Second Revision No. 1050-NFPA 99-2022 [Global Comment]

Throughout Section 6.9 and associated Annex A material and A.6.8.1, revise the term EPM (electrical preventive maintenance) to EMP (electrical maintenance program). Revise the acronym only where only the acronym is used. Revise complete term where the complete term is used.

Submitter Information Verification

Committee: HEA-ELS

Submittal Date: Tue Aug 23 12:07:45 EDT 2022

Committee Statement

Committee Statement: The revisions are made for alignment with the revised definition of Electrical Maintenance Program (EMP) in Chapter 3.

Response Message: SR-1050-NFPA 99-2022

Second Revision No. 1109-NFPA 99-2022 [Detail]

Revise 6.7.4.1.1.3 to read:

Maintenance shall be performed in accordance with ~~Chapter 8 of NFPA 110~~ Section 6.9.

Submitter Information Verification

Committee: HEA-ELS

Submittal Date: Wed Aug 24 15:40:59 EDT 2022

Committee Statement

Committee Statement: The reference to Section 6.9 is the correct reference for electrical system preventive maintenance.

Response Message: SR-1109-NFPA 99-2022

Public Comment No. 100-NFPA 99-2022 [Section No. 6.7.4.1.1.3]

Second Revision No. 1114-NFPA 99-2022 [Detail]

Revise Section 6.7.5.3.1 to read:

The life safety and critical branches shall be installed and connected to the alternate power source specified in 6.7.1.1.2 ~~and 6.7.1.1.3~~ so that all functions specified herein for the life safety and critical branches are automatically restored to operation within 10 seconds after interruption of the normal source.

Submitter Information Verification

Committee: HEA-ELS
Submittal Date: Wed Aug 24 16:11:43 EDT 2022

Committee Statement

Committee Statement: The revision is made to delete the referenced section that has been merged into 6.7.1.2.2.
Response Message: SR-1114-NFPA 99-2022

Public Comment No. 19-NFPA 99-2022 [Global Input]

Second Revision No. 1117-NFPA 99-2022 [Detail]

Revise Section 6.7.6.4.1 to read:

6.7.6.4.1Source.

The life safety and equipment branches shall be installed and connected to the alternate power source specified in 6.7.1.1.2 ~~and 6.7.1.1.3~~ so that all functions specified herein for the life safety and equipment branches are automatically restored to operation within 10 seconds after interruption of the normal source.

Submitter Information Verification

Committee: HEA-ELS
Submittal Date: Wed Aug 24 16:40:57 EDT 2022

Committee Statement

Committee Statement: The revision deletes the referenced section that has been merged into 6.7.1.2.2.
Response Message: SR-1117-NFPA 99-2022

Second Revision No. 1062-NFPA 99-2022 [Section No. 3.3.17]

3.3.18 Branch Circuit. (Branch-Circuit)

The circuit conductors between the final overcurrent device protecting the circuit and the outlet(s). [**70,**~~2020~~ 2023] (ELS)

Submitter Information Verification

Committee: HEA-ELS

Submittal Date: Tue Aug 23 16:32:22 EDT 2022

Committee Statement

Committee Statement: The extracted definition is revised by adding the alternative term (branch-circuit) to align with the definition in the 2023 edition of NFPA 70.

Response Message: SR-1062-NFPA 99-2022

Second Revision No. 1063-NFPA 99-2022 [Section No. 3.3.46]

3.3.48* Electrical ~~Preventive~~ Maintenance Program (~~EPM~~ EMP).

A managed program of inspecting, testing, monitoring, 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~~ failures . [**70B,**~~2019~~ 2023] (ELS)

A.3.3.48 Electrical Maintenance Program (EMP).

Electrical maintenance relies on knowing the electrical systems and equipment being maintained and on knowing the operating experience, loss exposures, potential for injury, and maintenance resources. [**70B,** 2023] (ELS)

Submitter Information Verification

Committee: HEA-ELS

Submittal Date: Tue Aug 23 16:35:55 EDT 2022

Committee Statement

Committee Statement: The extracted definition is revised to align with the definition in the 2023 edition of NFPA 70B.New annex content is extracted to support the understanding of this definition.

Response Message: SR-1063-NFPA 99-2022

Second Revision No. 1065-NFPA 99-2022 [Section No. 3.3.68]

3.3.71* Ground-Fault Circuit Interrupter (GFCI).

A device intended for the protection of personnel that functions to de-energize a circuit or portion thereof within an established period of time when a ground-fault current ~~to ground~~ exceeds the values established for a Class A device. [**70,**~~2020~~ 2023] (ELS)

A.3.3.71 Ground-Fault Circuit Interrupter (GFCI).

See UL 943, *Standard for Ground-Fault Circuit Interrupters* , for further information.
Class A ground-fault circuit interrupters trip when the ground-fault current ~~to ground~~ is 6 mA or higher and do not trip when the ground-fault current ~~to ground~~ is less than 4 mA. ~~For further information, see UL 943, *Ground-Fault Circuit-Interrupters* .~~ [**70,**~~2020~~ 2023] (ELS)

Submitter Information Verification

Committee: HEA-ELS
Submittal Date: Tue Aug 23 16:43:36 EDT 2022

Committee Statement

Committee Statement: The extracted definition and associated annex material are revised to align with the definition in the 2023 edition of NFPA 70.
Response Message: SR-1065-NFPA 99-2022

Second Revision No. 1066-NFPA 99-2022 [Section No. 3.3.158]

3.3.165* Receptacle.

A ~~receptacle is a~~ contact device installed at the outlet for the connection of an attachment plug, or for the direct connection of electrical utilization equipment designed to mate with the corresponding contact device . A single receptacle is a single contact device with no other contact device on the same yoke or strap . A multiple receptacle is two or more contact devices on the same yoke or strap . [**70,**~~2020~~ 2023] (ELS)

A.3.3.165 Receptacle.

A duplex receptacle is an example of a multiple receptacle that has two receptacles on the same yoke or strap. [**70,** 2023] (ELS)

Submitter Information Verification

Committee: HEA-ELS

Submittal Date: Tue Aug 23 16:53:15 EDT 2022

Committee Statement

Committee Statement: The extracted definition is revised to align with the 2023 edition of NFPA 70. New annex content has been extracted from NFPA 70 to support the understanding of this definition.

Response Message: SR-1066-NFPA 99-2022

Second Revision No. 1000-NFPA 99-2022 [Section No. 6.2.4.1]

6.2.4.1

Electrical system components shall be located to minimize interruptions caused by natural forces common to the area ~~(e.g., storms, floods, earthquakes, or hazards created by adjoining structures or activities)~~ or natural disasters identified in the facility's emergency operations plan .

Submitter Information Verification

Committee: HEA-ELS

Submittal Date: Mon Aug 22 12:12:00 EDT 2022

Committee Statement

Committee Statement: The information "e.g." references have been deleted in accordance with the direction in Public Comment 17. The inclusion of the reference to the "emergency operations plan" is consistent with Chapter 12.

Response Message: SR-1000-NFPA 99-2022

Public Comment No. 17-NFPA 99-2022 [Section No. 6.2.4.1]

Second Revision No. 1003-NFPA 99-2022 [Section No. 6.3.2.3.7]

6.3.2.3.7

The use of an isolated power system (IPS) shall be permitted as a protective means capable of limiting ground-fault current without power interruption if the IPS complies with 6.3.2.9 .

~~**6.3.2.3.7.1**~~

~~When installed, the IPS shall conform to the requirements of 6.3.2.9 .~~

Submitter Information Verification

Committee: HEA-ELS

Submittal Date: Mon Aug 22 12:59:29 EDT 2022

Committee Statement

Committee Statement: The second revision clarifies the requirement and makes it a conditional statement rather than one of location.

Response Message: SR-1003-NFPA 99-2022

Public Comment No. 18-NFPA 99-2022 [Section No. 6.3.2.3.7]

Second Revision No. 1006-NFPA 99-2022 [Section No. 6.3.2.8]

6.3.2.8 Ground- Fault Protection.

6.3.2.8.1 ~~Applicability~~ Ground-Fault Protection of Equipment (GFPE) .

~~The requirements of 6.3.2.8.2 shall apply to health care facilities housing Category 1 spaces or utilizing life-support equipment and buildings that provide essential utilities or services for the operation of Category 1 spaces or electrical life-support equipment.~~

6.3.2.8.1.1 Applicability.

The requirements of 6.3.2.8.1 shall apply to health care facilities housing Category 1 spaces or ~~utilizing~~ using life-support equipment and buildings that provide essential utilities or services for the operation of Category 1 spaces or electrical life-support equipment.

6.3.2.8.1.2 Disconnecting Means.

Where ground-fault protection is provided for operation of the service or feeder disconnecting means in accordance with 517.17 of *NFPA 70* , an additional step of ground-fault protection shall be provided ~~in~~ at the disconnecting means for the next level of feeders downstream toward the load.

6.3.2.8.1.3 Selectivity.

~~Ground-fault protection~~ GFPE for operation of the service and feeder disconnecting means shall be fully selective such that the downstream device and not the upstream device ~~shall~~ opens for downstream ground faults.

~~**6.3.2.8.2***~~ ~~Equipment Protection.~~

~~The main and downstream ground-fault protective devices (where required) shall be coordinated as required in 6.3.2.8 .~~

~~**A.6.3.2.8.4**~~

~~Within the constraints of the equipment provided, consideration should be given to coordinating circuit breakers, fuses, and other overcurrent protective devices so that power interruption in that part of the circuit that precedes the interrupting device closest to a fault is not likely to occur.~~

6.3.2.8.2 ~~Personnel~~ Ground-Fault Circuit-Interrupter (GFCI) Protection of Personnel .

Ground-fault circuit interrupters (GFCIs) shall be listed.

Submitter Information Verification

Committee: HEA-ELS

Submittal Date: Mon Aug 22 13:05:32 EDT 2022

Committee Statement

Committee Statement: The second revision restructures and retitles the section to reflect the specific requirements, deletes redundant language, and revises language to provide clarity and consistency for users of the document.

First, the section has been restructured to clarify specific equipment protection in

proposed 6.3.2.8.1, and specific personnel protection in proposed 6.3.2.8.2. Paragraph titles have also been added to provide clarity and assist users navigate the requirements as follows: 6.3.2.8.1.2 is now titled Disconnecting Means and 6.3.2.8.1.3 is now titled Selectivity. This also improves consistency as the other paragraphs in this section have existing titles.

Second, 6.3.2.8.1.2 is titled Disconnecting Means to reflect the requirements, which address both service and feeder disconnecting means. The text is revised to note requirements that exist in Section 517.17 of NFPA 70 to supplement and enhance the performance requirements for when ground fault protection is provided. The 517.17 reference is needed to clarify when ground fault protection is required to be provided. Additionally, for clarity and consistency, text has been added to reference “at the disconnecting means” as to where the ground fault protection is required to be installed.

Third, existing 6.3.2.8.4 is deleted as the requirement is redundant with 6.3.2.8.1.3. It also redundant as it points back to the entire section with the reference to 6.3.2.8.

Response Message: SR-1006-NFPA 99-2022

Public Comment No. 42-NFPA 99-2022 [Section No. 6.3.2.8]

Second Revision No. 1067-NFPA 99-2022 [Section No. 6.7.1.1.2]

6.7.1.1.2

~~Essential~~ The essential electrical system~~s~~ shall have a minimum of two independent power sources or sets of power sources.

6.7.1.1.2.1

At least one power source shall be on-site and sized to supply the entire essential electrical system.

6.7.1.1.2.2

The additional power source(s) shall be permitted to be either on-site or off-site.

Submitter Information Verification

Committee: HEA-ELS

Submittal Date: Tue Aug 23 16:58:53 EDT 2022

Committee Statement

Committee Statement: This revision is required for correlation with changes made to the terms “power sources”, “alternate power sources”, “essential electrical system”, “normal power” and the acronym “EPS” during the first draft phase of the revision process. This revision aligns with second revisions created to address Public Comments 16, 20, and 44. These changes also address recommendations made by the Terminology Task Group in Public Input 85. The replacement of the term “alternate power source” with “on-site power source” is made for correlation with the deletion of the term “alternate power source” made in First Revision 942. The terms “emergency” or “permanent emergency” have been eliminated as they are not defined in the standard.

Response Message: SR-1067-NFPA 99-2022

Second Revision No. 1069-NFPA 99-2022 [Section No. 6.7.1.2.2.5]

6.7.1.2.2.5 Temporary On-Site Power Source ~~of Power~~ for Maintenance or Repair of the ~~Alternate Source of Power~~ On-Site Power Source .

(A)

If the essential electrical system relies on a single ~~alternate source of power~~ on-site power source that will be disabled for maintenance or repair, it shall include a permanent switching means to connect a portable or temporary ~~alternate source of power~~ on-site power source that is available for the duration of the maintenance or repair and that complies with the following requirements:

(1) The connection to the portable or temporary ~~alternate source of power~~ on-site power source shall not require modification of the permanent system wiring.

(2) Transfer of power ~~between the normal power source~~ to the portable or temporary on-site power source ~~and the emergency power source~~ shall be in accordance with 6.7.2.1.3.

(3) The connection point for the portable or temporary ~~alternate source~~ on-site power source shall be marked with the phase rotation and system bonding requirements.

(4) Mechanical or electrical interlocking shall prevent inadvertent interconnection of power sources.

(5) The switching means shall include a contact point that annunciates at a location remote from the generator or at another facility monitoring system to indicate that the ~~permanent emergency source~~ on-site power source is disconnected from the ~~emergency system~~ essential electrical system .

(B)

Using manual switching to switch from the ~~permanent source of power~~ on-site power source to the portable or temporary ~~alternate source~~ on-site power source ~~of power~~ and using the switching means for connection of a load bank shall be permitted.

(C)

The permanent switching means to connect a portable or temporary ~~alternate~~ on-site power source ~~of power~~ for the duration of maintenance or repair shall not be required where any of the following conditions exists:

(1) All processes that rely on the essential electrical system source are capable of being disabled during maintenance or repair of the ~~emergency source of power~~ on-site power source .

(2) The building or structure is unoccupied and fire protection systems are fully functional and do not require an ~~alternate power~~ on-site power source.

(3) Other temporary ~~means can~~ on-site power sources can be substituted for the essential electrical system.

Submitter Information Verification

Committee: HEA-ELS

Submittal Date: Tue Aug 23 17:07:18 EDT 2022

Committee Statement

Committee Statement: This revision is required for correlation with changes made to the terms “power sources”, “alternate power sources”, “essential electrical system”, “normal power” and the acronym “EPS” during the first draft phase of the revision process. This revision aligns with second revisions created to address Public Comments 16, 20, and 44. These changes also address recommendations made by the Terminology Task Group in Public Input 85. The replacement of the term “alternate power source” with “on-site power source” is made for correlation with the deletion of the term “alternate power source” made in First Revision 942. The terms “emergency” or “permanent emergency” have been eliminated as they are not defined in the standard.

Response Message: SR-1069-NFPA 99-2022

Second Revision No. 1071-NFPA 99-2022 [Section No. 6.7.1.2.3.1]

6.7.1.2.3.1 Indoor ~~EPS~~ On-Site Power Source Installations.

~~The EPS~~ Indoor on-site power sources for Level 1 installations shall be installed in a room dedicated to ~~alternate power~~ such sources ~~for Level 1 installations~~ .

(A)

The ~~EPS~~ on-site power sources room shall be separated from the rest of the building by construction with a minimum 2-hour fire resistance rating. [~~**110:** 7.2.1.1~~]

(B)

~~EPSS [emergency power supply system]~~ The on-site power source equipment shall be permitted to be installed in the ~~EPS~~ room with the on-site power sources . [~~**110:** 7.2.1.2~~]

(C)

No other equipment, including architectural appurtenances, except those that serve ~~this~~ the space~~,~~ shall be permitted in the ~~EPS room~~ room containing the on-site power sources . [~~**110:** 7.2.1.3~~]

Submitter Information Verification

Committee: HEA-ELS

Submittal Date: Tue Aug 23 17:19:16 EDT 2022

Committee Statement

Committee Statement: This revision is required for correlation with changes made to the terms “power sources”, “alternate power sources”, “essential electrical system”, “normal power” and the acronym “EPS” during the first draft phase of the revision process. This revision aligns with second revisions created to address Public Comments 16, 20, and 44. These changes also address recommendations made by the Terminology Task Group in Public Input 85. The replacement of the term “alternate power source” with “on-site power source” is made for correlation with the deletion of the term “alternate power source” made in First Revision 942. The terms “emergency” or “permanent emergency” have been eliminated as they are not defined in the standard.

The extract attribution to NFPA 110 has been deleted as the text is no longer a direct extract from NFPA 110. The text revision reflects the terminology used in NFPA 99.

Response Message: SR-1071-NFPA 99-2022

Second Revision No. 1073-NFPA 99-2022 [Section No. 6.7.1.2.3.2]

6.7.1.2.3.2 Outdoor ~~EPS~~ On-Site Power Source Installations.

(A)

~~The EPS~~ If the on-site power source is a generator, it shall comply with either of the following: ~~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 or be constructed such that it is capable of resisting the impacts of snow or rain.~~

(1) The generator 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.

(2) The generator shall be constructed such that it is capable of resisting the impacts of snow or rain.

(B)

~~EPSS equipment~~ Equipment serving a generator shall be permitted to be installed in the ~~EPS~~ generator enclosure. [~~**110:** 7.2.2.2~~]

(C)

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

Submitter Information Verification

Committee: HEA-ELS

Submittal Date: Tue Aug 23 17:28:54 EDT 2022

Committee Statement

Committee Statement: This revision is required for correlation with changes made to the terms “power sources”, “alternate power sources”, “essential electrical system”, “normal power” and the acronym “EPS” during the first draft phase of the revision process. This revision aligns with second revisions created to address Public Comments 16, 20, and 44. These changes also address recommendations made by the Terminology Task Group in Public Input 85. The replacement of the term “alternate power source” with “on-site power source” is made for correlation with the deletion of the term “alternate power source” made in First Revision 942. The terms “emergency” or “permanent emergency” have been eliminated as they are not defined in the standard.

The extract attribution to NFPA 110 has been deleted as the text is no longer a direct extract from NFPA 110. The text revision reflects the terminology used in NFPA 99.

Response Message: SR-1073-NFPA 99-2022

Second Revision No. 1074-NFPA 99-2022 [Section No. 6.7.1.2.3.3]

6.7.1.2.3.3

On-site power source equipment for Level 1 ~~EPSS equipment shall~~ systems shall not be installed in the same room ~~with~~ as ~~the normal service~~ other power source 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~~]

Submitter Information Verification

Committee: HEA-ELS

Submittal Date: Tue Aug 23 17:35:46 EDT 2022

Committee Statement

Committee Statement: This revision is required for correlation with changes made to the terms “power sources”, “alternate power sources”, “essential electrical system”, “normal power” and the acronym “EPS” during the first draft phase of the revision process. This revision aligns with second revisions created to address Public Comments 16, 20, and 44. These changes also address recommendations made by the Terminology Task Group in Public Input 85. The replacement of the term “alternate power source” with “on-site power source” is made for correlation with the deletion of the term “alternate power source” made in First Revision 942. The terms “emergency” or “permanent emergency” have been eliminated as they are not defined in the standard.

The extract attribution to NFPA 110 has been deleted as the text is no longer a direct extract from NFPA 110. The text revision reflects the terminology used in NFPA 99.

Response Message: SR-1074-NFPA 99-2022

Second Revision No. 1075-NFPA 99-2022 [Section No. 6.7.1.2.3.4]

6.7.1.2.3.4

The rooms, enclosures, or separate buildings housing on-site power source equipment for Level 1 or Level 2 ~~EPSS equipment shall~~ systems shall be designed and located to minimize damage from flooding, including that caused by the following:

(1) ~~Flooding resulting from firefighting~~ Firefighting

(2) Sewer water backup

(3) Other disasters or occurrences

[~~**110:** 7.2.4~~]

Submitter Information Verification

Committee: HEA-ELS

Submittal Date: Tue Aug 23 17:39:26 EDT 2022

Committee Statement

Committee Statement: This revision is required for correlation with changes made to the terms “power sources”, “alternate power sources”, “essential electrical system”, “normal power” and the acronym “EPS” during the first draft phase of the revision process. This revision aligns with second revisions created to address Public Comments 16, 20, and 44. These changes also address recommendations made by the Terminology Task Group in Public Input 85. The replacement of the term “alternate power source” with “on-site power source” is made for correlation with the deletion of the term “alternate power source” made in First Revision 942. The terms “emergency” or “permanent emergency” have been eliminated as they are not defined in the standard.

The extract attribution to NFPA 110 has been deleted as the text is no longer a direct extract from NFPA 110. The text revision reflects the terminology used in NFPA 99.

Response Message: SR-1075-NFPA 99-2022

Second Revision No. 1076-NFPA 99-2022 [Section No. 6.7.1.2.3.5]

6.7.1.2.3.5

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

Submitter Information Verification

Committee: HEA-ELS

Submittal Date: Tue Aug 23 17:41:49 EDT 2022

Committee Statement

Committee Statement: This revision is required for correlation with changes made to the terms “power sources”, “alternate power sources”, “essential electrical system”, “normal power” and the acronym “EPS” during the first draft phase of the revision process. This revision aligns with second revisions created to address Public Comments 16, 20, and 44. These changes also address recommendations made by the Terminology Task Group in Public Input 85. The replacement of the term “alternate power source” with “on-site power source” is made for correlation with the deletion of the term “alternate power source” made in First Revision 942. The terms “emergency” or “permanent emergency” have been eliminated as they are not defined in the standard.

The extract attribution to NFPA 110 has been deleted as the text is no longer a direct extract from NFPA 110. The text revision reflects the terminology used in NFPA 99.

Response Message: SR-1076-NFPA 99-2022

Second Revision No. 1077-NFPA 99-2022 [Section No. 6.7.1.2.3.6]

6.7.1.2.3.6

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

Submitter Information Verification

Committee: HEA-ELS

Submittal Date: Wed Aug 24 09:59:59 EDT 2022

Committee Statement

Committee Statement: This revision is required for correlation with changes made to the terms “power sources”, “alternate power sources”, “essential electrical system”, “normal power” and the acronym “EPS” during the first draft phase of the revision process. This revision aligns with second revisions created to address Public Comments 16, 20, and 44. These changes also address recommendations made by the Terminology Task Group in Public Input 85. The replacement of the term “alternate power source” with “on-site power source” is made for correlation with the deletion of the term “alternate power source” made in First Revision 942. The terms “emergency” or “permanent emergency” have been eliminated as they are not defined in the standard.

The extract attribution to NFPA 110 has been deleted as the text is no longer a direct extract from NFPA 110. The text revision reflects the terminology used in NFPA 99.

Response Message: SR-1077-NFPA 99-2022

Second Revision No. 1078-NFPA 99-2022 [Section No. 6.7.1.2.6]

6.7.1.2.6 Heating, Cooling, and Ventilating.

Design of the heating, cooling, and ventilation system for the ~~EPS equipment~~ on-site power sources room shall ~~include provision~~ provide for factors including, but not limited to, the following:

(1) Heat

(2) Cold

(3) Dust

(4) Humidity

(5) Snow and ice accumulations around housings

(6) Louvers

(7) Remote radiator fans, as applicable

(8) Prevailing winds blowing against radiator fan discharge air

Submitter Information Verification

Committee: HEA-ELS

Submittal Date: Wed Aug 24 10:02:18 EDT 2022

Committee Statement

Committee Statement: This revision is required for correlation with changes made to the terms “power sources”, “alternate power sources”, “essential electrical system”, “normal power” and the acronym “EPS” during the first draft phase of the revision process. This revision aligns with second revisions created to address Public Comments 16, 20, and 44. These changes also address recommendations made by the Terminology Task Group in Public Input 85. The replacement of the term “alternate power source” with “on-site power source” is made for correlation with the deletion of the term “alternate power source” made in First Revision 942. The terms “emergency” or “permanent emergency” have been eliminated as they are not defined in the standard.

Response Message: SR-1078-NFPA 99-2022

Second Revision No. 1054-NFPA 99-2022 [Section No. 6.7.1.2.7.2]

6.7.1.2.7.2

The annunciator shall be hard-wired to indicate alarm conditions of the ~~emergency or auxiliary~~ on-site power source as indicated in 6.7.1.2.7.2(A) through 6.7.1.2.7.2(H).

(A)

Individual visual signals shall indicate the following:

(1) When the ~~emergency or auxiliary~~ on-site power source is operating to supply power to load

(2) When the battery charger is malfunctioning (if provided)

(B)*

A remote, common audible alarm shall be provided as specified in 6.7.1.2.7.2(H). [**110:**5.6.6]

(C)

Local annunciation and either facility or network remote annunciation shall be provided for a Level 1 ~~EPS~~ on-site power source .

(D)

For the purposes of defining the types of annunciation in 6.7.1.2.7.2(C), the following shall apply:

(1) Local annunciation is located on the equipment itself or within the same equipment room.

(2) Facility remote annunciation is located on site but not within the room where the equipment is located.

(3) Network remote annunciation is located off site.

[**110:**5.6.6.3]

(E)

An alarm-silencing means shall be provided, and the panel shall include repetitive alarm circuitry so that, after the audible alarm has been silenced, it reactivates after the fault condition has been cleared and has to be restored to its normal position to be silenced again. [**110:**5.6.6.4]

(F)

In lieu of the requirement in 6.7.1.2.7.2(E) ~~5.6.6.4 of~~ ~~NFPA 110~~ , a manual alarm-silencing means shall be permitted that silences the audible alarm after the occurrence of the alarm condition, provided such means do not inhibit any subsequent alarms from sounding the audible alarm again without further manual action. [**110:**5.6.6.5]

(G)

Individual alarm indication to annunciate any of the conditions listed in Table 6.7.1.3.8.2 shall have the following characteristics:

(1) Be battery powered

(2) Be visually indicated

(3) Have additional contacts or circuits for a common audible alarm that signals locally and remotely when any of the itemized conditions occurs

(4) Have switches to test the operation of all visual alarm indicators

(H)*

~~A~~ The following shall apply to centralized computer systems: ~~shall not be permitted to be substituted for the alarm annunciator in 6.7.1.2.7 but shall be permitted to be used to supplement the alarm annunciator.~~

(1) They shall not be ~~permitted to be substituted~~ used as a substitute for the alarm annunciator in 6.7.1.2.7.

(2) They shall be permitted to ~~be used to~~ supplement the alarm annunciator in 6.7.1.2.7 .

(I)

Wireless transmission of the EPS data required by 6.7.1.3.8.2 and 6.7.1.3.8.3 shall be permitted.

Submitter Information Verification

Committee: HEA-ELS

Submittal Date: Tue Aug 23 13:51:17 EDT 2022

Committee Statement

Committee Statement: NOTE: The following CC Note No. 21 appeared in the First Draft Report on First Revision No. 915 and is also related to Public Input No. 17.

Consider the affirmative comment of Rock as it relates to the use of the abbreviation EPS. If EPS is used, add a definition.

Response Message: SR-1054-NFPA 99-2022

Public Comment No. 20-NFPA 99-2022 [Section No. 6.7.1.2.7.2]

Second Revision No. 1079-NFPA 99-2022 [Section No. 6.7.1.3.2]

6.7.1.3.2 Location.

The ~~EPS~~ generator 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~~]

Submitter Information Verification

Committee: HEA-ELS

Submittal Date: Wed Aug 24 10:05:46 EDT 2022

Committee Statement

Committee Statement: This revision is required for correlation with changes made to the terms "power sources", "alternate power sources", "essential electrical system", "normal power" and the acronym "EPS" during the first draft phase of the revision process. This revision aligns with second revisions created to address Public Comments 16, 20, and 44. These changes also address recommendations made by the Terminology Task Group in Public Input 85. The replacement of the term "alternate power source" with "on-site power source" is made for correlation with the deletion of the term "alternate power source" made in First Revision 942. The terms "emergency" or "permanent emergency" have been eliminated as they are not defined in the standard.

The extract attribution to NFPA 110 has been deleted as the text is no longer a direct extract from NFPA 110. The text revision reflects the terminology used in NFPA 99.

Response Message: SR-1079-NFPA 99-2022

Second Revision No. 1080-NFPA 99-2022 [Section No. 6.7.1.3.3]

6.7.1.3.3 Maintenance of Temperature.

The ~~EPS~~ generator shall be heated as necessary to maintain the water jacket and battery temperature determined by the ~~EPS~~ generator manufacturer for cold start and load acceptance for the type of ~~EPSS~~ system . [~~**110:** 5.3.1~~]

Submitter Information Verification

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Committee Statement

Committee Statement: This revision is required for correlation with changes made to the terms “power sources”, “alternate power sources”, “essential electrical system”, “normal power” and the acronym “EPS” during the first draft phase of the revision process. This revision aligns with second revisions created to address Public Comments 16, 20, and 44. These changes also address recommendations made by the Terminology Task Group in Public Input 85. The replacement of the term “alternate power source” with “on-site power source” is made for correlation with the deletion of the term “alternate power source” made in First Revision 942. The terms “emergency” or “permanent emergency” have been eliminated as they are not defined in the standard.

The extract attribution to NFPA 110 has been deleted as the text is no longer a direct extract from NFPA 110. The text revision reflects the terminology used in NFPA 99.

Response Message: SR-1080-NFPA 99-2022

Second Revision No. 1081-NFPA 99-2022 [Section No. 6.7.1.3.4 [Excluding any Sub-Sections]]

With the ~~EPS~~ generator running at rated load, ventilation airflow shall be provided to limit the maximum air temperature in the ~~EPS~~ generator room or the enclosure housing the unit to the maximum ambient air temperature ~~required~~ permitted by the ~~EPS~~ generator manufacturer. ~~[110: 7.7.1]~~

Submitter Information Verification

Committee: HEA-ELS

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Committee Statement

Committee Statement: This revision is required for correlation with changes made to the terms “power sources”, “alternate power sources”, “essential electrical system”, “normal power” and the acronym “EPS” during the first draft phase of the revision process. This revision aligns with second revisions created to address Public Comments 16, 20, and 44. These changes also address recommendations made by the Terminology Task Group in Public Input 85. The replacement of the term “alternate power source” with “on-site power source” is made for correlation with the deletion of the term “alternate power source” made in First Revision 942. The terms “emergency” or “permanent emergency” have been eliminated as they are not defined in the standard.

The extract attribution to NFPA 110 has been deleted as the text is no longer a direct extract from NFPA 110. The text revision reflects the terminology used in NFPA 99.

Response Message: SR-1081-NFPA 99-2022

Second Revision No. 1082-NFPA 99-2022 [Section No. 6.7.1.3.4.1]

6.7.1.3.4.1

Consideration shall be given to all the heat emitted to the ~~EPS~~ generator equipment room by the energy converter, uninsulated or insulated exhaust pipes, and other heat-producing equipment. [~~**110:** 7.7.1.1~~]

Submitter Information Verification

Committee: HEA-ELS

Submittal Date: Wed Aug 24 10:15:06 EDT 2022

Committee Statement

Committee Statement: This revision is required for correlation with changes made to the terms “power sources”, “alternate power sources”, “essential electrical system”, “normal power” and the acronym “EPS” during the first draft phase of the revision process. This revision aligns with second revisions created to address Public Comments 16, 20, and 44. These changes also address recommendations made by the Terminology Task Group in Public Input 85. The replacement of the term “alternate power source” with “on-site power source” is made for correlation with the deletion of the term “alternate power source” made in First Revision 942. The terms “emergency” or “permanent emergency” have been eliminated as they are not defined in the standard.

The extract attribution to NFPA 110 has been deleted as the text is no longer a direct extract from NFPA 110. The text revision reflects the terminology used in NFPA 99.

Response Message: SR-1082-NFPA 99-2022

Second Revision No. 1083-NFPA 99-2022 [Section No. 6.7.1.3.4.2]

6.7.1.3.4.2*

If required by the manufacturer, ventilation shall be supplied to the ~~alternate power source~~ generator equipment.

(A)

For ~~EPS~~ generators supplying Level 1 EPSS, ventilation air shall be supplied directly from a source outside the building by an exterior wall opening or from a source outside the building by a 2-hour fire-rated air transfer system. [~~**110:** 7.7.2.1~~]

(B)

For ~~EPS~~ generators supplying Level 1 EPSS, discharge air shall be directed outside the building by an exterior wall opening or to an exterior opening by a 2-hour fire-rated air transfer system. [~~**110:** 7.7.2.2~~]

(C)

Fire dampers, shutters, or other self-closing devices shall not be permitted in ventilation openings or ductwork for supply or return/discharge air to ~~EPS~~ generator equipment for Level 1 EPSS. [~~**110:** 7.7.2.3~~]

Submitter Information Verification

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Committee Statement

Committee Statement: This revision is required for correlation with changes made to the terms “power sources”, “alternate power sources”, “essential electrical system”, “normal power” and the acronym “EPS” during the first draft phase of the revision process. This revision aligns with second revisions created to address Public Comments 16, 20, and 44. These changes also address recommendations made by the Terminology Task Group in Public Input 85. The replacement of the term “alternate power source” with “on-site power source” is made for correlation with the deletion of the term “alternate power source” made in First Revision 942. The terms “emergency” or “permanent emergency” have been eliminated as they are not defined in the standard.

The extract attribution to NFPA 110 has been deleted as the text is no longer a direct extract from NFPA 110. The text revision reflects the terminology used in NFPA 99.

Response Message: SR-1083-NFPA 99-2022

Second Revision No. 1084-NFPA 99-2022 [Section No. 6.7.1.3.4.4]

6.7.1.3.4.4

Ventilation air shall be provided to supply and discharge cooling air for radiator cooling of the ~~EPS~~ generator when running at rated load. [~~**110:** 7.7.4~~]

(A)

Ventilation air supply and discharge for a radiator-cooled ~~EPS~~ generator shall have a maximum static restriction of 125 Pa (0.5 in. of water column) in the discharge duct at the radiator outlet. [~~**110:** 7.7.4.1~~]

(B)

Radiator air discharge shall be ducted outdoors or to an exterior opening by a 2-hour rated air transfer system. [**110:**7.7.4.2]

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Submittal Date: Wed Aug 24 10:21:20 EDT 2022

Committee Statement

Committee Statement: This revision is required for correlation with changes made to the terms “power sources”, “alternate power sources”, “essential electrical system”, “normal power” and the acronym “EPS” during the first draft phase of the revision process. This revision aligns with second revisions created to address Public Comments 16, 20, and 44. These changes also address recommendations made by the Terminology Task Group in Public Input 85. The replacement of the term “alternate power source” with “on-site power source” is made for correlation with the deletion of the term “alternate power source” made in First Revision 942. The terms “emergency” or “permanent emergency” have been eliminated as they are not defined in the standard.

The extract attribution to NFPA 110 has been deleted as the text is no longer a direct extract from NFPA 110. The text revision reflects the terminology used in NFPA 99.

Response Message: SR-1084-NFPA 99-2022

Second Revision No. 1085-NFPA 99-2022 [Section No. 6.7.1.3.4.5]

6.7.1.3.4.5

Motor-operated dampers, when used, shall be spring operated to open and motor closed. Fire dampers, shutters, or other self-closing devices shall not be permitted in ventilation openings or ductwork for supply or return/discharge air to ~~EPS~~ generator equipment for Level 1 ~~EPSS~~ systems . [~~**110:** 7.7.5~~]

Submitter Information Verification

Committee: HEA-ELS

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Committee Statement

Committee Statement: This revision is required for correlation with changes made to the terms “power sources”, “alternate power sources”, “essential electrical system”, “normal power” and the acronym “EPS” during the first draft phase of the revision process. This revision aligns with second revisions created to address Public Comments 16, 20, and 44. These changes also address recommendations made by the Terminology Task Group in Public Input 85. The replacement of the term “alternate power source” with “on-site power source” is made for correlation with the deletion of the term “alternate power source” made in First Revision 942. The terms “emergency” or “permanent emergency” have been eliminated as they are not defined in the standard.

The extract attribution to NFPA 110 has been deleted as the text is no longer a direct extract from NFPA 110. The text revision reflects the terminology used in NFPA 99.

Response Message: SR-1085-NFPA 99-2022

Second Revision No. 1086-NFPA 99-2022 [Section No. 6.7.1.3.4.6]

6.7.1.3.4.6

The ambient air temperature in the ~~EPS~~ generator equipment room or outdoor housing containing Level 1 rotating equipment shall stabilize at not less than 4.5°C (40°F) when the equipment is not operating. [~~**110:** 5.3.5~~]

Submitter Information Verification

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Committee Statement

Committee Statement: This revision is required for correlation with changes made to the terms “power sources”, “alternate power sources”, “essential electrical system”, “normal power” and the acronym “EPS” during the first draft phase of the revision process. This revision aligns with second revisions created to address Public Comments 16, 20, and 44. These changes also address recommendations made by the Terminology Task Group in Public Input 85. The replacement of the term “alternate power source” with “on-site power source” is made for correlation with the deletion of the term “alternate power source” made in First Revision 942. The terms “emergency” or “permanent emergency” have been eliminated as they are not defined in the standard.

The extract attribution to NFPA 110 has been deleted as the text is no longer a direct extract from NFPA 110. The text revision reflects the terminology used in NFPA 99.

Response Message: SR-1086-NFPA 99-2022

Second Revision No. 1087-NFPA 99-2022 [Section No. 6.7.2.1.2.2]

6.7.2.1.2.2

Ground-fault indication without automatic disconnection shall be provided at any ~~alternate~~ on-site power source.

Submitter Information Verification

Committee: HEA-ELS

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Committee Statement

Committee Statement: This revision is required for correlation with changes made to the terms “power sources”, “alternate power sources”, “essential electrical system”, “normal power” and the acronym “EPS” during the first draft phase of the revision process. This revision aligns with second revisions created to address Public Comments 16, 20, and 44. These changes also address recommendations made by the Terminology Task Group in Public Input 85. The replacement of the term “alternate power source” with “on-site power source” is made for correlation with the deletion of the term “alternate power source” made in First Revision 942. The terms “emergency” or “permanent emergency” have been eliminated as they are not defined in the standard.

Response Message: SR-1087-NFPA 99-2022

Second Revision No. 1088-NFPA 99-2022 [Section No. 6.7.2.1.3.1]

6.7.2.1.3.1 Source Monitoring.

(A)*

Undervoltage-sensing devices shall be provided to monitor all ungrounded lines of the primary power source ~~of power~~ as follows:

(1) When the voltage on any phase falls below the minimum operating voltage of any load to be served, the transfer switch shall automatically initiate engine start and the process of transfer to the ~~emergency power supply (EPS)~~ other power source .

(2)* When the voltage on all phases of the primary source returns to within specified limits for a designated period of time, the process of transfer back to the primary power source shall be initiated.

[~~**110:** 6.2.2.1~~]

(B)

Both voltage-sensing and frequency-sensing equipment shall be provided to monitor one ungrounded line of the ~~EPS~~ power sources . [~~**110:** 6.2.2.2~~]

(C)

Transfer to ~~the EPS~~ a power source shall be inhibited until the voltage and frequency are within a specified range to handle loads to be served. [~~**110:** 6.2.2.3~~]

(D)

Sensing equipment shall not be required in the transfer switch, provided it is included with the engine control panel. [**110:**6.2.2.3.1]

(E)

Frequency-sensing equipment shall not be required for monitoring the ~~public utility source where used as an EPS, as permitted by 5.1.3 of NFPA 110~~ off-site power source .
[~~**110:** 6.2.2.3.2~~]

Submitter Information Verification

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Committee Statement

Committee Statement: This revision is required for correlation with changes made to the terms “power sources”, “alternate power sources”, “essential electrical system”, “normal power” and the acronym “EPS” during the first draft phase of the revision process. This revision aligns with second revisions created to address Public Comments 16, 20, and 44. These changes also address recommendations made by the Terminology Task Group in Public Input 85. The replacement of the term “alternate power source” with “on-site power source” is made for correlation with the deletion of the term “alternate power source” made in First Revision 942. The terms “emergency” or “permanent emergency” have been eliminated as they are not defined in the standard.

The extract attribution to NFPA 110 has been deleted as the text is no longer a direct extract from NFPA 110. The text revision reflects the terminology used in NFPA 99.

Response Message: SR-1088-NFPA 99-2022

Second Revision No. 1089-NFPA 99-2022 [Section No. 6.7.2.1.3.2]

6.7.2.1.3.2 Interlocking.

Mechanical interlocking or an approved alternate method shall prevent the inadvertent interconnection of ~~the primary power supply and the EPS, or~~ any two separate power sources ~~of power~~ . [~~**110:** 6.2.3~~]

Submitter Information Verification

Committee: HEA-ELS

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Committee Statement

Committee Statement: This revision is required for correlation with changes made to the terms “power sources”, “alternate power sources”, “essential electrical system”, “normal power” and the acronym “EPS” during the first draft phase of the revision process. This revision aligns with second revisions created to address Public Comments 16, 20, and 44. These changes also address recommendations made by the Terminology Task Group in Public Input 85. The replacement of the term “alternate power source” with “on-site power source” is made for correlation with the deletion of the term “alternate power source” made in First Revision 942. The terms “emergency” or “permanent emergency” have been eliminated as they are not defined in the standard.

The extract attribution to NFPA 110 has been deleted as the text is no longer a direct extract from NFPA 110. The text revision reflects the terminology used in NFPA 99.

Response Message: SR-1089-NFPA 99-2022

Second Revision No. 1090-NFPA 99-2022 [Section No. 6.7.2.1.3.4]

6.7.2.1.3.4* Time Delay on Starting of ~~EPS~~ Power Sources .

~~A time-delay device shall be provided to delay starting of the EPS. The timer shall prevent nuisance starting of the EPS and possible subsequent load transfer in the event of harmless momentary power dips and interruptions of the primary source. [**110:** 6.2.5]~~

(A)

A time-delay device shall be provided to delay starting of the ~~EPS~~ on-site power source .

(B)

The ~~timer~~ time-delay device shall prevent nuisance starting of the ~~EPS~~ power source and possible subsequent load transfer in the event of harmless momentary power dips and interruptions of the primary power source. [~~**110:** 6.2.5]~~

Submitter Information Verification

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Committee Statement

Committee Statement: This revision is required for correlation with changes made to the terms “power sources”, “alternate power sources”, “essential electrical system”, “normal power” and the acronym “EPS” during the first draft phase of the revision process. This revision aligns with second revisions created to address Public Comments 16, 20, and 44. These changes also address recommendations made by the Terminology Task Group in Public Input 85. The replacement of the term “alternate power source” with “on-site power source” is made for correlation with the deletion of the term “alternate power source” made in First Revision 942. The terms “emergency” or “permanent emergency” have been eliminated as they are not defined in the standard.

The extract attribution to NFPA 110 has been deleted as the text is no longer a direct extract from NFPA 110. The text revision reflects the terminology used in NFPA 99.

Response Message: SR-1090-NFPA 99-2022

Second Revision No. 1091-NFPA 99-2022 [Section No. 6.7.2.1.3.6]

6.7.2.1.3.6 Time Delay on Transfer ~~to EPS~~ .

An adjustable time-delay device shall be provided to delay transfer and sequence load transfer to the ~~EPS~~ power source to avoid excessive voltage drop when the transfer switch is installed for Level 1 use. [~~**110:** 6.2.7~~]

(A) Time Delay Commencement.

The time delay shall commence when proper ~~EPS~~ voltage and frequency are achieved. [~~**110:** 6.2.7.1~~]

(B) Time Delay at Engine Control Panel.

Time delays shall be permitted to be located at the engine control panel in lieu of in the transfer switches. [**110:**6.2.7.2]

Submitter Information Verification

Committee: HEA-ELS

Submittal Date: Wed Aug 24 10:59:36 EDT 2022

Committee Statement

Committee Statement: This revision is required for correlation with changes made to the terms “power sources”, “alternate power sources”, “essential electrical system”, “normal power” and the acronym “EPS” during the first draft phase of the revision process. This revision aligns with second revisions created to address Public Comments 16, 20, and 44. These changes also address recommendations made by the Terminology Task Group in Public Input 85. The replacement of the term “alternate power source” with “on-site power source” is made for correlation with the deletion of the term “alternate power source” made in First Revision 942. The terms “emergency” or “permanent emergency” have been eliminated as they are not defined in the standard.

The extract attribution to NFPA 110 has been deleted as the text is no longer a direct extract from NFPA 110. The text revision reflects the terminology used in NFPA 99.

Response Message: SR-1091-NFPA 99-2022

Second Revision No. 1092-NFPA 99-2022 [Section No. 6.7.2.1.3.7]

6.7.2.1.3.7* Time Delay on Retransfer to Primary Power Source.

An adjustable time-delay device with automatic bypass shall be provided to delay retransfer from ~~the EPS to the primary source of power~~ one power source to the other power source , and allow the ~~primary~~ power source to stabilize before retransfer of the load. [~~**110:** 6.2.8~~]

Submitter Information Verification

Committee: HEA-ELS

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Committee Statement

Committee Statement: This revision is required for correlation with changes made to the terms “power sources”, “alternate power sources”, “essential electrical system”, “normal power” and the acronym “EPS” during the first draft phase of the revision process. This revision aligns with second revisions created to address Public Comments 16, 20, and 44. These changes also address recommendations made by the Terminology Task Group in Public Input 85. The replacement of the term “alternate power source” with “on-site power source” is made for correlation with the deletion of the term “alternate power source” made in First Revision 942. The terms “emergency” or “permanent emergency” have been eliminated as they are not defined in the standard.

The extract attribution to NFPA 110 has been deleted as the text is no longer a direct extract from NFPA 110. The text revision reflects the terminology used in NFPA 99.

Response Message: SR-1092-NFPA 99-2022

Second Revision No. 1093-NFPA 99-2022 [Section No. 6.7.2.1.3.8]

6.7.2.1.3.8 Time Delay Bypass If ~~EPS Fails~~ a Power Source Fails .

The time delay shall be automatically bypassed if ~~the EPS~~ a power source fails. [~~**110:** 6.2.9~~]

(A)

The transfer switch shall be permitted to be programmed for a manually initiated retransfer to the ~~primary~~ on-site power source to provide for a planned momentary interruption of the load. [~~**110:** 6.2.9.1~~]

(B)

If used, the arrangement in ~~6.2.9.1 of NFPA 110~~ 6.7.2.1.3.8(A) shall be provided with a bypass feature to allow automatic retransfer in the event that the ~~EPS~~ on-site power source fails and the ~~primary~~ other power source is available.

Submitter Information Verification

Committee: HEA-ELS

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Committee Statement

Committee Statement: This revision is required for correlation with changes made to the terms “power sources”, “alternate power sources”, “essential electrical system”, “normal power” and the acronym “EPS” during the first draft phase of the revision process. This revision aligns with second revisions created to address Public Comments 16, 20, and 44. These changes also address recommendations made by the Terminology Task Group in Public Input 85. The replacement of the term “alternate power source” with “on-site power source” is made for correlation with the deletion of the term “alternate power source” made in First Revision 942. The terms “emergency” or “permanent emergency” have been eliminated as they are not defined in the standard.

The extract attribution to NFPA 110 has been deleted as the text is no longer a direct extract from NFPA 110. The text revision reflects the terminology used in NFPA 99.

Response Message: SR-1093-NFPA 99-2022

Second Revision No. 1094-NFPA 99-2022 [Section No. 6.7.2.1.3.9]

6.7.2.1.3.9 Time Delay on Engine Shutdown.

A minimum time delay of 5 minutes shall be provided for unloaded running of ~~the EPS prior~~ a generator prior to shutdown to allow for engine cooldown. [~~**110:** 6.2.10~~]

(A)

The minimum 5-minute delay shall not be required on small (15 kW or less) air-cooled prime movers. [**110:**6.2.10.1]

(B)

A time-delay device shall not be required~~,~~ ~~provided~~ if it is included with the engine control panel~~,~~ or if a utility feeder is used as ~~an EPS~~ a power source . [~~**110:** 6.2.10.2~~]

Submitter Information Verification

Committee: HEA-ELS

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Committee Statement

Committee Statement: This revision is required for correlation with changes made to the terms “power sources”, “alternate power sources”, “essential electrical system”, “normal power” and the acronym “EPS” during the first draft phase of the revision process. This revision aligns with second revisions created to address Public Comments 16, 20, and 44. These changes also address recommendations made by the Terminology Task Group in Public Input 85. The replacement of the term “alternate power source” with “on-site power source” is made for correlation with the deletion of the term “alternate power source” made in First Revision 942. The terms “emergency” or “permanent emergency” have been eliminated as they are not defined in the standard.

The extract attribution to NFPA 110 has been deleted as the text is no longer a direct extract from NFPA 110. The text revision reflects the terminology used in NFPA 99.

Response Message: SR-1094-NFPA 99-2022

Second Revision No. 1095-NFPA 99-2022 [Section No. 6.7.2.1.3.10]

6.7.2.1.3.10 Test Switch.

A test means shall be provided on each automatic transfer switch (ATS) that simulates failure of ~~the primary power~~ one power source and then transfers the load to ~~the EPS~~ another power source(s) . [~~**110:** 6.2.12~~]

Submitter Information Verification

Committee: HEA-ELS

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Committee Statement

Committee Statement: This revision is required for correlation with changes made to the terms “power sources”, “alternate power sources”, “essential electrical system”, “normal power” and the acronym “EPS” during the first draft phase of the revision process. This revision aligns with second revisions created to address Public Comments 16, 20, and 44. These changes also address recommendations made by the Terminology Task Group in Public Input 85. The replacement of the term “alternate power source” with “on-site power source” is made for correlation with the deletion of the term “alternate power source” made in First Revision 942. The terms “emergency” or “permanent emergency” have been eliminated as they are not defined in the standard.

The extract attribution to NFPA 110 has been deleted as the text is no longer a direct extract from NFPA 110. The text revision reflects the terminology used in NFPA 99.

Response Message: SR-1095-NFPA 99-2022

Second Revision No. 1096-NFPA 99-2022 [Section No. 6.7.2.1.3.12]

6.7.2.1.3.12 Motor Load Transfer.

Provisions shall be included to reduce currents resulting from motor load transfer if such currents could damage ~~EPSS equipment~~ power source equipment or cause nuisance tripping of ~~EPSS~~ power source overcurrent protective devices. [~~**110:** 6.2.14~~]

Submitter Information Verification

Committee: HEA-ELS

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Committee Statement

Committee Statement: This revision is required for correlation with changes made to the terms “power sources”, “alternate power sources”, “essential electrical system”, “normal power” and the acronym “EPS” during the first draft phase of the revision process. This revision aligns with second revisions created to address Public Comments 16, 20, and 44. These changes also address recommendations made by the Terminology Task Group in Public Input 85. The replacement of the term “alternate power source” with “on-site power source” is made for correlation with the deletion of the term “alternate power source” made in First Revision 942. The terms “emergency” or “permanent emergency” have been eliminated as they are not defined in the standard.

The extract attribution to NFPA 110 has been deleted as the text is no longer a direct extract from NFPA 110. The text revision reflects the terminology used in NFPA 99.

Response Message: SR-1096-NFPA 99-2022

Second Revision No. 1097-NFPA 99-2022 [Section No. 6.7.2.1.3.13]

6.7.2.1.3.13* Isolation of Neutral Conductors.

Provisions shall be included for ensuring continuity, transfer, and isolation of the ~~primary and the EPS~~ power source neutral conductors wherever they are separately grounded to achieve ground-fault sensing. [~~**110:** 6.2.15~~]

Submitter Information Verification

Committee: HEA-ELS

Submittal Date: Wed Aug 24 11:42:37 EDT 2022

Committee Statement

Committee Statement: This revision is required for correlation with changes made to the terms “power sources”, “alternate power sources”, “essential electrical system”, “normal power” and the acronym “EPS” during the first draft phase of the revision process. This revision aligns with second revisions created to address Public Comments 16, 20, and 44. These changes also address recommendations made by the Terminology Task Group in Public Input 85. The replacement of the term “alternate power source” with “on-site power source” is made for correlation with the deletion of the term “alternate power source” made in First Revision 942. The terms “emergency” or “permanent emergency” have been eliminated as they are not defined in the standard.

The extract attribution to NFPA 110 has been deleted as the text is no longer a direct extract from NFPA 110. The text revision reflects the terminology used in NFPA 99.

Response Message: SR-1097-NFPA 99-2022

Second Revision No. 1098-NFPA 99-2022 [Section No. 6.7.2.1.3.14]

6.7.2.1.3.14 Retransfer.

If ~~the emergency power source~~ a power source or set of power sources fails during a test, provisions shall be made to immediately retransfer to the ~~normal source~~ other power source or set of power sources .

Submitter Information Verification

Committee: HEA-ELS

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Committee Statement

Committee Statement: This revision is required for correlation with changes made to the terms “power sources”, “alternate power sources”, “essential electrical system”, “normal power” and the acronym “EPS” during the first draft phase of the revision process. This revision aligns with second revisions created to address Public Comments 16, 20, and 44. These changes also address recommendations made by the Terminology Task Group in Public Input 85. The replacement of the term “alternate power source” with “on-site power source” is made for correlation with the deletion of the term “alternate power source” made in First Revision 942. The terms “emergency” or “permanent emergency” have been eliminated as they are not defined in the standard.

Response Message: SR-1098-NFPA 99-2022

Second Revision No. 1008-NFPA 99-2022 [Section No. 6.7.2.1.3.16]

6.7.2.1.3.16* 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)* as a complete assembly.~~

A.6.7.2.1.3.16

See 700.5 of *NFPA 70* .

(A)

Transfer of all loads shall be accomplished using an automatic transfer switch(es).

(B)

Each automatic transfer switch of 600 V or less shall be listed for the purpose and ~~approved~~ marked for emergency ~~electrical service *(see Section 700.3 of NFPA 70)* as a complete assembly~~ use .

Submitter Information Verification

Committee: HEA-ELS

Submittal Date: Mon Aug 22 13:49:29 EDT 2022

Committee Statement

Committee Statement: The revision corrects the NFPA section that is referenced from 700.3 to 700.5 and moves that statement to Annex A. The requirement is revised to state “marked for emergency use” which correlates the language with UL1008 Transfer Switch Equipment, Section 5.2.1.32 Marking Requirements. As automatic transfer equipment is required to be listed, marking requirements are addressed as part of the listing agencies product certification. The reference to a “complete assembly” is redundant and unnecessary due to the listing requirement of this section. UL 1008 requires all transfer switches to be complete assemblies to obtain listing/product certification.

Response Message: SR-1008-NFPA 99-2022

Public Comment No. 101-NFPA 99-2022 [Section No. 6.7.2.1.3.16]

Public Comment No. 41-NFPA 99-2022 [Section No. 6.7.2.1.3.16]

Second Revision No. 1126-NFPA 99-2022 [Section No. 6.7.2.1.3.17]

6.7.2.1.3.17* Nonautomatic Transfer Switch Features.

Switching devices shall be mechanically held and shall be operated by direct manual or electrical remote manual control. [**110:**6.2.16]

A.6.7.2.1.3.17

Standards for nonautomatic transfer switches are similar to those for automatic transfer switches, as defined in ~~3.3.7.1~~ 3.3.14.1 and ~~3.3.7.3~~ 3.3.14.3 of NFPA 110, with the omission of automatic controls. [**110:**A.6.2.16]

(A) Interlocking.

Reliable mechanical interlocking~~,~~ or an approved alternate method~~,~~ shall prevent the inadvertent interconnection of the [primary] power source and the EPS. [**110:**6.2.16.1]

(B) Indication of Transfer Switch Position.

Two pilot lights with identification nameplates~~,~~ or other approved position indicators~~,~~ shall be provided to indicate the switch position. [**110:**6.2.16.2]

Submitter Information Verification

Committee: HEA-ELS

Submittal Date: Wed Aug 24 19:32:48 EDT 2022

Committee Statement

Committee Statement: The extracted annex material has been revised to align with the parent document, NFPA 110.

Response Message: SR-1126-NFPA 99-2022

Second Revision No. 1099-NFPA 99-2022 [Section No. 6.7.2.1.5.2]

6.7.2.1.5.2 Interlocking.

Reliable mechanical interlocking, or an approved alternate method, shall prevent the inadvertent interconnection of ~~the primary power source and the EPS~~ two power sources . ~~[110: 6.2.16.1]~~

Submitter Information Verification

Committee: HEA-ELS

Submittal Date: Wed Aug 24 11:48:51 EDT 2022

Committee Statement

Committee Statement: This revision is required for correlation with changes made to the terms “power sources”, “alternate power sources”, “essential electrical system”, “normal power” and the acronym “EPS” during the first draft phase of the revision process. This revision aligns with second revisions created to address Public Comments 16, 20, and 44. These changes also address recommendations made by the Terminology Task Group in Public Input 85. The replacement of the term “alternate power source” with “on-site power source” is made for correlation with the deletion of the term “alternate power source” made in First Revision 942. The terms “emergency” or “permanent emergency” have been eliminated as they are not defined in the standard.

The extract attribution to NFPA 110 has been deleted as the text is no longer a direct extract from NFPA 110. The text revision reflects the terminology used in NFPA 99.

Response Message: SR-1099-NFPA 99-2022

Second Revision No. 1100-NFPA 99-2022 [Section No. 6.7.2.2.2]

6.7.2.2.2

Each branch shall be arranged for connection, within the time limits specified in this chapter, to ~~an alternate~~ another power source following a loss of ~~the normal source~~ a power source or set of sources .

Submitter Information Verification

Committee: HEA-ELS

Submittal Date: Wed Aug 24 11:50:41 EDT 2022

Committee Statement

Committee Statement: This revision is required for correlation with changes made to the terms “power sources”, “alternate power sources”, “essential electrical system”, “normal power” and the acronym “EPS” during the first draft phase of the revision process. This revision aligns with second revisions created to address Public Comments 16, 20, and 44. These changes also address recommendations made by the Terminology Task Group in Public Input 85. The replacement of the term “alternate power source” with “on-site power source” is made for correlation with the deletion of the term “alternate power source” made in First Revision 942. The terms “emergency” or “permanent emergency” have been eliminated as they are not defined in the standard.

Response Message: SR-1100-NFPA 99-2022

Second Revision No. 1101-NFPA 99-2022 [Section No. 6.7.2.2.4]

6.7.2.2.4 Feeders from ~~Alternate~~ On-Site Power Source.

6.7.2.2.4.1

A single feeder supplied by ~~a local or remote alternate~~ the on-site 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.

6.7.2.2.4.2

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

Submitter Information Verification

Committee: HEA-ELS

Submittal Date: Wed Aug 24 11:56:39 EDT 2022

Committee Statement

Committee Statement: This revision is required for correlation with changes made to the terms “power sources”, “alternate power sources”, “essential electrical system”, “normal power” and the acronym “EPS” during the first draft phase of the revision process. This revision aligns with second revisions created to address Public Comments 16, 20, and 44. These changes also address recommendations made by the Terminology Task Group in Public Input 85. The replacement of the term “alternate power source” with “on-site power source” is made for correlation with the deletion of the term “alternate power source” made in First Revision 942. The terms “emergency” or “permanent emergency” have been eliminated as they are not defined in the standard.

Response Message: SR-1101-NFPA 99-2022

Second Revision No. 1102-NFPA 99-2022 [Section No. 6.7.3.1]

6.7.3.1 Transfer Switches.

All ac-powered support and accessory equipment necessary ~~to~~ for the operation of the ~~EPS~~ on-site power source shall be supplied from the load side of the automatic transfer switch(es), or the output terminals of the on-site ~~EPS~~ power source , ahead of the main ~~EPS~~ overcurrent protection to ensure continuity of ~~the EPSS~~ operation and performance.
[~~**110:** 7.12.5~~]

Submitter Information Verification

Committee: HEA-ELS

Submittal Date: Wed Aug 24 14:21:46 EDT 2022

Committee Statement

Committee Statement: This revision is required for correlation with changes made to the terms “power sources”, “alternate power sources”, “essential electrical system”, “normal power” and the acronym “EPS” during the first draft phase of the revision process. This revision aligns with second revisions created to address Public Comments 16, 20, and 44. These changes also address recommendations made by the Terminology Task Group in Public Input 85. The replacement of the term “alternate power source” with “on-site power source” is made for correlation with the deletion of the term “alternate power source” made in First Revision 942. The terms “emergency” or “permanent emergency” have been eliminated as they are not defined in the standard.

The extract attribution to NFPA 110 has been deleted as the text is no longer a direct extract from NFPA 110. The text revision reflects the terminology used in NFPA 99.

Response Message: SR-1102-NFPA 99-2022

Second Revision No. 1103-NFPA 99-2022 [Section No. 6.7.3.3]

6.7.3.3

Failure of the normal source shall automatically start the ~~alternate~~ other power source ~~generator~~ after a short delay, as described in 6.7.2.1.3.4. ~~When the alternate power source has attained a voltage and frequency that satisfies minimum operating requirements of the essential electrical system, the load shall be connected automatically to the alternate power source.~~

6.7.3.3.1

When the ~~alternate~~ other power source has attained a voltage and frequency that satisfies the minimum operating requirements of the essential electrical system, the load shall be connected automatically to the ~~alternate power~~ that source.

Submitter Information Verification

Committee: HEA-ELS

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Committee Statement

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Response Message: SR-1103-NFPA 99-2022

Second Revision No. 1009-NFPA 99-2022 [Section No. 6.7.3.4]

6.7.3.4 Generator Control Wiring.

Control conductors installed between the transfer switch and the emergency generator(s) shall be kept entirely independent of all other wiring.

6.7.3.4.1

The integrity of the generator remote start circuit shall be monitored for broken, disconnected, or ~~shorted~~ short-circuited wires.

6.7.3.4.2

Loss of integrity shall start the generator(s).

Submitter Information Verification

Committee: HEA-ELS

Submittal Date: Mon Aug 22 14:03:11 EDT 2022

Committee Statement

Committee Statement: The revision corrects the language to use recognized industry terminology.

Response Message: SR-1009-NFPA 99-2022

Public Comment No. 21-NFPA 99-2022 [Section No. 6.7.3.4]

Second Revision No. 1104-NFPA 99-2022 [Section No. 6.7.3.5]

6.7.3.5

Upon connection of ~~the alternate~~ a power source, the loads comprising the life safety and critical branches shall be automatically re-energized.

6.7.3.5.1

The load comprising the equipment branch shall be connected either automatically after a time delay, as described in 6.7.2.1.3.6, or nonautomatically and in a sequential manner that will not overload the ~~generator~~ other power source .

Submitter Information Verification

Committee: HEA-ELS

Submittal Date: Wed Aug 24 14:36:40 EDT 2022

Committee Statement

Committee Statement: This revision is required for correlation with changes made to the terms “power sources”, “alternate power sources”, “essential electrical system”, “normal power” and the acronym “EPS” during the first draft phase of the revision process. This revision aligns with second revisions created to address Public Comments 16, 20, and 44. These changes also address recommendations made by the Terminology Task Group in Public Input 85. The replacement of the term “alternate power source” with “on-site power source” is made for correlation with the deletion of the term “alternate power source” made in First Revision 942. The terms “emergency” or “permanent emergency” have been eliminated as they are not defined in the standard.

Response Message: SR-1104-NFPA 99-2022

Second Revision No. 1105-NFPA 99-2022 [Section No. 6.7.3.6]

6.7.3.6

When the ~~normal~~ first power source is restored, and after a time delay~~,~~ as described in 6.7.2.1.3.7, the automatic transfer switches shall disconnect the ~~alternate~~ other power source and connect the loads to the ~~normal~~ first power source. ~~The alternate power source generator set shall continue to run unloaded for a preset time delay, as described in 6.7.2.1.3.9~~ .

6.7.3.6.1

The ~~alternate~~ other power source ~~generator set~~ shall continue to run unloaded for a preset time delay, as described in 6.7.2.1.3.9.

Submitter Information Verification

Committee: HEA-ELS

Submittal Date: Wed Aug 24 14:42:48 EDT 2022

Committee Statement

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Response Message: SR-1105-NFPA 99-2022

Second Revision No. 1106-NFPA 99-2022 [Section No. 6.7.3.7]

6.7.3.7

If ~~the emergency~~ a power source fails and the ~~normal~~ other power source has been restored, retransfer to the ~~normal source of~~ other power source shall be immediate, bypassing the retransfer delay timer.

Submitter Information Verification

Committee: HEA-ELS

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Committee Statement

Committee Statement: This revision is required for correlation with changes made to the terms “power sources”, “alternate power sources”, “essential electrical system”, “normal power” and the acronym “EPS” during the first draft phase of the revision process. This revision aligns with second revisions created to address Public Comments 16, 20, and 44. These changes also address recommendations made by the Terminology Task Group in Public Input 85. The replacement of the term “alternate power source” with “on-site power source” is made for correlation with the deletion of the term “alternate power source” made in First Revision 942. The terms “emergency” or “permanent emergency” have been eliminated as they are not defined in the standard.

Response Message: SR-1106-NFPA 99-2022

Second Revision No. 1107-NFPA 99-2022 [Section No. 6.7.3.8]

6.7.3.8

Nonautomatic transfer switching devices shall be restored ~~to the normal power source~~ as soon as possible ~~after the return of the normal source~~ or at the discretion of the operator.

Submitter Information Verification

Committee: HEA-ELS

Submittal Date: Wed Aug 24 14:51:12 EDT 2022

Committee Statement

Committee Statement: This revision is required for correlation with changes made to the terms “power sources”, “alternate power sources”, “essential electrical system”, “normal power” and the acronym “EPS” during the first draft phase of the revision process. This revision aligns with second revisions created to address Public Comments 16, 20, and 44. These changes also address recommendations made by the Terminology Task Group in Public Input 85. The replacement of the term “alternate power source” with “on-site power source” is made for correlation with the deletion of the term “alternate power source” made in First Revision 942. The terms “emergency” or “permanent emergency” have been eliminated as they are not defined in the standard.

Response Message: SR-1107-NFPA 99-2022

Second Revision No. 1108-NFPA 99-2022 [Section No. 6.7.4.1.1]

6.7.4.1.1 Maintenance and Testing of ~~Alternate~~ On-Site Power Source, Transfer Switches, and Associated Equipment.

6.7.4.1.1.1 Maintenance of ~~Alternate~~ On-Site Power Source.

~~The generator set or other alternate~~ The on-site power source and associated equipment, including all appurtenance parts, shall be ~~so~~ maintained ~~as to be~~ such that it is capable of supplying service within the shortest time practicable and within the 10-second interval specified in 6.7.1.2.5 and 6.7.5.3.1.

6.7.4.1.1.2

~~The 10-second criterion shall not apply during the monthly testing of an essential electrical system. If the 10-second criterion is not met during the monthly test, a process shall be provided to annually confirm the capability of the life safety and critical branches to comply with 6.7.5.3.1 .~~

(A)

The 10-second criterion shall not apply during the monthly testing of an essential electrical system.

(B)

If the 10-second criterion is not met during the monthly test, a process shall be provided to annually confirm the capability of the life safety and critical branches to comply with 6.7.5.3.1.

Detail SR-1109

6.7.4.1.1.3

Maintenance shall be performed in accordance with ~~Chapter 8 of NFPA 110~~ Section 6.9 .

6.7.4.1.1.4

Maintenance of the electrical equipment for the life safety branch, critical branch, and equipment branch shall be maintained in accordance with the manufacturer's instructions and preventative maintenance programs.

6.7.4.1.1.5 Inspection and Testing.

Criteria, conditions, and personnel requirements shall be in accordance with 6.7.4.1.1.5(A) through 6.7.4.1.1.5(C).

(A)* Test Criteria.

~~Generator sets shall be tested 12 times a year, with testing intervals of not less than 20 days nor more than 40 days. Generator sets serving essential electrical systems shall be tested in accordance with Chapter 8 of NFPA 110 .~~ Testing criteria shall be as follows:

(1) Generator sets shall be tested 12 times a year, with testing intervals of not less than 20 days nor more than 40 days.

(2) Generator sets serving essential electrical systems shall be tested in accordance with Chapter 8 of NFPA 110.

(B) Test Conditions.

The scheduled test under load conditions shall include a complete simulated cold start and appropriate automatic and manual transfer of all essential electrical system loads.

(C) Test Personnel.

The scheduled tests shall be conducted by qualified personnel to keep the machines ready to function and, in addition, serve to detect causes of malfunction and to train personnel in operating procedures.

6.7.4.1.1.6

When a transfer switch is bypassed to facilitate maintenance, one of the following conditions shall apply:

(1) The bypass switch automatically transfers the load between power sources upon loss of the connected power source.

(2) The bypass switch remains actively supervised by a qualified person who can manually initiate a transfer of the load between power sources.

6.7.4.1.1.7

Where bypass isolation switches are used, inadvertent parallel operation shall be avoided.

Submitter Information Verification

Committee: HEA-ELS

Submittal Date: Wed Aug 24 15:36:01 EDT 2022

Committee Statement

Committee Statement: This revision is required for correlation with changes made to the terms “power sources”, “alternate power sources”, “essential electrical system”, “normal power” and the acronym “EPS” during the first draft phase of the revision process. This revision aligns with second revisions created to address Public Comments 16, 20, and 44. These changes also address recommendations made by the Terminology Task Group in Public Input 85. The replacement of the term “alternate power source” with “on-site power source” is made for correlation with the deletion of the term “alternate power source” made in First Revision 942. The terms “emergency” or “permanent emergency” have been eliminated as they are not defined in the standard.

Response Message: SR-1108-NFPA 99-2022

Second Revision No. 1011-NFPA 99-2022 [Section No. 6.7.5.1.2.8]

6.7.5.1.2.8 Life Safety Lighting Dimmer and Relay Systems.

A dimmer or relay system containing more than one dimmer or relay and listed for emergency use shall be permitted to be used as a control device for energizing life safety lighting circuits.

(A)

Upon failure of normal power, the dimmer or relay system shall be permitted to selectively energize only those branch circuits necessary to provide the minimum required illumination using a control bypass function.

(B)

Where the dimmer or relay system is ~~fed~~ supplied by an upstream transfer switch, normal power sensing for this function shall be permitted to be from a normal-only power source upstream of the transfer switch.

Submitter Information Verification

Committee: HEA-ELS

Submittal Date: Mon Aug 22 14:21:11 EDT 2022

Committee Statement

Committee Statement: The revision uses terminology that is more appropriate for a technical document and is correct as used in this section.

Response Message: SR-1011-NFPA 99-2022

Public Comment No. 22-NFPA 99-2022 [Section No. 6.7.5.1.2.8]

Second Revision No. 1110-NFPA 99-2022 [Section No. 6.7.5.1.4.2]

6.7.5.1.4.2 Connection to ~~Alternate~~ On-Site Power Source.

(A)

The equipment branch shall be installed and connected to the ~~alternate~~ on-site power source~~,~~ such that equipment described in 6.7.5.1.4.3 is automatically restored to operation at appropriate time-lag intervals following the energizing of the life safety and critical branches.

(B)

The arrangement of the connection to the ~~alternate~~ on-site power source shall also provide for the subsequent connection of equipment described in 6.7.5.1.4.4.

Submitter Information Verification

Committee: HEA-ELS

Submittal Date: Wed Aug 24 15:49:42 EDT 2022

Committee Statement

Committee Statement: This revision is required for correlation with changes made to the terms “power sources”, “alternate power sources”, “essential electrical system”, “normal power” and the acronym “EPS” during the first draft phase of the revision process. This revision aligns with second revisions created to address Public Comments 16, 20, and 44. These changes also address recommendations made by the Terminology Task Group in Public Input 85. The replacement of the term “alternate power source” with “on-site power source” is made for correlation with the deletion of the term “alternate power source” made in First Revision 942. The terms “emergency” or “permanent emergency” have been eliminated as they are not defined in the standard.

Response Message: SR-1110-NFPA 99-2022

Second Revision No. 1122-NFPA 99-2022 [Section No. 6.7.5.1.4.3]

6.7.5.1.4.3* Equipment for Delayed-Automatic Connection.

A.6.7.5.1.4.3

The equipment in 6.7.5.1.4.3(A)(1) through 6.7.5.1.4.3(A)(3) can be arranged for sequential delayed-automatic connection to the ~~alternate~~ on-site power source to prevent overloading ~~the generator~~ it where engineering studies indicate that it is necessary.

(A)

The following equipment shall be permitted to be arranged for delayed-automatic connection to the ~~alternate~~ on-site power source:

(1) Central suction systems serving medical and surgical functions, including controls, with such suction systems permitted to be placed on the critical branch

(2) Sump pumps and other equipment required to operate for the safety of major apparatus, including associated control systems and alarms

(3) Compressed air systems serving medical and surgical functions, including controls, with such air systems permitted to be placed on the critical branch

(4) Smoke control and stair pressurization systems

(5) Kitchen hood supply or exhaust systems, or both, if required to operate during a fire in or under the hood

(6) Supply, return, and exhaust ventilating systems for the following:

(a) Airborne infectious/isolation rooms

(b) Protective environment rooms

(c) Exhaust fans for laboratory fume hoods

(d) Nuclear medicine areas where radioactive material is used

(e) Ethylene oxide evacuation

(f) Anesthetic evacuation

(B)

Where delayed-automatic connection is not appropriate, the ventilation systems specified in 6.7.5.1.4.3(A)(6) shall be permitted to be placed on the critical branch.

Submitter Information Verification

Committee: HEA-ELS

Submittal Date: Wed Aug 24 17:34:28 EDT 2022

Committee Statement

Committee Statement: This revision is required for correlation with changes made to the terms “power sources”, “alternate power sources”, “essential electrical system”, “normal power” and the acronym “EPS” during the first draft phase of the revision process. This revision aligns with second

revisions created to address Public Comments 16, 20, and 44. These changes also address recommendations made by the Terminology Task Group in Public Input 85. The replacement of the term “alternate power source” with “on-site power source” is made for correlation with the deletion of the term “alternate power source” made in First Revision 942. The terms “emergency” or “permanent emergency” have been eliminated as they are not defined in the standard.

Response Message: SR-1122-NFPA 99-2022

Second Revision No. 1112-NFPA 99-2022 [Section No. 6.7.5.1.4.4]

6.7.5.1.4.4* Equipment for Delayed-Automatic or Manual Connection.

The following equipment shall be permitted to be arranged for either delayed-automatic or manual connection to the ~~alternate~~ on-site power source *(also see A.6.7.5.1.4.3)*:

(1) Heating equipment used to provide heating for operating, delivery, labor, recovery, intensive care, and coronary care spaces; nurseries; infection/isolation rooms; emergency treatment spaces; and general patient rooms and pressure maintenance (i.e., jockey or make-up) pumps for water-based fire protection systems

(2)* Heating of general patient rooms during disruption of the normal source shall not be required under any of the following conditions:

(a) Outside design temperature is higher than −6.7°C (+20°F)

(b) Outside design temperature is lower than −6.7°C (+20°F), where a selected room(s) is provided for the needs of all confined patients [then only such room(s) need be heated]

(3) Elevator(s) selected to provide service to patient, surgical, obstetrical, and ground floors during interruption of normal power

(4) Supply, return, and exhaust ventilating systems for surgical and obstetrical delivery suites; intensive care and coronary care spaces; nurseries; and emergency treatment spaces

(5) Hyperbaric facilities

(6) Hypobaric facilities

(7) Autoclaving equipment, which is permitted to be arranged for either automatic or manual connection to the alternate source

(8) Controls for equipment listed in 6.7.5.1.3

(9)* Other selected equipment

Submitter Information Verification

Committee: HEA-ELS

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Committee Statement

Committee Statement: This revision is required for correlation with changes made to the terms “power sources”, “alternate power sources”, “essential electrical system”, “normal power” and the acronym “EPS” during the first draft phase of the revision process. This revision aligns with second revisions created to address Public Comments 16, 20, and 44. These changes also address recommendations made by the Terminology Task Group in Public Input 85. The replacement of the term “alternate power source” with “on-site power source” is made for correlation with the deletion of the term “alternate power source” made in First Revision 942. The terms “emergency” or “permanent emergency” have been eliminated as they are not defined in the standard.

Response Message: SR-1112-NFPA 99-2022

Second Revision No. 1113-NFPA 99-2022 [Section No. 6.7.5.3.1]

Detail SR-1114

6.7.5.3.1 Source.

The life safety and critical branches shall be installed and connected to the ~~alternate~~on-site power source specified in 6.7.1.1.2~~and 6.7.1.1.3~~ so that all functions specified herein for the life safety and critical branches are automatically restored to operation within 10 seconds after interruption of ~~the normal source~~power.

Submitter Information Verification

Committee: HEA-ELS

Submittal Date: Wed Aug 24 16:06:09 EDT 2022

Committee Statement

Committee Statement: This revision is required for correlation with changes made to the terms “power sources”, “alternate power sources”, “essential electrical system”, “normal power” and the acronym “EPS” during the first draft phase of the revision process. This revision aligns with second revisions created to address Public Comments 16, 20, and 44. These changes also address recommendations made by the Terminology Task Group in Public Input 85. The replacement of the term “alternate power source” with “on-site power source” is made for correlation with the deletion of the term “alternate power source” made in First Revision 942. The terms “emergency” or “permanent emergency” have been eliminated as they are not defined in the standard.

Response Message: SR-1113-NFPA 99-2022

Second Revision No. 1012-NFPA 99-2022 [Section No. 6.7.6.2.1.5]

6.7.6.2.1.5 Life Safety Branch.

(A) Required to be Connected.

The life safety branch shall supply power ~~as follows~~ to the following :

(1) Illumination of means of egress in accordance with NFPA *101*

(2) Exit signs and exit directional signs in accordance with NFPA *101*

(3) Alarm and alerting systems, including the following:

(a) Fire alarms

(b) Alarms required for systems used for the piping of nonflammable medical gases as specified in Chapter 5

(4)* Communications systems, where used for issuing instructions during emergency conditions

(5) Task illumination and select receptacles at the generator set location

(6) Elevator cab lighting, control, communications, and signal systems

(B) Prohibited to be Connected.

No functions~~,~~ other than those listed in 6.7.6.2.1.5(A)(1) through 6.7.6.2.1.5(A)(6)~~,~~ shall be connected to the life safety branch .

(C) Branch Circuits for Life Safety Lighting.

Branch circuits that supply life safety lighting shall be served from a source in accordance with 6.7.1 when the normal supply for lighting is interrupted or where single circuits supply luminaries containing secondary batteries.

(D) Life Safety Lighting Circuit Switches.

Life safety lighting circuit switches shall meet the following requirements:

(1) The switch(es) for the life safety lighting circuits shall be arranged so that only authorized persons have control of the life safety lighting switch(es) unless one of the following conditions are met:

(a) Where two or more single-throw switches are connected in parallel to control a single circuit, at least one of these switches is accessible only to authorized persons.

(b) Additional switches are included that act only to put life safety lights into operation, but not to disconnect them.

(2) Switches connected in series or 3- and 4-way switches shall not be used.

(3) All manual switches for controlling life safety lighting shall meet the following requirements:

(a) The manual switches shall be in locations convenient to authorized persons responsible for their actuation unless there are multiple switches provided.

(b) One of the switches shall be permitted to be located so that it can only energize, but not de-energize, the circuit.

(E) Life Safety Lighting Dimmer and Relay Systems.

A dimmer or relay system containing more than one dimmer or relay and listed for emergency use shall be permitted to be used as a control device for energizing life safety lighting circuits. Upon failure of normal power, the dimmer or relay system shall be permitted to selectively energize only those branch circuits necessary to provide minimum required illumination using a control bypass function. Where the dimmer or relay system is ~~fed~~ supplied by an upstream transfer switch, normal power sensing for this function shall be permitted to be from a normal-only power source upstream of the transfer switch.

(F) Life Safety Lighting Automatic Load Control Relay.

If a life safety lighting load is automatically energized upon loss of the normal supply, a listed automatic load control relay shall be permitted to energize the load. The load control relay shall not be used as transfer equipment.

Submitter Information Verification

Committee: HEA-ELS

Submittal Date: Mon Aug 22 14:28:21 EDT 2022

Committee Statement

Committee Statement: The revision uses terminology that is more appropriate for a technical document and is correct as used in this section.

Response Message: SR-1012-NFPA 99-2022

Public Comment No. 23-NFPA 99-2022 [Section No. 6.7.6.2.1.5]

Second Revision No. 1115-NFPA 99-2022 [Section No. 6.7.6.2.1.6]

6.7.6.2.1.6 Equipment Branch.

(A) Equipment Automatically Restored to Operation.

The equipment branch shall be installed and connected to the ~~alternate~~ on-site power source such that equipment listed in 6.7.6.2.1.6(C) is automatically restored to operation at appropriate time-lag intervals following the restoration of the life safety branch to operation.

(B) Connection of Additional Equipment.

The equipment branch arrangement shall ~~also~~ provide for the additional connection of equipment listed in 6.7.6.2.1.6(D).

(C) AC Equipment for Nondelayed-Automatic Connection.

Generator accessories including, but not limited to, the transfer fuel pump, electrically operated louvers, and other generator accessories essential for generator operation shall be arranged for automatic connection to the ~~alternate~~ on-site power source.

(D) Delayed-Automatic Connections to Equipment Branch.

The following equipment shall be permitted to be connected to the equipment branch and shall be arranged for delayed-automatic connection to the ~~alternate~~ on-site power source:

(1) Task illumination and select receptacles in the following:
   (a) Patient care spaces
   (b) Medication preparation spaces
   (c) Pharmacy dispensing spaces
   (d) Nurses' stations — unless adequately lighted by corridor luminaires
(2) Supply, return, and exhaust ventilating systems for airborne infectious isolation rooms
(3) Sump pumps and other equipment required to operate for the safety of major apparatus and associated control systems and alarms
(4) Smoke control and stair pressurization systems
(5) Kitchen hood supply or exhaust systems, or both, if required to operate during a fire in or under the hood
(6) Nurse call systems
(7) HVAC systems serving the EF, TER, and TR

(E)* Delayed-Automatic or Manual Connections to Equipment Branch.

The following equipment ~~in 6.7.6.2.1.6(E)(1) and 6.7.6.2.1.6(E)(2)~~ shall be permitted to be connected to the equipment branch and shall be arranged for either delayed-automatic or manual connection to the alternate power source:

(1) *Heating Equipment to Provide Heating for General Patient Rooms*. Heating of general patient rooms during disruption of the normal source shall not be required under any of the following conditions:

(a)* The outside design temperature is higher than −6.7°C (+20°F).

(b) The outside design temperature is lower than −6.7°C (+20°F) and, where a selected room(s) is provided for the needs of all confined patients, then only such room(s) need be heated.

(c) The facility is served by a dual source of normal power. *(See A.6.7.1.1 for more information.)*.

(2)* *Elevator Service*. In instances where interruptions of power would result in elevators stopping between floors, throw-over facilities shall be provided to allow the temporary operation of any elevator for the release of passengers.

(3) *Optional Connections to the Equipment Branch*. Additional illumination, receptacles, and equipment shall be permitted to be connected only to the equipment branch.

(4) *Multiple Systems*. Where one switch serves multiple systems as permitted in 6.7.6.2, transfer for all loads shall be nondelayed automatic.

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Response Message: SR-1115-NFPA 99-2022

Second Revision No. 1116-NFPA 99-2022 [Section No. 6.7.6.4.1]

Detail SR-1117

6.7.6.4.1 Source.

The life safety and equipment branches shall be installed and connected to the ~~alternate~~ on-site power source specified in 6.7.1.1.2 ~~and 6.7.1.1.3~~ so that all functions specified herein for the life safety and equipment branches are automatically restored to operation within 10 seconds after interruption of ~~the normal source~~ power.

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Response Message: SR-1116-NFPA 99-2022

Second Revision No. 1055-NFPA 99-2022 [Section No. 6.10.2.2]

6.10.2.2

Any combination of generation, storage, or transformation assets shall be permitted to serve as the ~~EPS~~ on-site power source for all or a portion of health care microgrids.

6.10.2.2.1

The combination of sources shall provide performance equivalent to that of the requirements of 6.7.1.2.1.

Submitter Information Verification

Committee: HEA-ELS

Submittal Date: Tue Aug 23 14:54:43 EDT 2022

Committee Statement

Committee Statement: The second revision made to Section 6.10.2 and 6.10.2.2 address the concerns expressed in the comment. The term "EPS" has been deleted from Chapter 6.

Response Message: SR-1055-NFPA 99-2022

Public Comment No. 16-NFPA 99-2022 [Section No. 6.10.2.2]

Second Revision No. 1118-NFPA 99-2022 [Section No. 6.11.1]

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)]

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The extract attribution to NFPA 110 has been deleted as the text is no longer a direct extract from NFPA 110. The text revision reflects the terminology used in NFPA 99.

Response Message: SR-1118-NFPA 99-2022

Second Revision No. 1119-NFPA 99-2022 [Section No. 6.11.4.4]

6.11.4.4

Level 1 and Level 2 systems shall ensure that all loads served by the EPSS are supplied ~~with alternate~~ by an on-site power source that meets all the following criteria:

(1) ~~Of~~ It is of a quality within the operating limits of the load.

(2) ~~For~~ It operates for a duration specified for the class as defined in Table 6.11.1(a).

(3) ~~Within~~ It operates within the time specified for the type as defined in Table 6.11.1(b).

[~~**110:** 4.4.4~~]

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The extract attribution to NFPA 110 has been deleted as the text is no longer a direct extract from NFPA 110. The text revision reflects the terminology used in NFPA 99.

Response Message: SR-1119-NFPA 99-2022

Second Revision No. 1120-NFPA 99-2022 [Section No. A.6.1]

A.6.1

Although complete compliance with this chapter is desirable, variations in existing health care facilities should be considered acceptable in instances where wiring arrangements are in accordance with prior editions of this document or afford an equivalent degree of performance and reliability. Such variations could occur, particularly with certain wiring in separate or common raceways, with certain functions connected to one or another system or branch, or with certain provisions for automatically or manually delayed restoration of power ~~from the alternate (emergency) source of power~~ .

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Response Message: SR-1120-NFPA 99-2022

Second Revision No. 1121-NFPA 99-2022 [Section No. A.6.7.1.1]

A.6.7.1.1

Connection to Dual Source of ~~Normal~~ Off-Site Power. For the greatest assurance of ~~continuity of~~ electrical service continuity , ~~the normal~~ an off-site source should consist of two separate full-capacity services, each independent of the other. Such services should be selected and installed with full recognition of local hazards of interruption, such as icing and flooding. Where more than one full-capacity service is installed, they should be connected ~~in~~ such ~~a manner~~ that one will pick up the load automatically upon loss of the other, and should be so arranged that the load of the ~~emergency and equipment systems will~~ essential electrical system will be transferred to the ~~alternate source (generator set)~~ on-site power source only when both ~~utility services~~ off-site services are de-energized, unless this arrangement is impractical and waived by the authority having jurisdiction. Such services should be interlocked ~~in such a manner as~~ to prevent paralleling of utility services on either primary or secondary voltage levels. Note that~~,~~ in any installation where it is possible to parallel utility supply circuits (e.g., to prevent interruption of service when switching from one utility source to another), it is imperative to consult the power companies affected as to problems of synchronization. Facilities whose ~~normal source of~~ off-site power is supplied by two or more separate central station–fed services (dual sources ~~of normal power~~) experience greater reliability than those with only a single feed.

Installation of Generator Sets. For additional material on diesel engines, see National Research Council Publication 1132, *Diesel Engines for Use with Generators to Supply Emergency and Short-Term Electric Power*.

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Response Message: SR-1121-NFPA 99-2022

Second Revision No. 1125-NFPA 99-2022 [Section No. A.6.7.2.1.3.13]

A.6.7.2.1.3.13

Automatic transfer switches (ATS) can be provided with accessory controls that provide a signal to operate remote motor controls that disconnect motors prior to transfer~~,~~ and to reconnect them after transfer when the residual voltage has been substantially reduced. Another method is to provide in-phase monitors within the ATS in order to prevent retransfer to the primary source until both sources are nearly synchronized. A third method is to use a programmed neutral position transfer switch. ~~See Section 230.95(B) of *NFPA 70.*~~ [**110:**A.6.2.15]

Submitter Information Verification

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Committee Statement

Committee Statement: The extracted annex material has been revised to align with the parent document, NFPA 110.

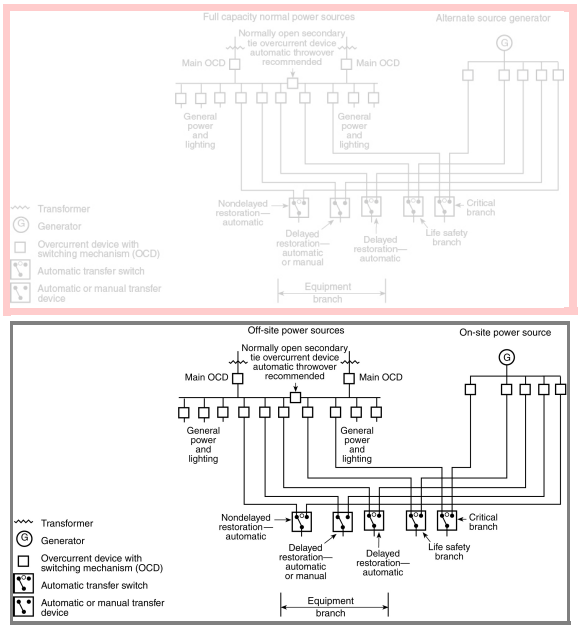
Response Message: SR-1125-NFPA 99-2022

Second Revision No. 1124-NFPA 99-2022 [Section No. B.6.1]

B.6.1 Typical Hospital Wiring Arrangement.

See Figure B.6.1. Separate transfer switches for each branch, as shown, are required only if dictated by load considerations. Smaller facilities can be served by a single transfer switch.

Figure B.6.1 Typical Hospital Wiring Arrangement.



Supplemental Information

File Name	Description	Approved
SR_1124_Revision_to_Figure_B.6.1.docx		

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Response Message: SR-1124-NFPA 99-2022

Second Revision No. 1123-NFPA 99-2022 [Section No. B.6.3]

B.6.3 Suggested Format for Listing Functions to Be Served by the Essential Electrical System in a Hospital.

It might be advantageous in listing the specific functions for a given construction project or building review to list them, at the outset, by geographical location within the project in order to ensure comprehensive coverage *(see Figure B.6.3)* . Every room or space should be reviewed for possible inclusion of the following:

(1) Lighting (partial or all)

(2) Receptacles (some or all)

(3) Permanently wired electrical apparatus

The format suggested herein is offered as a convenient tool, not only for identifying all functions to be served and their respective time intervals for being re-energized by the ~~alternate electric~~ on-site source, but also for documenting other functions that were considered, discussed, and excluded as nonessential. The last column in Figure B.6.3 is considered worthy of attention. ~~*(see Figure B.6.3).*~~ It might be that the hospital engineer or the reviewing authority will wish to keep on file a final copy of the list, which would be the basis for the electrical engineer's detailed engineering design.

Although this suggested format is intended for use by a hospital, it might, with suitable changes, be useful for other health care facilities.

Figure B.6.3 Essential Electrical Systems.

Essential Electrical Systems

Hospital _____ Date _____

Room No.	Room Name	Function Served*	Emergency system		Equipment system		Nonessential
			Life Safety Branch	Critical Branch	Delayed Auto.†	Delayed Manual	

* Indicate precise lighting, receptacles, and/or equipment. Use a separate line for each function.

† Indicate time interval.

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