2.2.2(B)]

(A) Receptacles Serving Patient Bed Locations in Category 2 Spaces.

Each patient bed location shall be provided with a minimum of eight non-locking-type, 125-volt, 15- or 20-ampere receptacles, at least four of which shall be connected to either the normal branch circuit or a critical branch circuit supplied by a different transfer switch other than the receptacles at the same location . They shall be permitted to be of the single, duplex, or quadruplex type, or any combination of the three. Other receptacles (e.g., portable X-ray receptacles) serving special-purpose, cord-and-plug-connected equipment shall be permitted to be of the locking or non-locking-type.

(B) Receptacles Serving Patient Bed Locations in Category 1 Spaces Other than Operating Rooms.

Each patient bed location shall be provided with a minimum of 14 non-locking-type, 125-volt, 15- or 20-ampere receptacles, at least seven of which shall be connected to either the normal branch circuit or a critical branch circuit supplied by a different transfer switch other than the receptacles at the same location . They shall be permitted to be of the single, duplex, or quadruplex type, or any combination of the three. Other receptacles (e.g., portable X-ray receptacles) serving special-purpose, cord-and-plug-connected equipment shall be permitted to be of the locking or non-locking-type.

Submitter Information Verification

Committee: HEA-ELS
Submittal Date: Thu Aug 09 12:21:19 EDT 2018

Committee Statement

Committee Statement: This addition clarifies that at least half of the minimum number of receptacles in Category 1 and 2 spaces must be fed from a different power source. A parallel requirement already exists for operating rooms and should be extended to these spaces.

Response Message: FR-1050-NFPA 99-2018

Public Input No. 389-NFPA 99-2018 [Sections 6.3.2.2.2(A), 6.3.2.2.2(B)]

Ballot Results

✔ **This item has passed ballot**

29 Eligible Voters
3 Not Returned
23 Affirmative All
1 Affirmative with Comments
2 Negative with Comments
0 Abstention

Not Returned

Fiske, William T.

Meade, James E.

Sappington, Steve R.

Affirmative All

Beckstrand, Gary A.

Chandler, H. David

Chilton, Nancy W.

Chisholm, Sr., Dan

Cowles, Charles

D'Antona, Jason

Daugherty, Herbert H.

Day, Richard L.

Finen, Chris M.

Gwynn, Pamela

Krupa, Gary J.

McKinch, Terrance L.

Parrish, Thomas J.

Peterson, John W.

Rabel, Don

Rea, Vincent M.

Riechers, Keith

Romano, Christopher M.

Vann, Joshua

Vernon, IV, Walter N.

Walker, Kent

White, Leonard W.

Wolff, Robert

Affirmative with Comment

Rock, Brian E.

• Correlation Note 1: In the revised portions of the first sentences of 6.3.2.2.2(A) and 6.3.2.2.2(B) and in the similar, existing portion of the first sentence of 6.3.2.2.2(C), the "other than" reference is not structured clearly or grammatically; gerunds are missing from what should be gerund phrases in each; revise to "... a critical branch circuit supplied by a different transfer switch SERVING other than THOSE receptacles at the same PATIENT BED location" for clarity. . • Correlation Note 2: In the second sentences of both 6.3.2.2.2(A) and 6.3.2.2.2(B), the pronoun "They" is not clearly specific to any preceding noun; revise to "These receptacles" for clarity. Also in these same sentences, revise the less-specific phrase "... or any combination of the three" to "... or any combination thereof" for clarity and for consistent wording with this same phrase used in 6.3.2.2.1(C).

Negative with Comment

Dagenais, David A.

There was no justification for the change

Smidt, Ronald M.

There is no reasonable justification to split the emergency/normal outlets 50/50. Note even in Operating rooms should be based on an analysis of the demand.

First Revision No. 1095-NFPA 99-2018 [Section No. 6.3.2.6]

6.3.2.6 Battery-Powered Lighting Units.

6.3.2.6.1

One or more battery-powered lighting units shall be provided within locations where deep sedation and general anesthesia is administered.

6.3.2.6.2

The lighting level of each unit shall be sufficient to terminate procedures intended to be performed within the operating room.

6.3.2.6.3

The sensor for units shall be wired to the unswitched portion of branch circuit(s) serving general lighting within the room.

6.3.2.6.4

The Level 1 or Level 2 EPS equipment location(s) shall be provided with battery-powered emergency lighting. This requirement shall not apply to units located outdoors in enclosures that do not include walk-in access. [**110:** 7.3.1]

6.3.2.6.5

The emergency lighting charging system and the normal service room lighting shall be supplied from the load side of the transfer switch. [**110:** 7.3.2]

6.3.2.6.6

The minimum average horizontal illumination provided by normal lighting sources in the separate building or room housing the EPS equipment for Level 1 shall be 32.3 lux (3.0 ft-candles) measured at the floor level, unless otherwise specified by a requirement recognized by the authority having jurisdiction. [**110:** 7.3.3]

6.3.2.6.7

Units shall be capable of providing lighting for 1½ hours.

6.3.2.6.8

Units shall be tested monthly for 30 seconds, and annually for 30 minutes.

Submitter Information Verification

Committee: HEA-ELS

Submittal Date: Fri Aug 10 11:10:25 EDT 2018

Committee Statement

Committee Statement: This revision is one of several that incorporate applicable sections of NFPA 110 into NFPA 99. Battery lighting in Level 1 and Level 2 EPS locations should be incorporated to assure appropriate illumination required for safety in EPS spaces of healthcare facility upon loss of power.

Response Message: FR-1095-NFPA 99-2018

Public Input No. 339-NFPA 99-2018 [New Section after 6.3.2.6.3]

Ballot Results

✔ **This item has passed ballot**

29 Eligible Voters

3 Not Returned
26 Affirmative All
0 Affirmative with Comments
0 Negative with Comments
0 Abstention

Not Returned

Fiske, William T.
Meade, James E.
Sappington, Steve R.

Affirmative All

Beckstrand, Gary A.
Chandler, H. David
Chilton, Nancy W.
Chisholm, Sr., Dan
Cowles, Charles
D'Antona, Jason
Dagenais, David A.
Daugherty, Herbert H.
Day, Richard L.
Finen, Chris M.
Gwynn, Pamela
Krupa, Gary J.
McKinch, Terrance L.
Parrish, Thomas J.
Peterson, John W.
Rabel, Don
Rea, Vincent M.
Riechers, Keith
Rock, Brian E.
Romano, Christopher M.
Smidt, Ronald M.
Vann, Joshua
Vernon, IV, Walter N.
Walker, Kent
White, Leonard W.
Wolff, Robert

First Revision No. 1098-NFPA 99-2018 [Section No. 6.4]

6.4 Category 1 Spaces.

6.4.1

Category 1 spaces shall be served by a Type 1 EES in accordance with 6.7.6 .

6.4.2

Category 1 spaces shall not be served by a Type 2 EES in accordance with 6.7.7 .

6.4.3

Category 1 spaces shall be served by circuits from a critical branch panel(s) served from a single automatic transfer switch and a minimum of one circuit served by the normal power distribution system or by a system originating from a second critical branch automatic transfer switch.

6.4.4

A Type 1 EES serving a Category 1 space shall be permitted to serve Category 2 spaces in the same facility.

Submitter Information Verification

Committee: HEA-ELS
Submittal Date: Fri Aug 10 11:49:48 EDT 2018

Committee Statement

Committee Statement: This revision is meant to clarify what is being referred to as a Type 1 or Type 2 EES by directing the user to the appropriate sections.
Response Message: FR-1098-NFPA 99-2018

Ballot Results

This item has passed ballot

29 Eligible Voters
3 Not Returned
26 Affirmative All
0 Affirmative with Comments
0 Negative with Comments
0 Abstention

Not Returned

Fiske, William T.
Meade, James E.
Sappington, Steve R.

Affirmative All

Beckstrand, Gary A.
Chandler, H. David

Chilton, Nancy W.
Chisholm, Sr., Dan
Cowles, Charles
D'Antona, Jason
Dagenais, David A.
Daugherty, Herbert H.
Day, Richard L.
Finen, Chris M.
Gwynn, Pamela
Krupa, Gary J.
McKinch, Terrance L.
Parrish, Thomas J.
Peterson, John W.
Rabel, Don
Rea, Vincent M.
Riechers, Keith
Rock, Brian E.
Romano, Christopher M.
Smidt, Ronald M.
Vann, Joshua
Vernon, IV, Walter N.
Walker, Kent
White, Leonard W.
Wolff, Robert

First Revision No. 1091-NFPA 99-2018 [New Section after 6.7]

6.8 Site Acceptance Testing.

6.8.1*

Site acceptance testing shall be performed on the electrical system and all electrical components serving Category 1 and Category 2 spaces.

A.6.8.1

The intent of these tests is to assure that all electrical equipment is operational within industry-recognized standards and the manufacturer's tolerances and that equipment is installed and functioning in the system in the manner intended. The tests and inspections should determine suitability for initial and continued reliable operation and provide a baseline for the ongoing electrical preventative maintenance (EPM) program.

6.8.1.1

Acceptance testing is required after initial installation or major renovation prior to the system being placed into service.

6.8.2*

Site acceptance testing procedures shall be in accordance with industry-recognized standards and practices for equipment testing and system commissioning.

A.6.8.2

The intent of this requirement is that the components of the electrical system feeding Category 1 and Category 2 spaces are tested to ensure that the complete system operates in the manner anticipated and continues operating reliably. This requires testing of the individual electrical components of the system, as well as the development of functional performance tests to confirm proper operation of the system as a whole. Examples of industry-recognized standards for the development of site acceptance test procedures include ANSI/NETA ATS, *Standard for Acceptance Testing Specifications for Electrical Power Equipment and Systems* , and Chapter 31 of NFPA 70B .

6.8.3 Site Acceptance Testing Records.

6.8.3.1

A record of all site acceptance testing procedures required in 6.8.1 and testing results shall be maintained.

6.8.3.2

Site acceptance testing records shall be retained for 5 years.

6.8.3.3 Record Medium.

6.8.3.3.1

The records shall be on a medium that will survive the retention period.

6.8.3.3.2

Paper or electronic media shall be permitted.

6.8.3.4 Record Reporting and Archiving.

6.8.3.4.1

The record shall be available for examination and, if required, reported to the authority having jurisdiction.

6.8.3.4.2

Archiving of records by any means shall be permitted if hard copies of the records can be provided promptly when requested.

6.9 Electrical Preventative Maintenance (EPM).

6.9.1 EPM Program.

6.9.1.1*

All electrical components which are part of an electrical system serving a Category 1 and Category 2 space shall be part of an electrical preventative maintenance (EPM) program.

A.6.9.1.1

The purpose of any electrical preventative maintenance (EPM) program is to establish the condition of equipment, determine what work should be done, and verify the equipment will continue to function until the next scheduled servicing occurs. Inspection and testing are best done in conjunction with routine maintenance. In this way, many minor items that require no special tools, training, or equipment can be corrected as they are found. The inspection and testing program is probably the most important function of a maintenance department because it establishes what should be done to keep the system in service performing the function for which it is required.

6.9.1.2

The EPM program shall include the following elements:

(1) Listing of all equipment and systems included as part of the program

(2) Schedule of inspection, testing, and servicing (maintenance) of equipment

(3) Survey and analysis of electrical equipment and systems to determine maintenance requirements and priorities

(4) Scheduled routine inspections and tests

(5) Review of inspection and test reports so that proper corrective measures can be prescribed

(6) Performance of necessary work

(7) Complete records

6.9.2 EPM Records.

6.9.2.1

A record of all testing and maintenance described in 6.9.4 shall be maintained.

6.9.2.2

EPM program inspection, testing, and maintenance records shall be retained for 5 years.

6.9.2.3 EPM Record Medium.

6.9.2.3.1

The records shall be on a medium that will survive the retention period.

6.9.2.3.2

Paper or electronic media shall be permitted.

6.9.2.4 EPM Record Reporting and Archiving.

6.9.2.4.1

The record shall be available for examination and, if required, reported to the authority having jurisdiction.

6.9.2.4.2

Archiving of records by any means shall be permitted if hard copies of the records can be provided promptly when requested.

6.9.3 Corrective Measures.

6.9.3.1* Analysis of Inspection, Test and Maintenance Reports.

Analysis of inspection, testing, and maintenance reports shall be followed by the implementation of appropriate corrective measures.

A.6.9.3.1

Appropriate corrective measures can include, but are not limited to, repair, replacement, and adjustment. Follow-through with necessary repairs, replacement, and adjustment is the end purpose of an effective EPM program.

6.9.3.2

All corrective measures shall be documented in accordance with the requirements of 6.9.2 .

6.9.4 EPM Intervals.

6.9.4.1*

EPM intervals shall be in accordance with Table 6.9.4.1 .

Table 6.9.4.1 Electrical Preventative Maintenance (EPM) Intervals

Item	Inspection Period	Testing Period	Maintenance Period
Medium-voltage switchgear	Every 3 months	Every 3 years	Every 3 years
Power distribution transformers (≥ 750 kVA)	Monthly	Every 3 years	Every 3 years
Generator (alternate source)	*(See 6.7.5.1.)*	*(See 6.7.5.1.)*	*(See 6.7.5.1.)*
Generator paralleling switchgear	Monthly	Annually	Every 3 years
Low-voltage switchgear/switchboards	Every 3 years	Every 3 years	Every 3 years
Overcurrent Protective Devices			
Fuses (≥ 400 A)	Every 3 years	Every 3 years	Every 3 years
Low-voltage power circuit breakers (≥ 400 A)	Every 3 years	Every 3 years	Every 3 years
Low-voltage molded-case circuit breakers (≥ 400 A)	Every 3 years	Every 3 years	Every 3 years
Medium-voltage circuit breakers	Every 3 years	Every 3 years	Every 3 years
Relays (including polyphase ground-fault equipment protection)	Every 3 years	Every 3 years	Every 3 years
Transfer equipment	Monthly	Every 3 years	Every 3 years
Bus duct	Every 3 years	Every 3 years	Every 3 years
Uninterruptible power supplies (≥ 100 kW)	Every 3 months	Every 6 months	Every 6 months
Isolated power panels	*(See 6.3.3.3.3.)*	*(See 6.3.3.3.3.)*	*(See 6.3.3.3.3.)*
Motor control equipment	Annually	Every 3 years	Every 3 years
Branch-circuit panelboards	Annually	Every 3 years	N/A
Wiring devices	*(See 6.3.3.2.)*	*(See 6.3.3.2.)*	*(See 6.3.3.2.)*
Battery-powered lighting units	*(See 6.3.2.6.8.)*	*(See 6.3.2.6.8.)*	*(See 6.3.2.6.8.)*

N/A: not applicable.

A.6.9.4.1

See Table A.6.9.4.1 for sources with recommended maintenance activities.

Table A.6.9.4.1 Recommended Maintenance Activities

Item	References
Medium-voltage switchgear	See Sections 11.10 and 15.5 of NFPA 70B.
Power distribution transformers (≥ 750 kVA)	See 11.11.2, 11.11.8, 21.2.2.2, and 21.3.5 of NFPA 70B.
Generator (alternate source)	See 6.7.4.1 of this code.
Generator paralleling switchgear	See 8.3.5 of NFPA 110.
Overcurrent Protective Devices	
Fuses (≥ 400 A)	See 18.1.2 and 18.2.3 of NFPA 70B.
Low-voltage power circuit breakers (≥ 400 A)	See Sections 11.10 and 15.4 of NFPA 70B.
Low-voltage molded-case circuit breakers (≥ 400 A)	See Sections 17.7 through 17.11 and 11.10.5 of NFPA 70B.
Medium-voltage circuit breakers	See Sections 15.4 through 15.8 of NFPA 70B.
Relays (including polyphase ground-fault equipment protection)	See Section 11.12, 13.3.5, and 15.9.7.3 of NFPA 70B.
Transfer equipment	See 8.3.4 of NFPA 110.
Uninterruptible power supplies (≥ 100 kW)	See NFPA 111.
Isolated power panels	See 6.3.3.3.3 of this code.
Motor control equipment	See NEMA ICS 2.3, *Instructions for the Handling, Installation, Operation and Maintenance of Motor Control Centers Rated Not More than 600 V* .
Branch-circuit panelboards	See ANSI/NEMA PB 1.1, *General Instructions for Proper Installation, Operation and Maintenance of Panelboards Rated 600 V or Less* .
Wiring devices	See 6.3.3.2 of this code.
Battery-powered lighting units	See 6.3.2.6.8 of this code.

6.9.4.2* Alternative Equipment Maintenance (AEM) Program.

A.6.9.4.2

Health care facilities that choose to establish alternate equipment maintenance (AEM) activities and/or schedules must develop, implement, and maintain a documented AEM program to minimize risk to patients and others in the facility associated with the use of electrical utility equipment. Generally, multiple factors must be considered because different types of equipment present different combinations of severity of potential harm and likelihood of failure.

6.9.4.2.1

EPM intervals shall be permitted to be developed as part of an alternative equipment maintenance (AEM) program.

6.9.4.2.2

The AEM shall include the following elements:

(1)* The AEM program shall be based on accepted standards of practice for electrical equipment maintenance.

A.6.9.4.2.2(1) _

Standard examples for physical plant equipment maintenance can be found in the American Society for Healthcare Engineering (ASHE) document, *Maintenance Management for Health Care Facilities* , and in NFPA 70B.

(2) The AEM program requirements (including EPM schedules) shall be clearly documented and available for inspection by the authority having jurisdiction.

(3) The AEM program shall be developed and administered by qualified personnel, regardless of whether they are health care facility employees or contractors.

(4)* The AEM program shall consider the typical health and safety risks associated with the equipment's use, including "critical equipment" for which there exists a risk of serious injury or death to a patient or staff person if the equipment fails.

A.6.9.4.2.2(4) _

An example of "critical equipment" is electrical utility equipment.

Submitter Information Verification

Committee: HEA-ELS

Submittal Date: Fri Aug 10 09:21:47 EDT 2018

Committee Statement

Committee Statement: Electrical systems are critical utilities in health care facilities and need to be inspected, tested, and maintained. Health care facilities are already required to do this work, however there is not necessarily any consistent guidance available as to what constitutes an appropriate program. This revision introduces the prescriptive intervals for these tasks into NFPA 99. It consolidates existing requirements and guidance that were previously scattered in several places so that facilities are able to find a comprehensive list of minimum requirements for such a program. This allows the ITM requirements to be in a publicly reviewed, consensus process where feedback can lead to changes. As part of determining baselines, this revision also include the new 6.8 for site acceptance testing for new systems.

Response Message: FR-1091-NFPA 99-2018

Public Input No. 392-NFPA 99-2018 [New Section after 6.7]

Ballot Results

✔ **This item has passed ballot**

29 Eligible Voters
3 Not Returned
25 Affirmative All
1 Affirmative with Comments
0 Negative with Comments

0 Abstention

Not Returned

Fiske, William T.

Meade, James E.

Sappington, Steve R.

Affirmative All

Beckstrand, Gary A.

Chandler, H. David

Chilton, Nancy W.

Chisholm, Sr., Dan

Cowles, Charles

D'Antona, Jason

Dagenais, David A.

Daugherty, Herbert H.

Day, Richard L.

Finen, Chris M.

Gwynn, Pamela

Krupa, Gary J.

McKinch, Terrance L.

Parrish, Thomas J.

Peterson, John W.

Rabel, Don

Rea, Vincent M.

Riechers, Keith

Romano, Christopher M.

Smidt, Ronald M.

Vann, Joshua

Vernon, IV, Walter N.

Walker, Kent

White, Leonard W.

Wolff, Robert

Affirmative with Comment

Rock, Brian E.

See my Ballot Comment for FR-1093. Correlation Note 1: Revise the term "Electrical Preventative Maintenance" to "Electrical Preventive Maintenance" in A.6.8.1, throughout 6.9, and in A.6.9.1.1 to be consistent with the defined term added at 3.3.46 (ref. FR-1093) and its source material in NFPA 70B. Correlation Note 2: Further correlating revision are needed as follows: • in 1.1.4.2, list item (1), revise "equipment" to "electrical systems and components thereof" to avoid confusion with electrical equipment addressed in 1.1.8. • in 1.1.4.2, insert between existing list items (1) and (2) a NEW list item (2):"(2) Specific requirements for maintenance of electrical systems and components thereof are covered in NFPA 70B, NFPA 110, NFPA 111, NEMA ICS 2.3, and ANSI/NEMA PB 1.1." • in 1.1.4.2, renumber existing list items (2) through (5) as list items (3) through (6). Correlation Note 3: • in 2.2, insert NEW entry for "NFPA 70B, Recommended Practice for Electrical Equipment Maintenance, 2016 edition." • in 2.3, insert NEW entry as: "2.3.14 NEMA Publications. National Electrical Manufacturers Association, 1300 N 17th Street, Arlington VA 22209. "NEMA Standards Publication ANSI/NEMA PB 1.1, General Instructions for Proper Installation, Operation and Maintenance of Panelboards Rated 600 V or Less, 2013. "NEMA Standards

Publication NEMA ICS 2.3, Instructions for the Handling, Installation, Operation and Maintenance of Motor Control Centers Rated Not More Than 600 V, 1995, reaffirmed 2008."

First Revision No. 1092-NFPA 99-2018 [New Section after 6.7]

6.10 Health Care Microgrids. (Reserved)
6.10.1 Applicability. (Reserved)
6.10.2 General Requirements. (Reserved)
6.10.3 Interconnection. (Reserved)
6.10.4 Commissioning. (Reserved)
6.10.5 Inspection, Testing, and Maintenance. (Reserved)

Submitter Information Verification

Committee: HEA-ELS
Submittal Date: Fri Aug 10 09:22:58 EDT 2018

Committee Statement

Committee Statement: This revision is included as a starting point to introduce requirements that would allow microgrids to be used as sources for electrical systems in health care facilities. Public Input 382 introduced very detailed requirements to begin to address this. The technical committee supports this and will develop a task group to review the material of PI 382 further and build out this section using that as a starting point in the Second Draft Stage. See PI 382 for what the committee is considering to include (attached to this revision). The committee would greatly appreciate feedback from interested members of the public.

Response Message: FR-1092-NFPA 99-2018

Public Input No. 382-NFPA 99-2018 [New Section after 6.7.6.4.1]

Ballot Results

✔ **This item has passed ballot**

29 Eligible Voters
3 Not Returned
26 Affirmative All
0 Affirmative with Comments
0 Negative with Comments
0 Abstention

Not Returned

Fiske, William T.
Meade, James E.
Sappington, Steve R.

Affirmative All

Beckstrand, Gary A.
Chandler, H. David
Chilton, Nancy W.

Chisholm, Sr., Dan
Cowles, Charles
D'Antona, Jason
Dagenais, David A.
Daugherty, Herbert H.
Day, Richard L.
Finen, Chris M.
Gwynn, Pamela
Krupa, Gary J.
McKinch, Terrance L.
Parrish, Thomas J.
Peterson, John W.
Rabel, Don
Rea, Vincent M.
Riechers, Keith
Rock, Brian E.
Romano, Christopher M.
Smidt, Ronald M.
Vann, Joshua
Vernon, IV, Walter N.
Walker, Kent
White, Leonard W.
Wolff, Robert

First Revision No. 1106-NFPA 99-2018 [New Section after 6.7]

6.11 Classification of Emergency Power Supply Systems (EPSSs).

6.11.1 General.

The EPSS shall provide a source of electrical power of required capacity, reliability, and quality to loads for a length of time as specified in Table 6.11.1(a) and within a specified time following loss or failure of the normal power supply as specified in Table 6.11.1(b) . [**110:** 4.1]

Table 6.11.1(a) Classification of EPSSs

Class	Minimum Time
Class 0.083	0.083 hr (5 min)
Class 0.25	0.25 hr (15 min)
Class 2	2 hr
Class 6	6 hr
Class 48	48 hr
Class X	Other time, in hours, as required by the application, code, or user

[**110:** Table 4.1(a)]

Table 6.11.1(b) Types of EPSSs

Designation	Power Restoration
Type U	Basically uninterruptible (UPS systems)
Type 10	10 sec
Type 60	60 sec
Type 120	120 sec
Type M	Manual stationary or nonautomatic — no time limit

[**110:** Table 4.1(b)]

6.11.2 Class.

The class defines the minimum time, in hours, for which the EPSS is designed to operate at its rated load without being refueled or recharged. *[See Table 6.11.1(a) .]* [**110:** 4.2]

6.11.3 Type.

The type defines the maximum time, in seconds, that the EPSS will permit the load terminals of the transfer switch to be without acceptable electrical power. Table 6.11.1(b) provides the types defined by this standard. [**110:** 4.3]

6.11.4 Level.

This standard recognizes two levels of equipment installation, performance, and maintenance. [**110:** 4.4]

6.11.4.1

Level 1 systems shall be installed where failure of the equipment to perform could result in loss of human life or serious injuries. [**110:** 4.4.1]

6.11.4.2

Level 2 systems shall be installed where failure of the EPSS to perform is less critical to human life and safety. [**110:** 4.4.2]

6.11.4.3

All equipment shall be permanently installed. [**110:** 4.4.3]

6.11.4.4

Level 1 and Level 2 systems shall ensure that all loads served by the EPSS are supplied with alternate power that meets all the following criteria:

(1) Of a quality within the operating limits of the load

(2) For a duration specified for the class as defined in Table 6.11.1(a)

(3) Within the time specified for the type as defined in Table 6.11.1(b)

[**110:** 4.4.4]

Submitter Information Verification

Committee: HEA-ELS

Submittal Date: Mon Aug 13 07:40:03 EDT 2018

Committee Statement

Committee Statement: NFPA 99 does not define the EPSS classifications. These basic definitions are necessary to quantify the Level, Class and Type of EPSS system in a healthcare facility. The text is extracted directly from Chapter 4 of NFPA 110 for the benefit of users of the code. The committee needs to further review the appropriate location for this material in the second draft stage of development.

Response Message: FR-1106-NFPA 99-2018

Public Input No. 342-NFPA 99-2018 [New Section after 6.7]

Ballot Results

✔ **This item has passed ballot**

29 Eligible Voters
3 Not Returned
26 Affirmative All
0 Affirmative with Comments
0 Negative with Comments
0 Abstention

Not Returned

Fiske, William T.

Meade, James E.

Sappington, Steve R.

Affirmative All

Beckstrand, Gary A.

Chandler, H. David

Chilton, Nancy W.

Chisholm, Sr., Dan

Cowles, Charles

D'Antona, Jason

Dagenais, David A.

Daugherty, Herbert H.

Day, Richard L.

Finen, Chris M.
Gwynn, Pamela
Krupa, Gary J.
McKinch, Terrance L.
Parrish, Thomas J.
Peterson, John W.
Rabel, Don
Rea, Vincent M.
Riechers, Keith
Rock, Brian E.
Romano, Christopher M.
Smidt, Ronald M.
Vann, Joshua
Vernon, IV, Walter N.
Walker, Kent
White, Leonard W.
Wolff, Robert

First Revision No. 1094-NFPA 99-2018 [Section No. 6.7.1.2.4.1]

6.7.2.2.4.1*

Type 1 and Type 2 ~~essential electrical system~~ EES power sources shall be classified as Type 10, Class X, Level 1 generator sets per NFPA 110.

A.6.7.2.2.4.1

A Class X system is intended to give the facility the flexibility to provide the appropriate duration before refueling operations are needed. The hospital should determine the appropriate run time for the EES and size the fuel tanks accordingly. Careful consideration should be given to the potential types of outages anticipated and the availability of fuel. It should be noted that in some situations it might be permissible to size the fuel system to accommodate less than 48 hours of fuel. If life safety systems are included on the EES, other codes and standards might have minimum durations of required operation.

Submitter Information Verification

Committee: HEA-ELS

Submittal Date: Fri Aug 10 09:41:02 EDT 2018

Committee Statement

Committee Statement: The added note is intended to explain why there isn't a set duration required for the EES. In some hospitals and ambulatory surgery centers, the intention is to begin evacuation operations almost immediately if there is an outage (specialty hospitals that do elective surgeries, nearly all ASC's). in some cases they may need only a few hours to complete the evacuation operation.

Response Message: FR-1094-NFPA 99-2018

Public Input No. 374-NFPA 99-2018 [New Section after A.6.7.1.1]

Ballot Results

✔ **This item has passed ballot**

29 Eligible Voters
3 Not Returned
25 Affirmative All
1 Affirmative with Comments
0 Negative with Comments
0 Abstention

Not Returned

Fiske, William T.

Meade, James E.

Sappington, Steve R.

Affirmative All

Beckstrand, Gary A.

Chandler, H. David

Chilton, Nancy W.

Chisholm, Sr., Dan

Cowles, Charles

D'Antona, Jason

Dagenais, David A.

Daugherty, Herbert H.

Day, Richard L.

Finen, Chris M.

Gwynn, Pamela

Krupa, Gary J.

McKinch, Terrance L.

Parrish, Thomas J.

Peterson, John W.

Rabel, Don

Rea, Vincent M.

Riechers, Keith

Romano, Christopher M.

Smidt, Ronald M.

Vann, Joshua

Vernon, IV, Walter N.

Walker, Kent

White, Leonard W.

Wolff, Robert

Affirmative with Comment

Rock, Brian E.

• The Section reference for FR-1094 incorrectly cites nonexistent 6.7.1.2.4.1 instead of the intended 6.7.2.2.4.1 and A.6.7.2.2.4.1.

First Revision No. 1042-NFPA 99-2018 [Section No. 6.7.1.2.5.3]

6.7.2.2.5.3*

Optional loads shall be permitted to be served by the essential electrical system generating equipment. Optional loads shall be served by their own transfer means, such that these loads shall not be transferred onto the generating equipment if the transfer will overload the generating equipment and shall be shed ~~upon~~ prior to a generating equipment overload. Use of the generating equipment to serve optional loads shall not constitute “other purposes” as described in 6.7.2.2.5.1~~6.7.1.2.5.1~~ and, therefore, shall not require multiple generator sets.

Submitter Information Verification

Committee: HEA-ELS

Submittal Date: Thu Aug 09 11:22:45 EDT 2018

Committee Statement

Committee Statement: The language of this section has been revised to identify that the load should shed before the overload.

Response Message: FR-1042-NFPA 99-2018

Public Input No. 344-NFPA 99-2018 [Section No. 6.7.1.2.5.3]

Public Input No. 306-NFPA 99-2018 [Section No. 6.7.1.2.5.3]

Ballot Results

✔ **This item has passed ballot**

29 Eligible Voters
3 Not Returned
25 Affirmative All
1 Affirmative with Comments
0 Negative with Comments
0 Abstention

Not Returned

Fiske, William T.

Meade, James E.

Sappington, Steve R.

Affirmative All

Beckstrand, Gary A.

Chandler, H. David

Chilton, Nancy W.

Chisholm, Sr., Dan

Cowles, Charles

D'Antona, Jason

Dagenais, David A.

Daugherty, Herbert H.

Day, Richard L.

Finen, Chris M.

Gwynn, Pamela

Krupa, Gary J.

McKinch, Terrance L.

Parrish, Thomas J.

Peterson, John W.

Rabel, Don

Rea, Vincent M.

Riechers, Keith

Romano, Christopher M.

Smidt, Ronald M.

Vann, Joshua

Vernon, IV, Walter N.

Walker, Kent

White, Leonard W.

Wolff, Robert

Affirmative with Comment

Rock, Brian E.

• The Section reference for FR-1042 incorrectly cites nonexistent 6.7.1.2.5.3 instead of the intended 6.7.2.2.5.3.

First Revision No. 1051-NFPA 99-2018 [Section No. 6.7.1.2.5.4]

6.7.2.2.5.4

Where optional loads include contiguous or same-site facilities not covered in this code, provisions shall be made to meet the requirements of NFPA *101*, ~~Article 700 of *NFPA 70* , and other applicable NFPA requirements~~ for emergency egress under load-shed conditions.

Submitter Information Verification

Committee: HEA-ELS
Submittal Date: Thu Aug 09 12:34:23 EDT 2018

Committee Statement

Committee Statement: This change is intended to clarify this section since the requirements listed under NFPA 101 already invoke the NEC.
Response Message: FR-1051-NFPA 99-2018

Public Input No. 383-NFPA 99-2018 [Section No. 6.7.1.2.5.4]

Ballot Results

✔ **This item has passed ballot**

29 Eligible Voters
3 Not Returned
23 Affirmative All
0 Affirmative with Comments
3 Negative with Comments
0 Abstention

Not Returned

Fiske, William T.
Meade, James E.
Sappington, Steve R.

Affirmative All

Chandler, H. David
Chilton, Nancy W.
Chisholm, Sr., Dan
Cowles, Charles
D'Antona, Jason
Dagenais, David A.
Daugherty, Herbert H.
Day, Richard L.
Finen, Chris M.

Gwynn, Pamela

McKinch, Terrance L.

Parrish, Thomas J.

Peterson, John W.

Rabel, Don

Rea, Vincent M.

Riechers, Keith

Romano, Christopher M.

Smidt, Ronald M.

Vann, Joshua

Vernon, IV, Walter N.

Walker, Kent

White, Leonard W.

Wolff, Robert

Negative with Comment

Beckstrand, Gary A.

Contiguous facilities are addressed in NFPA 70. It is inappropriate to remove direction to NFPA 70 in this section of NFPA 99.

Krupa, Gary J.

Deleting the reference to NEC Art 700 seems to reduce the clarity of the requirement. It will now create at least an additional step for the reader to locate the "700" requirements.

Rock, Brian E.

• Upon review of the ballot comments by Messrs Krupa and Beckstrand, I concur and am revising my ballot in recirculation to NEGATIVE as well. In accordance with Standards Council Decision D11-07, NFPA 70/NEC® Article 517 has jurisdiction for installation requirements. NEC® 517.26 explicitly indicates that NEC® Article 700 applies "except as amended [explicitly] by Article 517". Sections 517.29 and 517.30 apply directly. Consequently, the 6.7.2.2.5.4 reference to "Article 700 of NFPA 70" is essential, perhaps subsequently modified to "Article 700 and related Article 517 amendments of NFPA 70". . • Correlation Note: The Section reference for FR-1051 incorrectly cites nonexistent 6.7.1.2.5.4 instead of the intended 6.7.2.2.5.4.

First Revision No. 1097-NFPA 99-2018 [Section No. 6.7.1.2.6]

6.7.2.2.6 ~~Work Space or Room~~ Location .

6.7.2.2.6.1 Indoor EPS Installations.

The EPS shall be installed in a separate room for Level 1 installations. [**110:**7.2.1]

~~(A)~~

~~EPSS equipment shall be permitted to be installed in the EPS room. [**110:** 7.2.1.2]~~

(A)

~~For indoor EPS installations, the~~ The EPS room shall be separated from the rest of the building by construction with a 2-hour fire resistance rating. [**110:** 7.2.1.2]

(B)

EPSS equipment shall be permitted to be installed in the EPS room. [**110:** 7.2.1.3]

(C)

No other equipment, including architectural appurtenances, except those that serve this space, shall be permitted in the EPS room. [**110:** 7.2.1.4]

6.7.2.2.6.2 Outdoor EPS Installations.

(A)

~~For outdoor EPS installations, the~~ The EPS shall be installed in a suitable enclosure located outside the building and capable of resisting the entrance of snow or rain at a maximum wind velocity as required by local building codes. [**110:**7.2.2.1]

(B)

EPSS equipment shall be permitted to be installed in the EPS enclosure. [**110:** 7.2.2.2]

(C)

No other equipment, including architectural appurtenances, except those that serve this space, shall be permitted in the EPS enclosure. [**110:** 7.2.2.3]

6.7.2.2.6.3

Level 1 EPSS equipment shall not be installed in the same room with the normal service equipment, where the service equipment is rated over 150 volts to ground and equal to or greater than 1000 amperes. [**110:** 7.2.3]

6.7.2.2.6.4

The rooms, enclosures, or separate buildings housing Level 1 or Level 2 EPSS equipment shall be designed and located to minimize damage from flooding, including that caused by the following:

(1) Flooding resulting from fire fighting

(2) Sewer water backup

(3) Other disasters or occurrences

[**110:**7.2.4]

6.7.2.2.6.5

Minimizing the possibility of damage resulting from interruptions of the emergency source shall be a design consideration for EPSS equipment. [**110:** 7.2.5]

6.7.2.2.6.6

The EPS equipment shall be installed in a location that permits ready accessibility and a minimum of 0.9 m (36 in.) from the skid rails' outermost point in the direction of access for inspection, repair, maintenance, cleaning, or replacement. This requirement shall not apply to units in outdoor housings. [**110:**7.2.6]

6.7.2.2.6.7

Design considerations shall minimize the effect of the failure of one energy converter on the continued operation of other units. [**110:** 7.2.7]

Supplemental Information

File Name	Description	Approved
PI_345_FR_1097.pdf	staff use only	
99_1097_JH_.docx	Staff use only - Updated	

Submitter Information Verification

Committee: HEA-ELS
Submittal Date: Fri Aug 10 11:29:06 EDT 2018

Committee Statement

Committee Statement: This revision is one of several to incorporate applicable sections of NFPA 110 into NFPA 99. The description “Location” is consistent with NFPA 110 requirements for EPSS equipment. Some of the NFPA 110 Article 7.2.1, 7.2.2 and 7.2.3 items were already included in 6.7.1.2.6, but all of the requirements are applicable for a healthcare installation.

Response Message: FR-1097-NFPA 99-2018

Public Input No. 345-NFPA 99-2018 [Section No. 6.7.1.2.6]

Ballot Results

✔ **This item has passed ballot**

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

Not Returned

Fiske, William T.
Meade, James E.
Sappington, Steve R.

Affirmative All

Beckstrand, Gary A.
Chandler, H. David
Chilton, Nancy W.
Chisholm, Sr., Dan
Cowles, Charles
D'Antona, Jason
Dagenais, David A.
Daugherty, Herbert H.

Day, Richard L.

Finen, Chris M.

Gwynn, Pamela

McKinch, Terrance L.

Parrish, Thomas J.

Peterson, John W.

Rabel, Don

Rea, Vincent M.

Riechers, Keith

Romano, Christopher M.

Smidt, Ronald M.

Vann, Joshua

Vernon, IV, Walter N.

Walker, Kent

White, Leonard W.

Wolff, Robert

Affirmative with Comment

Krupa, Gary J.

We've recently been challenged on authority of Codes regarding foreign systems in the dedicated electrical space. That is, ATS and other EPSS components aren't specifically listed in NEC Art. 110.26. Consider adding statement in 6.7.2.2.6.4 that the EPSS should also be protected dedicated equipment space IAW NEC Art 110.26

Rock, Brian E.

• Upon review of the ballot comment by Mr Krupa, I concur (except for the exact suggested wording of the 6.7.2.2.6 requirement) with regard to equipment access and working space. Suggested added wording: "The clear access and working space surrounding EPSS shall be in accordance with Section 110.26 of NFPA 70.' . • The Section reference for FR-1097 incorrectly cites nonexistent 6.7.1.2.6 instead of the intended 6.7.2.2.6.

First Revision No. 1052-NFPA 99-2018 [Section No. 6.7.1.2.7]

6.7.2.2.7* Capacity and Rating.

The generator set(s) shall have the capacity and rating ~~to meet the maximum actual demand likely to be produced by the connected load of the essential electrical system(s)~~ required for effective facility operation consistent with the facility's emergency operations plan .

A.6.7.2.2.7

~~It is the intent of 6.7.1.2.7 to mandate generator sizing based upon actual demand likely to be produced by the connected load of the essential electrical system(s) at any one time. It is not the intent that generator sizing be based upon connected load or feeder calculation procedures described in *NFPA 70* . Demand calculations should be based upon prudent demand factors and historical data.~~ Paragraph 12.5.3.3.5 includes the requirements and components for an emergency operations plan. For additional loads to be considered, see 6.7.2.2.5.1 .

Submitter Information Verification

Committee: HEA-ELS

Submittal Date: Thu Aug 09 12:46:04 EDT 2018

Committee Statement

Committee Statement: The maximum actual demand is not a definitive calculation and the phrase "likely to be produced" provides ambiguity. Requiring the generator set(s) to be able to accommodate the loads necessary as designated in the facility's Emergency Operation Plan allows clarity and definition for the anticipated loads on the generator(s) during a power outage.

Response Message: FR-1052-NFPA 99-2018

Public Input No. 346-NFPA 99-2018 [Section No. 6.7.1.2.7]

Public Input No. 381-NFPA 99-2018 [Section No. 6.7.1.2.7]

Public Input No. 307-NFPA 99-2018 [Section No. 6.7.1.2.7]

Ballot Results

✔ **This item has passed ballot**

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

Not Returned

Fiske, William T.

Meade, James E.

Sappington, Steve R.

Affirmative All

Beckstrand, Gary A.

Chandler, H. David

Chilton, Nancy W.

Chisholm, Sr., Dan

Cowles, Charles

D'Antona, Jason

Dagenais, David A.

Daugherty, Herbert H.

Day, Richard L.

Finen, Chris M.

Gwynn, Pamela

McKinch, Terrance L.

Parrish, Thomas J.

Peterson, John W.

Rabel, Don

Rea, Vincent M.

Riechers, Keith

Romano, Christopher M.

Smidt, Ronald M.

Vann, Joshua

Vernon, IV, Walter N.

Walker, Kent

White, Leonard W.

Wolff, Robert

Affirmative with Comment

Rock, Brian E.

• The Section reference for FR-1052 incorrectly cites nonexistent 6.7.1.2.7 instead of the intended 6.7.2.2.7 and A.5.7.2.2.7.

Negative with Comment

Krupa, Gary J.

If NFPA 99 is to be a "performance and design" Code, it is curious that we are deferring to the Emergency Operations Plan...which is a function of the medical center staff. Not sure that an AE would necessarily have access to the Em Ops Plan..and for new facilities, such may not exist.

First Revision No. 1054-NFPA 99-2018 [Section No. 6.7.1.2.10.7]

~~6.7.1.2.10.7~~

~~Units housed outdoors shall be heated as specified in 5.3.5 [of NFPA 110]. [110: 7.7.6]~~

Submitter Information Verification

Committee: HEA-ELS
Submittal Date: Thu Aug 09 13:22:00 EDT 2018

Committee Statement

Committee Statement: The information in 6.7.1.2.10.7 is the exact same information as in 6.7.1.2.10.6. so should be deleted in this section.

Response Message: FR-1054-NFPA 99-2018

Public Input No. 347-NFPA 99-2018 [Section No. 6.7.1.2.10.7]

Ballot Results

✔ **This item has passed ballot**

29 Eligible Voters
3 Not Returned
26 Affirmative All
0 Affirmative with Comments
0 Negative with Comments
0 Abstention

Not Returned

Fiske, William T.
Meade, James E.
Sappington, Steve R.

Affirmative All

Beckstrand, Gary A.
Chandler, H. David
Chilton, Nancy W.
Chisholm, Sr., Dan
Cowles, Charles
D'Antona, Jason
Dagenais, David A.
Daugherty, Herbert H.
Day, Richard L.
Finen, Chris M.

Gwynn, Pamela
Krupa, Gary J.
McKinch, Terrance L.
Parrish, Thomas J.
Peterson, John W.
Rabel, Don
Rea, Vincent M.
Riechers, Keith
Rock, Brian E.
Romano, Christopher M.
Smidt, Ronald M.
Vann, Joshua
Vernon, IV, Walter N.
Walker, Kent
White, Leonard W.
Wolff, Robert

First Revision No. 1096-NFPA 99-2018 [Section No. 6.7.1.2.11]

6.7.2.2.11* ~~Cranking Batteries~~ Energy Converters .

Internal combustion engine energy converters and associated cranking batteries shall be in accordance with the ~~battery~~ requirements of NFPA 110.

A.6.7.2.2.11

Refer to the following sections in NFPA 110 for specific requirements:

(1) Section 5.3 for requirements on energy converters — temperature maintenance

(2) Section 5.4 for requirements on energy converters — capacity

(3) Section 5.5 for requirements on energy converters — fuel supply

(4) Subsections 5.6.1 through 5.6.4.7 for requirements on rotating equipment

Submitter Information Verification

Committee: HEA-ELS

Submittal Date: Fri Aug 10 11:15:18 EDT 2018

Committee Statement

Committee Statement: The batteries are only a portion of the EPS requirements. Incorporating NFPA 110 Article 5.3 Energy Converters – Temperature Maintenance, Article 5.4 Energy Converters – Capacity, Article 5.5 Energy Converts Fuel supplies, Article 5.6 – Rotating Equipment (partial) provides all of the requirements for batteries and the energy converter, prime mover and batteries.

Response Message: FR-1096-NFPA 99-2018

Public Input No. 348-NFPA 99-2018 [Section No. 6.7.1.2.11]

Ballot Results

✔ **This item has passed ballot**

29 Eligible Voters
3 Not Returned
25 Affirmative All
1 Affirmative with Comments
0 Negative with Comments
0 Abstention

Not Returned

Fiske, William T.

Meade, James E.

Sappington, Steve R.

Affirmative All

Beckstrand, Gary A.
Chandler, H. David
Chilton, Nancy W.
Chisholm, Sr., Dan
Cowles, Charles
D'Antona, Jason
Dagenais, David A.
Daugherty, Herbert H.
Day, Richard L.
Finen, Chris M.
Gwynn, Pamela
Krupa, Gary J.
McKinch, Terrance L.
Parrish, Thomas J.
Peterson, John W.
Rabel, Don
Rea, Vincent M.
Riechers, Keith
Romano, Christopher M.
Smidt, Ronald M.
Vann, Joshua
Vernon, IV, Walter N.
Walker, Kent
White, Leonard W.
Wolff, Robert

Affirmative with Comment

Rock, Brian E.

• The Section reference for FR-1096 incorrectly cites nonexistent 6.7.1.2.11 instead of the intended 6.7.2.2.11.

First Revision No. 1055-NFPA 99-2018 [Section No. 6.7.1.2.15 [Excluding any Sub-Sections]]

A remote annunciator that is storage battery~~–~~ powered shall be provided to operate outside of the generating room in a location readily observed by operating personnel at a regular work station ~~*(see 700.12 of NFPA 70)*~~ . The annunciator shall be hard-wired to indicate alarm conditions of the emergency or auxiliary power source ~~as follows:~~ indicated in 6.7.2.2.15.1 through 6.7.2.2.15.9 .

Submitter Information Verification

Committee: HEA-ELS

Submittal Date: Thu Aug 09 13:23:59 EDT 2018

Committee Statement

Committee Statement: The referenced section is incorrect and not applicable to the requirements for the alarm annunciator. Removal of this reference does not change the requirements of 6.7.1.2.15 and will alleviate enforcement interpretation issues.

Response Message: FR-1055-NFPA 99-2018

Public Input No. 384-NFPA 99-2018 [Section No. 6.7.1.2.15 [Excluding any Sub-Sections]]

Ballot Results

✔ **This item has passed ballot**

29 Eligible Voters
3 Not Returned
25 Affirmative All
1 Affirmative with Comments
0 Negative with Comments
0 Abstention

Not Returned

Fiske, William T.

Meade, James E.

Sappington, Steve R.

Affirmative All

Beckstrand, Gary A.

Chandler, H. David

Chilton, Nancy W.

Chisholm, Sr., Dan

Cowles, Charles

D'Antona, Jason

Dagenais, David A.

Daugherty, Herbert H.

Day, Richard L.

Finen, Chris M.

Gwynn, Pamela

Krupa, Gary J.

McKinch, Terrance L.

Parrish, Thomas J.

Peterson, John W.

Rabel, Don

Rea, Vincent M.

Riechers, Keith

Romano, Christopher M.

Smidt, Ronald M.

Vann, Joshua

Vernon, IV, Walter N.

Walker, Kent

White, Leonard W.

Wolff, Robert

Affirmative with Comment

Rock, Brian E.

• The Section reference for FR-1055 incorrectly cites nonexistent 6.7.1.2.15 instead of the intended 6.7.2.2.15.

First Revision No. 1056-NFPA 99-2018 [New Section after 6.7.1.2.15.9]

6.7.2.2.15.10

Wireless transmission of the EPS data required by 6.7.2.2.14.2 and 6.7.2.2.15.2 shall be permitted.

Submitter Information Verification

Committee: HEA-ELS

Submittal Date: Thu Aug 09 13:25:58 EDT 2018

Committee Statement

Committee Statement: In some cases it becomes difficult to install a hard wired remote annunciator to meet requirements without unreasonable difficulties. Wireless technology is used in many similar applications.

The committee welcomes public comment on what specific requirements need to accompany this to ensure that an equivalent level of reliability, interoperability, and performance is met.

Response Message: FR-1056-NFPA 99-2018

Public Input No. 34-NFPA 99-2018 [New Section after 6.7.1.2.15.9]

Ballot Results

✔ **This item has passed ballot**

29 Eligible Voters
3 Not Returned
25 Affirmative All
1 Affirmative with Comments
0 Negative with Comments
0 Abstention

Not Returned

Fiske, William T.
Meade, James E.
Sappington, Steve R.

Affirmative All

Beckstrand, Gary A.
Chandler, H. David
Chilton, Nancy W.
Chisholm, Sr., Dan
Cowles, Charles
D'Antona, Jason
Dagenais, David A.

Daugherty, Herbert H.

Day, Richard L.

Finen, Chris M.

Gwynn, Pamela

Krupa, Gary J.

McKinch, Terrance L.

Parrish, Thomas J.

Peterson, John W.

Rabel, Don

Rea, Vincent M.

Riechers, Keith

Romano, Christopher M.

Smidt, Ronald M.

Vann, Joshua

Vernon, IV, Walter N.

Walker, Kent

White, Leonard W.

Wolff, Robert

Affirmative with Comment

Rock, Brian E.

• The Section reference for FR-1056 incorrectly cites nonexistent 6.7.1.2.15.9 instead of the intended 6.7.2.2.15.9.

First Revision No. 1058-NFPA 99-2018 [Section No. 6.7.1.4]

6.7.2.4 Fuel Cell Systems.

Fuel cell systems shall be permitted to serve as the alternate source for all or part of an essential electrical system, provided the conditions in ~~6.7.1.4.1~~ 6.7.2.4.1 through 6.7.2.4.4 ~~6.7.1.4.6~~ apply.

6.7.2.4.1

Installation shall comply with NFPA 853.

6.7.2.4.2

N+1 units shall be provided where N units have sufficient capacity to supply ~~the demand load of the portion of the system served~~ capacity determined by 6.7.2.2.7 .

6.7.2.4.3*

Systems shall be able to assume loads within 10 seconds of loss of normal power source.

6.7.2.4.4

Systems shall have a continuing source of fuel supply ~~together with~~ and sufficient on-site fuel storage for the essential system type.

~~6.7.1.4.5~~

~~Where life safety and critical portions of the distribution system are present, a connection shall be provided for a portable diesel generator.~~

~~6.7.1.4.6~~

~~Systems shall be listed for emergency use.~~

Submitter Information Verification

Committee: HEA-ELS

Submittal Date: Thu Aug 09 13:56:16 EDT 2018

Committee Statement

Committee Statement: Section 6.7.1.4.2 has been revised to clarify that the same load needs to be accommodated that would be determined in the revised 6.7.1.2.7. Section 6.7.1.4.5 has been deleted as the decision to provide connection for a portable generator is an emergency management and business continuity decision. Section 6.7.1.4.6 has been deleted similar to NFPA 70 which removed the requirement because UL does not list generators, fuel cells or other similar devices for emergency use.

Response Message: FR-1058-NFPA 99-2018

Public Input No. 309-NFPA 99-2018 [Section No. 6.7.1.4.3]

Public Input No. 343-NFPA 99-2018 [Section No. 6.7.1.4.6]

Public Input No. 312-NFPA 99-2018 [Section No. 6.7.1.4.5]

Public Input No. 308-NFPA 99-2018 [Section No. 6.7.1.4.2]

Public Input No. 378-NFPA 99-2018 [Section No. 6.7.1.4]

Public Input No. 310-NFPA 99-2018 [Section No. 6.7.1.4.4]

Public Input No. 311-NFPA 99-2018 [Section No. 6.7.1.4.4]

Ballot Results

✔ **This item has passed ballot**

29 Eligible Voters
3 Not Returned
25 Affirmative All
1 Affirmative with Comments
0 Negative with Comments
0 Abstention

Not Returned

Fiske, William T.
Meade, James E.
Sappington, Steve R.

Affirmative All

Beckstrand, Gary A.
Chandler, H. David
Chilton, Nancy W.
Chisholm, Sr., Dan
Cowles, Charles
D'Antona, Jason
Dagenais, David A.
Daugherty, Herbert H.
Day, Richard L.
Finen, Chris M.
Gwynn, Pamela
Krupa, Gary J.
McKinch, Terrance L.
Parrish, Thomas J.
Peterson, John W.
Rabel, Don
Rea, Vincent M.
Riechers, Keith
Romano, Christopher M.
Smidt, Ronald M.
Vann, Joshua
Vernon, IV, Walter N.
Walker, Kent
White, Leonard W.
Wolff, Robert

Affirmative with Comment

Rock, Brian E.

• The Section reference for FR-1058 incorrectly cites nonexistent 6.7.1.4 instead of the intended 6.7.2.4.

First Revision No. 1059-NFPA 99-2018 [Section No. 6.7.2.1]

A.6.7.3

It should be emphasized that the type of system selected and its area and type of coverage should be appropriate to the medical procedures being performed in the facility. For example, a battery-operated emergency light that switches "on" when normal power is interrupted and an alternate source of power for suction equipment, along with the immediate availability of some portable handheld lighting, would be advisable where oral and maxillofacial surgery (e.g., extraction of impacted teeth) is performed. On the other hand, in dental offices where simple extraction, restorative, prosthetic, or hygienic procedures are performed, ~~only~~ remote corridor lighting for purposes of egress only would be sufficient. Emergency power for equipment would not be necessary. As with oral surgery locations, a surgical clinic requiring use of life-support or emergency devices, such as suction machines, ventilators, cauterizers, or defibrillators, would require both emergency light and power.

Distribution system arrangements ~~shall~~ should be designed to minimize interruptions to the electrical systems due to internal failures by the use of adequately rated equipment.

The following factors ~~shall~~ should be considered in the design of the distribution system:

(1) Abnormal voltages, such as single phasing of three-phase utilization equipment; switching or lightning surges, or both; and voltage reductions~~; and so forth~~

(2) Capability of achieving the fastest possible restoration of any given circuit(s) after clearing a fault

(3) Effects of future changes, such as increased loading or supply capacity, or both

(4) Stability and power capability of the prime mover during and after abnormal conditions

(5) Sequence reconnection of loads to avoid large current inrushes that trip overcurrent devices or overload the generator(s)

(6) Bypass arrangements to allow testing and maintenance of system components that could not otherwise be maintained without disruption of important hospital functions

(7) Effects of any harmonic currents on neutral conductors and equipment

Careful consideration should be given to the location of the spaces housing the components of the essential electrical system (EES) to minimize interruptions caused by natural forces common to the area (e.g., storms, floods, or earthquakes; or hazards created by adjoining structures or activities).

Consideration should also be given to the possible interruption of normal electrical services resulting from similar causes as well as possible disruption of normal electrical service due to internal wiring and equipment failures. Consideration should be given to the physical separation of the main feeders of the ~~essential electrical system~~ EES from the normal wiring of the facility to prevent possible simultaneous destruction as a result of a local catastrophe.

In selecting electrical distribution arrangements and components for the ~~essential electrical system~~ EES, high priority should be given to achieving maximum continuity of the electrical supply to the load. Higher consideration should be given to achieving maximum reliability of the alternate power source and its feeders rather than protection of such equipment, provided that the protection is not required to prevent a greater threat to human life, such as fire, explosion, and electrocution, ~~and so forth,~~ than would be caused by the lack of an essential electrical supply.

Supplemental Information

File Name	Description	Approved
99_FR_1059_legislative_changes.docx	staff use only	

Submitter Information Verification

Committee: HEA-ELS

Submittal Date: Thu Aug 09 13:59:50 EDT 2018

Committee Statement

Committee Statement: Per 1.1.4.1 Chapter 6 covers the performance, maintenance, and testing of electrical systems (both normal and essential) in health care facilities. Design considerations and specific design criteria are not all inclusive of design considerations and are not applicable to this section.

Response Message: FR-1059-NFPA 99-2018

Public Input No. 349-NFPA 99-2018 [Section No. 6.7.2.1]

Ballot Results

✔ **This item has passed ballot**

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

Not Returned

Fiske, William T.
Meade, James E.
Sappington, Steve R.

Affirmative All

Beckstrand, Gary A.
Chandler, H. David
Chilton, Nancy W.
Chisholm, Sr., Dan
Cowles, Charles
D'Antona, Jason
Dagenais, David A.
Daugherty, Herbert H.
Day, Richard L.
Finen, Chris M.
Gwynn, Pamela
McKinch, Terrance L.
Parrish, Thomas J.
Peterson, John W.
Rabel, Don
Rea, Vincent M.
Riechers, Keith
Romano, Christopher M.
Smidt, Ronald M.
Vann, Joshua
Vernon, IV, Walter N.
Walker, Kent

White, Leonard W.

Wolff, Robert

Affirmative with Comment

Krupa, Gary J.

Not sure that using "should" is the correct measure. If this is a Code, "should" makes this clause unenforceable.

Rock, Brian E.

• The Section reference for FR-1059 incorrectly cites normative Subsection 6.7.2.1 instead of the intended informative annex Subsection A.6.7.3.

First Revision No. 1044-NFPA 99-2018 [Section No. 6.7.2.2.1]

~~6.7.2.2.1~~

~~Electrical characteristics of the transfer switches shall be suitable for the operation of all functions and equipment they are intended to supply.~~

Submitter Information Verification

Committee: HEA-ELS

Submittal Date: Thu Aug 09 11:42:19 EDT 2018

Committee Statement

Committee Statement: Transfer switches, whether automatic or manual, are required to be installed and used in accordance with their listing. This section which has been deleted does not add anything beyond that.

Response Message: FR-1044-NFPA 99-2018

Public Input No. 313-NFPA 99-2018 [Section No. 6.7.2.2.1]

Public Input No. 351-NFPA 99-2018 [New Section after 6.7.2.2.5]

Public Input No. 350-NFPA 99-2018 [Section No. 6.7.2.2.1]

Ballot Results

✔ **This item has passed ballot**

29 Eligible Voters
3 Not Returned
26 Affirmative All
0 Affirmative with Comments
0 Negative with Comments
0 Abstention

Not Returned

Fiske, William T.

Meade, James E.

Sappington, Steve R.

Affirmative All

Beckstrand, Gary A.

Chandler, H. David

Chilton, Nancy W.

Chisholm, Sr., Dan

Cowles, Charles

D'Antona, Jason

Dagenais, David A.

Daugherty, Herbert H.
Day, Richard L.
Finen, Chris M.
Gwynn, Pamela
Krupa, Gary J.
McKinch, Terrance L.
Parrish, Thomas J.
Peterson, John W.
Rabel, Don
Rea, Vincent M.
Riechers, Keith
Rock, Brian E.
Romano, Christopher M.
Smidt, Ronald M.
Vann, Joshua
Vernon, IV, Walter N.
Walker, Kent
White, Leonard W.
Wolff, Robert

First Revision No. 1063-NFPA 99-2018 [Section No. 6.7.2.2.3]

6.7.3.1.2.15 Switch Rating.

The rating of the transfer switches shall be adequate for switching all classes of loads to be served and for withstanding the effects of available fault currents without contact welding.

Submitter Information Verification

Committee: HEA-ELS

Submittal Date: Thu Aug 09 14:51:12 EDT 2018

Committee Statement

Committee Statement: This section discusses transfer switch characteristics and should be included with the automatic transfer switch section rather than as a stand-alone item.

Response Message: FR-1063-NFPA 99-2018

Public Input No. 353-NFPA 99-2018 [New Section after 6.7.2.2.5]

Public Input No. 315-NFPA 99-2018 [Section No. 6.7.2.2.3]

Public Input No. 352-NFPA 99-2018 [Section No. 6.7.2.2.3]

Ballot Results

✔ **This item has passed ballot**

29 Eligible Voters
3 Not Returned
25 Affirmative All
1 Affirmative with Comments
0 Negative with Comments
0 Abstention

Not Returned

Fiske, William T.
Meade, James E.
Sappington, Steve R.

Affirmative All

Beckstrand, Gary A.
Chandler, H. David
Chilton, Nancy W.
Chisholm, Sr., Dan
Cowles, Charles
D'Antona, Jason
Dagenais, David A.
Daugherty, Herbert H.

Day, Richard L.

Finen, Chris M.

Gwynn, Pamela

Krupa, Gary J.

McKinch, Terrance L.

Parrish, Thomas J.

Peterson, John W.

Rabel, Don

Rea, Vincent M.

Riechers, Keith

Romano, Christopher M.

Smidt, Ronald M.

Vann, Joshua

Vernon, IV, Walter N.

Walker, Kent

White, Leonard W.

Wolff, Robert

Affirmative with Comment

Rock, Brian E.

• The Section reference for FR-1063 incorrectly cites nonexistent 6.7.2.2.3 instead of the intended 6.7.3.1.2.15.

First Revision No. 1064-NFPA 99-2018 [Section No. 6.7.2.2.4]

6.7.3.1.2.16 Automatic Transfer Switch.

Transfer of all loads shall be accomplished using an automatic transfer switch(es). Each automatic transfer switch of 600 V or less shall be listed for the purpose and approved for emergency electrical service *(see Section 700.3 of NFPA 70, ~~Section 700.3~~)* as a complete assembly.

Submitter Information Verification

Committee: HEA-ELS
Submittal Date: Thu Aug 09 14:52:49 EDT 2018

Committee Statement

Committee Statement: This section discusses transfer switch characteristics and should be included with the automatic transfer switch section rather than as a stand-alone item.
Response Message: FR-1064-NFPA 99-2018

Public Input No. 355-NFPA 99-2018 [New Section after 6.7.2.2.5]
Public Input No. 316-NFPA 99-2018 [Section No. 6.7.2.2.4]
Public Input No. 354-NFPA 99-2018 [Section No. 6.7.2.2.4]
Public Input No. 385-NFPA 99-2018 [Section No. 6.7.2.2.4]

Ballot Results

✔ **This item has passed ballot**

29 Eligible Voters
3 Not Returned
25 Affirmative All
1 Affirmative with Comments
0 Negative with Comments
0 Abstention

Not Returned

Fiske, William T.
Meade, James E.
Sappington, Steve R.

Affirmative All

Beckstrand, Gary A.
Chandler, H. David
Chilton, Nancy W.
Chisholm, Sr., Dan
Cowles, Charles
D'Antona, Jason

Dagenais, David A.

Daugherty, Herbert H.

Day, Richard L.

Finen, Chris M.

Gwynn, Pamela

Krupa, Gary J.

McKinch, Terrance L.

Parrish, Thomas J.

Peterson, John W.

Rabel, Don

Rea, Vincent M.

Riechers, Keith

Romano, Christopher M.

Smidt, Ronald M.

Vann, Joshua

Vernon, IV, Walter N.

Walker, Kent

White, Leonard W.

Wolff, Robert

Affirmative with Comment

Rock, Brian E.

• The Section reference for FR-1064 incorrectly cites unrelated 6.7.2.2.4 instead of the intended 6.7.3.1.2.16.

First Revision No. 1048-NFPA 99-2018 [Section No. 6.7.2.3.3.2]

6.7.3.2.3.2

One transfer switch shall be permitted to serve one or more branches in a facility with a continuous load on the switch of 150 kVA (120 kW) or less.

6.7.3.2.3.3

Where a single transfer switch is used, as permitted in 6.7.3.2.3.2 , division into separate branches shall not be required.

Submitter Information Verification

Committee: HEA-ELS

Submittal Date: Thu Aug 09 12:04:02 EDT 2018

Committee Statement

Committee Statement: This additional language clarifies that systems permitted to be served by a single transfer switch in accordance with the requirements of 6.7.2.3.3.2 are not required to be divided into multiple branches. This change will alleviate enforcement interpretation issues.

Response Message: FR-1048-NFPA 99-2018

Public Input No. 390-NFPA 99-2018 [Section No. 6.7.2.3.1]

Ballot Results

✔ **This item has passed ballot**

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

Not Returned

Fiske, William T.

Meade, James E.

Sappington, Steve R.

Affirmative All

Beckstrand, Gary A.

Chandler, H. David

Chilton, Nancy W.

Chisholm, Sr., Dan

Cowles, Charles

D'Antona, Jason

Dagenais, David A.

Daugherty, Herbert H.

Day, Richard L.

Finen, Chris M.

Gwynn, Pamela

McKinch, Terrance L.

Parrish, Thomas J.

Peterson, John W.

Rabel, Don

Rea, Vincent M.

Riechers, Keith

Romano, Christopher M.

Smidt, Ronald M.

Vann, Joshua

Vernon, IV, Walter N.

Walker, Kent

White, Leonard W.

Wolff, Robert

Negative with Comment

Krupa, Gary J.

This matter was also discussed at CMP 15 in San Diego. Many of the committee members did not agree with concept of eliminating the respective branches, even when a single ATS is used. At the very least, the branches facilitate system growth and would ease the addition of ATS in the future. Moreover, a concern was voiced over decreased reliability should the branches be combined.

Rock, Brian E.

• Upon review of the ballot comment by Mr Krupa, I concur and am revising my ballot in recirculation to NEGATIVE as well. . • The Section reference for FR-1048 incorrectly cites nonexistent 6.7.2.3.3.2 instead of the intended "new Section after 6.7.3.2.3.2", i.e., 6.7.3.2.3.3.

First Revision No. 1070-NFPA 99-2018 [Section No. 6.7.2.3.4]

6.7.3.2.4 Feeders from Alternate Power Source.

6.7.3.2.4.1

A single feeder supplied by a local or remote alternate power source shall be permitted to supply the essential electrical system to the point at which the life safety, critical, and equipment branches are separated.

6.7.3.2.4.2

Installation of the transfer equipment shall be permitted at locations other than ~~the location~~ that of the alternate power source.

Submitter Information Verification

Committee: HEA-ELS
Submittal Date: Thu Aug 09 16:23:33 EDT 2018

Committee Statement

Committee Statement: This section is revised to align with the defined term in 3.3.4.

Response Message: FR-1070-NFPA 99-2018

Public Input No. 317-NFPA 99-2018 [Section No. 6.7.2.3.4]

Ballot Results

This item has passed ballot

29 Eligible Voters
3 Not Returned
25 Affirmative All
1 Affirmative with Comments
0 Negative with Comments
0 Abstention

Not Returned

Fiske, William T.
Meade, James E.
Sappington, Steve R.

Affirmative All

Beckstrand, Gary A.
Chandler, H. David
Chilton, Nancy W.
Chisholm, Sr., Dan
Cowles, Charles
D'Antona, Jason

Dagenais, David A.

Daugherty, Herbert H.

Day, Richard L.

Finen, Chris M.

Gwynn, Pamela

Krupa, Gary J.

McKinch, Terrance L.

Parrish, Thomas J.

Peterson, John W.

Rabel, Don

Rea, Vincent M.

Riechers, Keith

Romano, Christopher M.

Smidt, Ronald M.

Vann, Joshua

Vernon, IV, Walter N.

Walker, Kent

White, Leonard W.

Wolff, Robert

Affirmative with Comment

Rock, Brian E.

• The Section reference for FR-1070 incorrectly cites nonexistent 6.7.2.3.4 instead of the intended 6.7.3.2.4.

First Revision No. 1071-NFPA 99-2018 [Section No. 6.7.2.3.6]

6.7.3.2.6 Switches.

Switches of all types shall be permitted in the lighting circuits connected to the essential electrical system ~~that do not serve as the illumination of egress as required by~~ in accordance with NFPA *101*.

Submitter Information Verification

Committee: HEA-ELS
Submittal Date: Thu Aug 09 16:26:31 EDT 2018

Committee Statement

Committee Statement: This revision will defer to 101 which allows motion sensors on the life safety branch.
Response Message: FR-1071-NFPA 99-2018

Public Input No. 318-NFPA 99-2018 [Section No. 6.7.2.3.6]

Ballot Results

✔ **This item has passed ballot**

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

Not Returned
Fiske, William T.
Meade, James E.
Sappington, Steve R.

Affirmative All
Beckstrand, Gary A.
Chandler, H. David
Chilton, Nancy W.
Chisholm, Sr., Dan
Cowles, Charles
D'Antona, Jason
Dagenais, David A.
Daugherty, Herbert H.
Day, Richard L.
Finen, Chris M.
Gwynn, Pamela

McKinch, Terrance L.

Parrish, Thomas J.

Peterson, John W.

Rabel, Don

Rea, Vincent M.

Riechers, Keith

Romano, Christopher M.

Smidt, Ronald M.

Vann, Joshua

Vernon, IV, Walter N.

Walker, Kent

White, Leonard W.

Wolff, Robert

Affirmative with Comment

Krupa, Gary J.

Interesting. Just had a "claim" issue with an AE that pointed out (in their professional opinion) that NFPA 70, Art 700 does not allow switching of egress lighting...

Rock, Brian E.

• The Section reference for FR-1071 incorrectly cites nonexistent 6.7.2.3.6 instead of the intended 6.7.3.2.6.

First Revision No. 1075-NFPA 99-2018 [Section No. 6.7.4.1.2.1]

6.7.5.1.2.1* Circuit Breakers.

Main and feeder circuit breakers shall be inspected annually and maintained in accordance with the manufacturer's instructions and industry standards~~. A program for periodically exercising the components shall be established according to the manufacturer's instructions~~ .

Submitter Information Verification

Committee: HEA-ELS
Submittal Date: Thu Aug 09 17:16:11 EDT 2018

Committee Statement

Committee Statement: The addition of the electrical maintenance program (6.9) includes requirements for exercising circuit breakers so this deletion does not remove the need for this.
Response Message: FR-1075-NFPA 99-2018

Public Input No. 319-NFPA 99-2018 [Section No. 6.7.4.1.2.1]

Ballot Results

✔ **This item has passed ballot**

29 Eligible Voters
3 Not Returned
25 Affirmative All
1 Affirmative with Comments
0 Negative with Comments
0 Abstention

Not Returned
Fiske, William T.
Meade, James E.
Sappington, Steve R.

Affirmative All
Beckstrand, Gary A.
Chandler, H. David
Chilton, Nancy W.
Chisholm, Sr., Dan
Cowles, Charles
D'Antona, Jason
Dagenais, David A.
Daugherty, Herbert H.
Day, Richard L.

Finen, Chris M.
Gwynn, Pamela
Krupa, Gary J.
McKinch, Terrance L.
Parrish, Thomas J.
Peterson, John W.
Rabel, Don
Rea, Vincent M.
Riechers, Keith
Romano, Christopher M.
Smidt, Ronald M.
Vann, Joshua
Vernon, IV, Walter N.
Walker, Kent
White, Leonard W.
Wolff, Robert

Affirmative with Comment

Rock, Brian E.

• The Section reference for FR-1075 incorrectly cites nonexistent 6.7.4.1.2.1 instead of the intended 6.7.5.1.2.1.

First Revision No. 1083-NFPA 99-2018 [Section No. 6.7.5.1.2.2]

6.7.6.1.2.2

The following portions of Article 700 of *NFPA 70* shall be amended as follows:

(1) 700.4 shall not apply.

(2) 700.10(D)(1) ~~through (3)~~ shall not apply.

(3) 700.17 Branch Circuits for Emergency Lighting. Branch circuits that supply emergency lighting shall be installed to provide service from a source complying with 700.12 when the normal supply for lighting is interrupted or where single circuits supply luminaires containing secondary batteries.

(4) 700.32 shall not apply.

Submitter Information Verification

Committee: HEA-ELS

Submittal Date: Thu Aug 09 17:47:35 EDT 2018

Committee Statement

Committee Statement: The technical committee has been informed that changes proposed for the 2020 NEC have made 700.10(D) no longer apply to health care occupancies. The committee will continue to monitor the revision process of the NEC and revisit this section at the Second Draft stage. Reference has been revised to eliminate specific sub sections to avoid difficulties with determining the sections referenced.

Response Message: FR-1083-NFPA 99-2018

Public Input No. 46-NFPA 99-2018 [Section No. 6.7.5.1.2.2]

Ballot Results

✔ **This item has passed ballot**

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

Not Returned

Fiske, William T.

Meade, James E.

Sappington, Steve R.

Affirmative All

Beckstrand, Gary A.

Chandler, H. David

Chilton, Nancy W.

Chisholm, Sr., Dan

Cowles, Charles

D'Antona, Jason

Dagenais, David A.

Daugherty, Herbert H.

Day, Richard L.

Finen, Chris M.

Gwynn, Pamela

McKinch, Terrance L.

Parrish, Thomas J.

Peterson, John W.

Rabel, Don

Rea, Vincent M.

Riechers, Keith

Romano, Christopher M.

Smidt, Ronald M.

Vann, Joshua

Vernon, IV, Walter N.

Walker, Kent

White, Leonard W.

Wolff, Robert

Affirmative with Comment

Krupa, Gary J.

Having just "survived" CMP 15 meeting in San Diego, seems like there is confusion over what is really being deleted here...which should be discussed at next committee meeting.

Rock, Brian E.

• The Section reference for FR-1083 incorrectly cites unrelated 6.7.5.1.2.2 instead of the intended 6.7.6.1.2.2. . • Upon review of Mr Krupa's ballot comment, I concur that this should be revisited at the HEA-ELS Second Draft meeting to review the finalized wording of Subsection 700.10(D) of NFPA 70-2020. The last sentence of the Committee Statement should have more accurately read: "Reference has been revised to eliminate specific Subsections to avoid confusion with similarly numbered list items in the charging text of 700.10(D) of NFPA 70-2017 in determining the Subsection referenced."

First Revision No. 1101-NFPA 99-2018 [Section No. 6.7.5.1.3.2]

6.7.6.1.3.2

The critical branch~~, or a dual-fed scheme including the critical branch~~ shall supply power for task illumination, fixed equipment, select receptacles, and select power circuits serving the following spaces and functions related to patient care:

(1) Category 1 spaces where deep sedation or general anesthesia is administered, task illumination, select receptacles, and fixed equipment

(2) Task illumination and select receptacles in the following:

  (a) Patient care spaces, including infant nurseries, selected acute nursing areas, psychiatric bed areas (omit receptacles), and ward treatment rooms

  (b) Medication preparation spaces

  (c) Pharmacy dispensing spaces

  (d) Nurses' stations — unless adequately lighted by corridor luminaires

(3) Additional specialized patient care task illumination and receptacles, where needed

(4) Nurse call systems

(5) Blood, bone, and tissue banks

(6)* Telecommunications entrance facility, telecommunications equipment rooms, and telecommunication rooms and equipment in these rooms.

(7) Task illumination, select receptacles, and select power circuits for the following areas:

  (a) Category 1 or 2 spaces with at least one duplex receptacle per patient bed location, and task illumination as required by the governing body of the health care facility

  (b) Angiographic labs

  (c) Cardiac catheterization labs

  (d) Coronary care units

  (e) Hemodialysis rooms or areas

  (f) Emergency room treatment areas (select)

  (g) Human physiology labs

  (h) Intensive care units

  (i) Postoperative recovery rooms (select)

(8) Clinical IT-network equipment

(9) Wireless phone and paging equipment for clinical staff communications

(10) Additional task illumination, receptacles, and select power circuits needed for effective facility operation, including single-phase fractional horsepower motors, which are permitted to be connected to the critical branch

Submitter Information Verification

Committee: HEA-ELS

Submittal Date: Fri Aug 10 12:58:41 EDT 2018

Committee Statement

Committee Statement: This revision removes ambiguous language that did not add to the requirement.

Response Message: FR-1101-NFPA 99-2018

Ballot Results

This item has passed ballot

29 Eligible Voters
3 Not Returned
25 Affirmative All
1 Affirmative with Comments
0 Negative with Comments
0 Abstention

Not Returned

Fiske, William T.
Meade, James E.
Sappington, Steve R.

Affirmative All

Beckstrand, Gary A.
Chandler, H. David
Chilton, Nancy W.
Chisholm, Sr., Dan
Cowles, Charles
D'Antona, Jason
Dagenais, David A.
Daugherty, Herbert H.
Day, Richard L.
Finen, Chris M.
Gwynn, Pamela
Krupa, Gary J.
McKinch, Terrance L.
Parrish, Thomas J.
Peterson, John W.
Rabel, Don
Rea, Vincent M.
Riechers, Keith
Romano, Christopher M.
Smidt, Ronald M.
Vann, Joshua
Vernon, IV, Walter N.
Walker, Kent
White, Leonard W.
Wolff, Robert

Affirmative with Comment

Rock, Brian E.

• The Section reference for FR-1101 incorrectly cites nonexistent 6.7.5.1.3.2 instead of the intended 6.7.6.1.3.2.

First Revision No. 1104-NFPA 99-2018 [Section No. 7.3.1.2.1.6]

7.3.1.2.1.6 Security.

~~Only authorized personnel shall have access to EFs~~ Access to the EF shall be determined based on a security vulnerability assessment .

Submitter Information Verification

Committee: HEA-ELS
Submittal Date: Fri Aug 10 13:08:26 EDT 2018

Committee Statement

Committee Statement: This revision permits the facility to determine appropriate access based on their specific risks.
Response Message: FR-1104-NFPA 99-2018

Ballot Results

This item has passed ballot

29 Eligible Voters
3 Not Returned
26 Affirmative All
0 Affirmative with Comments
0 Negative with Comments
0 Abstention

Not Returned

Fiske, William T.
Meade, James E.
Sappington, Steve R.

Affirmative All

Beckstrand, Gary A.
Chandler, H. David
Chilton, Nancy W.
Chisholm, Sr., Dan
Cowles, Charles
D'Antona, Jason
Dagenais, David A.
Daugherty, Herbert H.
Day, Richard L.
Finen, Chris M.
Gwynn, Pamela

Krupa, Gary J.

McKinch, Terrance L.

Parrish, Thomas J.

Peterson, John W.

Rabel, Don

Rea, Vincent M.

Riechers, Keith

Rock, Brian E.

Romano, Christopher M.

Smidt, Ronald M.

Vann, Joshua

Vernon, IV, Walter N.

Walker, Kent

White, Leonard W.

Wolff, Robert

First Revision No. 1102-NFPA 99-2018 [Section No. 7.3.1.2.2.6]

7.3.1.2.2.6 Security.

Access to the TER shall be ~~restricted and controlled~~ determined based on a security vulnerability assessment .

Submitter Information Verification

Committee: HEA-ELS

Submittal Date: Fri Aug 10 13:02:38 EDT 2018

Committee Statement

Committee Statement: This revision permits the facility to determine appropriate access based on their specific risks.

Response Message: FR-1102-NFPA 99-2018

Ballot Results

This item has passed ballot

29 Eligible Voters
3 Not Returned
26 Affirmative All
0 Affirmative with Comments
0 Negative with Comments
0 Abstention

Not Returned

Fiske, William T.
Meade, James E.
Sappington, Steve R.

Affirmative All

Beckstrand, Gary A.
Chandler, H. David
Chilton, Nancy W.
Chisholm, Sr., Dan
Cowles, Charles
D'Antona, Jason
Dagenais, David A.
Daugherty, Herbert H.
Day, Richard L.
Finen, Chris M.
Gwynn, Pamela

Krupa, Gary J.

McKinch, Terrance L.

Parrish, Thomas J.

Peterson, John W.

Rabel, Don

Rea, Vincent M.

Riechers, Keith

Rock, Brian E.

Romano, Christopher M.

Smidt, Ronald M.

Vann, Joshua

Vernon, IV, Walter N.

Walker, Kent

White, Leonard W.

Wolff, Robert

First Revision No. 1087-NFPA 99-2018 [Section No. 7.3.1.2.3.2]

7.3.1.2.3.2

Sufficient TRs shall be provided so that the horizontal cable to any data or communications outlet in the building can be reached without exceeding 90 m (295 ft) maximum ~~pathway distance~~ cable length as tested electrically from the termination point in the TR to the outlet.

Submitter Information Verification

Committee: HEA-ELS

Submittal Date: Thu Aug 09 19:43:40 EDT 2018

Committee Statement

Committee Statement: As currently written "without exceeding 90 m (295 ft) maximum pathway distance from the termination point " implies the pathway is the determining factor, it is actually cable length that is to be maximum 295 feet. This length is measured electrically with test equipment and due to the twisting of the pairs the physical length of the cable could actually be shorter than 295 feet if measured along the cable jacket.

The pathway would necessarily be much shorter than 295 feet.

Response Message: FR-1087-NFPA 99-2018

Public Input No. 252-NFPA 99-2018 [Section No. 7.3.1.2.3.2]

Ballot Results

✔ **This item has passed ballot**

29 Eligible Voters
3 Not Returned
26 Affirmative All
0 Affirmative with Comments
0 Negative with Comments
0 Abstention

Not Returned

Fiske, William T.

Meade, James E.

Sappington, Steve R.

Affirmative All

Beckstrand, Gary A.

Chandler, H. David

Chilton, Nancy W.

Chisholm, Sr., Dan

Cowles, Charles

D'Antona, Jason

Dagenais, David A.
Daugherty, Herbert H.
Day, Richard L.
Finen, Chris M.
Gwynn, Pamela
Krupa, Gary J.
McKinch, Terrance L.
Parrish, Thomas J.
Peterson, John W.
Rabel, Don
Rea, Vincent M.
Riechers, Keith
Rock, Brian E.
Romano, Christopher M.
Smidt, Ronald M.
Vann, Joshua
Vernon, IV, Walter N.
Walker, Kent
White, Leonard W.
Wolff, Robert

First Revision No. 1088-NFPA 99-2018 [Section No. 7.3.1.2.3.4(E)]

(E)

~~A TR shall serve a maximum of 1858 m^2 (20,000 ft^2) of usable space on a single floor~~ A TR shall only serve the floor where it is located and shall be located so as to not exceed the maximum cable length in 7.3.1.2.3.2 .

Submitter Information Verification

Committee: HEA-ELS

Submittal Date: Thu Aug 09 19:47:56 EDT 2018

Committee Statement

Committee Statement: The maximum pathway distance of 295 ft is a technically justifiable standard consistent with the industry at the present time. The requirement for maximum 20,000 SF is not a technically justifiable standard. A centralized room, with sufficient working space, can serve up significantly more than 20,000 SF. This requirement requires more TR rooms than are necessary to meet the performance objectives for the IT infrastructure. This requirement coupled with FGI requirements for a 12x14 TR room creates a significant amount of additional square footage within healthcare facilities, which has been enforced in several states. Room size, number, and location should be based upon proper working clearance, minimum pathway distance, and performance of the network system. Working clearance requirements would take into account network needs for particular modalities /areas of a hospital (i.e an ICU would have different network requirements than a standard med surg floor.)

Example a 21,000 SF floor would require two dedicated TR spaces, when this could simply be serviced from one TR room. A 295ft radius from a centralized TR would theoretically be able to cover well over 50,000 SF after taking into account wire length, routing and other limitations.

Response Message: FR-1088-NFPA 99-2018

Public Input No. 260-NFPA 99-2018 [Section No. 7.3.1.2.3.4(E)]

Public Input No. 375-NFPA 99-2018 [Section No. 7.3.1.2.3.4(E)]

Ballot Results

✔ **This item has passed ballot**

29 Eligible Voters
3 Not Returned
26 Affirmative All
0 Affirmative with Comments
0 Negative with Comments
0 Abstention

Not Returned

Fiske, William T.

Meade, James E.

Sappington, Steve R.

Affirmative All

Beckstrand, Gary A.
Chandler, H. David
Chilton, Nancy W.
Chisholm, Sr., Dan
Cowles, Charles
D'Antona, Jason
Dagenais, David A.
Daugherty, Herbert H.
Day, Richard L.
Finen, Chris M.
Gwynn, Pamela
Krupa, Gary J.
McKinch, Terrance L.
Parrish, Thomas J.
Peterson, John W.
Rabel, Don
Rea, Vincent M.
Riechers, Keith
Rock, Brian E.
Romano, Christopher M.
Smidt, Ronald M.
Vann, Joshua
Vernon, IV, Walter N.
Walker, Kent
White, Leonard W.
Wolff, Robert

First Revision No. 1103-NFPA 99-2018 [Section No. 7.3.1.2.3.6]

7.3.1.2.3.6 Security.

Access to TRs shall be ~~restricted and controlled~~ determined based on a security vulnerability assessment .

Submitter Information Verification

Committee: HEA-ELS

Submittal Date: Fri Aug 10 13:06:43 EDT 2018

Committee Statement

Committee Statement: This revision permits the facility to determine appropriate access based on their specific risks.

Response Message: FR-1103-NFPA 99-2018

Ballot Results

This item has passed ballot

29 Eligible Voters
3 Not Returned
26 Affirmative All
0 Affirmative with Comments
0 Negative with Comments
0 Abstention

Not Returned

Fiske, William T.
Meade, James E.
Sappington, Steve R.

Affirmative All

Beckstrand, Gary A.
Chandler, H. David
Chilton, Nancy W.
Chisholm, Sr., Dan
Cowles, Charles
D'Antona, Jason
Dagenais, David A.
Daugherty, Herbert H.
Day, Richard L.
Finen, Chris M.
Gwynn, Pamela
Krupa, Gary J.

McKinch, Terrance L.

Parrish, Thomas J.

Peterson, John W.

Rabel, Don

Rea, Vincent M.

Riechers, Keith

Rock, Brian E.

Romano, Christopher M.

Smidt, Ronald M.

Vann, Joshua

Vernon, IV, Walter N.

Walker, Kent

White, Leonard W.

Wolff, Robert

First Revision No. 1089-NFPA 99-2018 [Section No. 7.3.3.7.4]

~~7.3.3.7.4*~~

~~The normal and redundant clinical IT network pathways shall not be permitted to share traffic over the same physical segment.~~

~~A.7.3.3.7.4~~

~~While each physical path of the clinical IT network can comprise both hardwired and wireless IT networking equipment, each path must maintain independent autonomous operational integrity. Network traffic on one path cannot be allowed to cross-over and utilize the same channel of the other path at any time.~~

Submitter Information Verification

Committee: HEA-ELS

Submittal Date: Thu Aug 09 19:51:42 EDT 2018

Committee Statement

Committee Statement: The purpose of this requirement is not clear and does not provide clear guidance.

When you have 2 separate pathways, a normal and a redundant, they would not be able to share traffic over the same physical cable.

This section has been deleted.

Response Message: FR-1089-NFPA 99-2018

Public Input No. 261-NFPA 99-2018 [Section No. 7.3.3.7.4]

Ballot Results

✔ **This item has passed ballot**

29 Eligible Voters
3 Not Returned
26 Affirmative All
0 Affirmative with Comments
0 Negative with Comments
0 Abstention

Not Returned

Fiske, William T.

Meade, James E.

Sappington, Steve R.

Affirmative All

Beckstrand, Gary A.

Chandler, H. David
Chilton, Nancy W.
Chisholm, Sr., Dan
Cowles, Charles
D'Antona, Jason
Dagenais, David A.
Daugherty, Herbert H.
Day, Richard L.
Finen, Chris M.
Gwynn, Pamela
Krupa, Gary J.
McKinch, Terrance L.
Parrish, Thomas J.
Peterson, John W.
Rabel, Don
Rea, Vincent M.
Riechers, Keith
Rock, Brian E.
Romano, Christopher M.
Smidt, Ronald M.
Vann, Joshua
Vernon, IV, Walter N.
Walker, Kent
White, Leonard W.
Wolff, Robert

First Revision No. 1090-NFPA 99-2018 [Section No. A.6.7.2.3]

A.6.7.6.1

Type 1 essential electrical systems are comprised of three separate branches capable of supplying a limited amount of lighting and power service that is considered essential for life safety and effective facility operation during the time the normal electrical service is interrupted for any reason. These three separate branches are the life safety, critical, and equipment branches.

Submitter Information Verification

Committee: HEA-ELS
Submittal Date: Thu Aug 09 19:54:43 EDT 2018

Committee Statement

Committee Statement: 386
Response Message: FR-1090-NFPA 99-2018

Public Input No. 387-NFPA 99-2018 [New Section after A.6.7.5]
Public Input No. 386-NFPA 99-2018 [Section No. A.6.7.2.3]

Ballot Results

✔ **This item has passed ballot**

29 Eligible Voters
3 Not Returned
25 Affirmative All
1 Affirmative with Comments
0 Negative with Comments
0 Abstention

Not Returned

Fiske, William T.
Meade, James E.
Sappington, Steve R.

Affirmative All

Beckstrand, Gary A.
Chandler, H. David
Chilton, Nancy W.
Chisholm, Sr., Dan
Cowles, Charles
D'Antona, Jason
Dagenais, David A.
Daugherty, Herbert H.
Day, Richard L.

Finen, Chris M.

Gwynn, Pamela

Krupa, Gary J.

McKinch, Terrance L.

Parrish, Thomas J.

Peterson, John W.

Rabel, Don

Rea, Vincent M.

Riechers, Keith

Romano, Christopher M.

Smidt, Ronald M.

Vann, Joshua

Vernon, IV, Walter N.

Walker, Kent

White, Leonard W.

Wolff, Robert

Affirmative with Comment

Rock, Brian E.

• The Section reference for FR-1090 incorrectly cites A.6.7.2.3 for informative material unrelated to battery systems, instead of to the intended A.6.7.6.1.