

**First Revision No. 1-NFPA 111-2016 [Section No. 1.1.4.1]****1.1.4.1***

This standard shall not cover the following:

- (1) Application of the SEPSS
- (2) Distribution wiring
- (3) Systems having total outputs less than 500 VA or less than 24 V or systems less than Class 0.033 in accordance with Section 4.3
- (4) Unit equipment
- (5) Nuclear sources, solar systems, and wind stored-energy systems
- (6) Uninterruptible power systems (UPS) supplied by an emergency power supply system (EPSS) or a UPS supplied by a SEPSS
- (7) Optional standby systems

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Committee Statement: Item (3) references Section 4.3 as the source of the term "Class 0.033".

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**First Revision No. 5-NFPA 111-2016 [Section No. 2.2]****2.2 NFPA Publications.**

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

NFPA 1, *Fire Code*, 2015 2018 edition.

NFPA 70[®], *National Electrical Code*[®], 2014 2017 edition.

NFPA 72[®], *National Fire Alarm and Signaling Code*, 2016 edition.

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**First Revision No. 6-NFPA 111-2016 [Section No. 2.4]**

2.4 References for Extracts in Mandatory Sections.

NFPA 1, *Fire Code*, 2015 2018 edition.

NFPA 110, *Standard for Emergency and Standby Power Systems*, 2016 edition.

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4.2.2*

The interruption times of the SEPSS types covered by this standard shall be as provided in [Table 4.2.2](#).

Table 4.2.2 Types of SEPSS

<u>Type</u>	<u>Interruption Time</u>
Type O	No interruptions — Type VFI , UPS carrying load, 0.0 sec
Type U	Type VFD or Type VI , UPS system with utility as preferred source
Type A	0.25 cycle: 0.0042 sec
Type B	1.0 cycle: 0.0167 sec
Type 10	10 sec
Type M	Manual stationary or nonautomatic — no time limit

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First Revision No. 4-NFPA 111-2016 [Section No. B.1]



B.1 Use of Stored-Energy System.

Figure B.1(a) through Figure B.1(d) show an uninterruptible power supply (UPS) being used in different functions.

Figure B.1(a) distinguishes the use of a stored-energy system as an SEPSS from a stored-energy system being supplied from an EPSS.

Figure B.1(a) Stored-Energy System Serving as SEPSS (Shown on Left) and as Equipment Supplied Through an EPSS (Shown on Right).

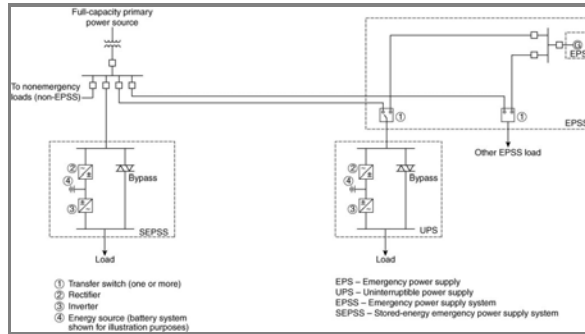


Figure B.1(b) shows a UPS being used as a stored-energy emergency power supply system (SEPSS), which is fully within the scope of this standard.

Figure B.1(b) Simplified Diagram Showing a Stored-Energy Emergency Power Supply System (SEPSS).

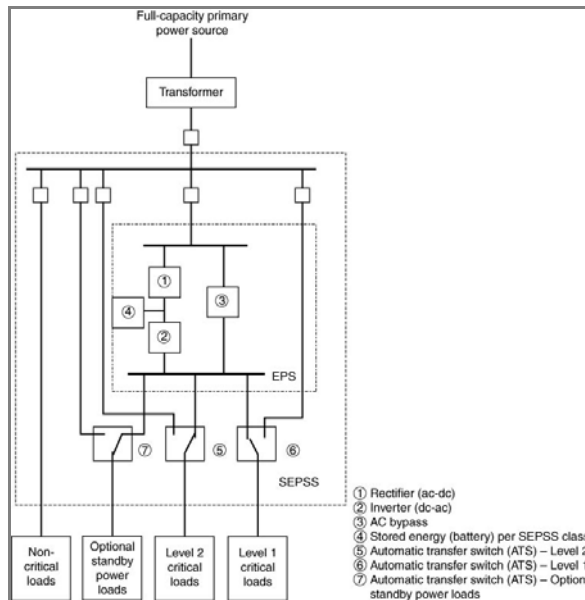


Figure B.1(c) shows a UPS being used as a bridge (also known as an auxiliary power unit) in combination with a generator emergency power supply (EPS), which is within the scope of NFPA 110. A bridge UPS is optional within NFPA 111, unless it is required for an emergency power supply that takes longer than ten seconds to start. A bridge's stored energy (e.g., battery) does not have the same reserve time as the EPS that it supports. However, because it is a component in an emergency power supply system, it is inspected and tested as part of the EPSS.

Figure B.1(c) Simplified Diagram Showing a UPS Used as a Bridge (a.k.a. an Auxiliary Power Unit) within an Emergency Power Supply System (EPSS).

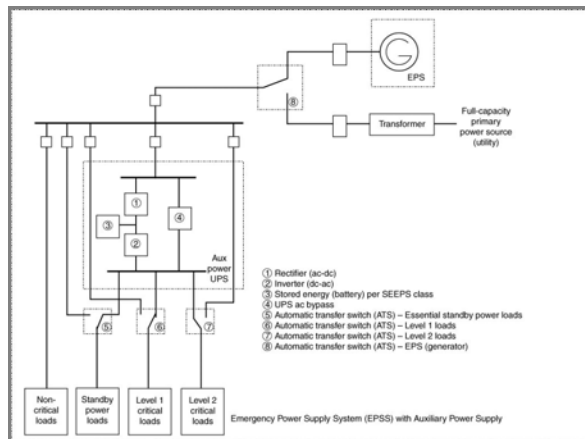
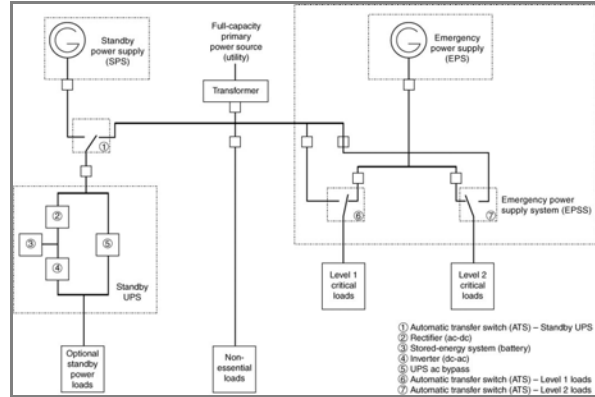


Figure B.1(d) shows a UPS being used as an optional standby power system where life safety does not depend on the performance

of the system. As such, it is outside the scope of this standard.

Figure B.1(d) Simplified Diagram for an Emergency Power Supply System (EPSS) and a Standby UPS.



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First Revision No. 3-NFPA 111-2016 [Chapter C]

Annex C Informational References

C.1 Referenced Publications.

The documents or portions thereof listed in this annex are referenced within the informational sections of this standard and are not part of the requirements of this document unless also listed in Chapter 2 for other reasons.

C.1.1 NFPA Publications.

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

NFPA 70[®], *National Electrical Code*[®], 2014 2017 edition.

NFPA 99, *Health Care Facilities Code*, 2015 2018 edition.

NFPA 101[®], *Life Safety Code*[®], 2015 2018 edition.

NFPA 110, *Standard for Emergency and Standby Power Systems*, 2016 2019 edition.

C.1.2 Other Publications.

C.1.2.1 ANSI Publications.

American National Standards Institute, Inc., 25 West 43rd Street, 4th floor, New York, NY 10036.

~~ANSI C84.1, *American National Standard for Electric Power Systems and Equipment — Voltage Ratings (60 Hertz)*, 2011.~~

C.1.2.1 IEC Publications.

International Electrotechnical Commission, 3, rue de Varembe, P.O. Box 131, CH-1211 Geneva 20, Switzerland.

IEC 62040-3, *Uninterruptible Power Systems (UPS)-Part 3: Method of Specifying the Performance and Test Requirements*, 2011.

C.1.2.2 IEEE Publications.

IEEE, Three Park Avenue, 17th Floor, New York, NY 10016-5997.

IEEE 450, *Recommended Practice for Maintenance, Testing, and Replacement of Vented Lead-Acid Batteries for Stationary Applications*, 2010.

IEEE 1106, *Recommended Practice for Maintenance, Testing, and Replacement of Vented Nickel-Cadmium Batteries for Stationary Applications*, ~~2005~~ 2015.

IEEE 1188, *Recommended Practice for Maintenance, Testing and Replacement of Valve-Regulated Lead-Acid Batteries for Stationary Applications*, 2005, Amendment 1, 2014.

C.1.2.3 NEMA Publications.

National Electrical Manufacturers Association, 1300 North 17th Street, Suite 900, Arlington, VA 22209.

ANSI/NEMA C84.1, *American National Standard for Electric Power Systems and Equipment — Voltage Ratings (60 Hertz)*, 2011.

C.1.2.4 UL Publications.

Underwriters Laboratories Inc., 333 Pfingsten Road, Northbrook, IL 60062-2096.

ANSI/UL 1008, *Standard for Safety Transfer Switch Equipment*, 2012 2014.

C.2 Informational References.

The following documents or portions thereof are listed here as informational resources only. They are not a part of the requirements of this document.

C.2.1 NFPA Publications.

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

NFPA 70B, *Recommended Practice for Electrical Equipment Maintenance*, 2013 edition.

C.2.2 IEEE Publications.

IEEE, Three Park Avenue, 17th Floor, New York, NY 10016-5997.

~~ANSI/ IEEE 446, *Recommended Practice for Emergency and Standby Power Systems for Industrial and Commercial Applications*, 2002 1995, reaffirmed 2000.~~

~~ANSI/ IEEE 484, *Recommended Practice for Installation Design and Installation of Vented Lead-Acid Batteries for Stationary Applications*, 2002, reaffirmed 2008.~~

IEEE 485, *Recommended Practice for Sizing Lead-Acid Batteries for Stationary Applications*, 2010.

~~ANSI/ IEEE 944, *Recommended Practice for the Application and Testing of Uninterruptible Power Supplies for Power Generating Systems*, 1996. (Only available in electronic format.)~~

C.3 References for Extracts in Informational Sections.

NFPA 1, *Fire Code*, 2015 edition.

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