Thomas & Betts
ANALYSIS OF NEC ®

2017 Code Changes: Article Article 706 (NEW) Energy Storage Systems
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706.1 Scope. This article applies to all permanently installed energy storage systems (ESS) operating at over 50 volts ac or 60 volts dc that may be stand-alone or interactive with other electric power production sources.

Informational Note: The following standards are frequently referenced for the installation of energy storage systems:

(1) NFPA 111 -2013, Standard on Stored Electrical Energy Emergency and Standby Systems

(2) IEEE 484-2008, Recommended Practice for Installation Design and Installation of Vented Lead-Acid Batteries for Stationary Applications

(3) IEEE 485-1997, Recommended Practice for Sizing Vented Lead-Acid Storage Batteries for Stationary Applications

(4) IEEE 1145-2007, Recommended Practice for Installation and Maintenance of Nickel-Cadmium Batteries for Photovoltaic (PV) Systems

(5) IEEE 1187-2002, Recommended Practice for Installation Design, and Installation of Valve-Regulated Lead-Acid Batteries for Stationary Applications

(6) IEEE 1578-2007, Recommended Practice for Stationary Battery Electrolyte Spill Containment and Management

(7) IEEE 1635/ASHRAE 21-2012, Guide for the Ventilation and Thermal Management of Stationary Battery Installations Batteries for Stationary Applications

(8) UL 810A, Electrochemical Capacitors

(9) UL 1973, Batteries for Use in Light Electric Rail (LER) Applications and Stationary Applications

(10) UL 1989, Standard for Standby Batteries

(11) UL Subject 2436, Spill Containment For Stationary Lead Acid Battery Systems

(12) UL Subject 9540, Safety of Energy Storage Systems and Equipment

Analysis of the Change

This is a new article for the 2017 NEC. AC and DC Energy Storage Systems (ESS) have become popular for use to store electrical power associated with solar photovoltaic (PV) systems and wind turbines. These systems are used in residential, commercial, and industrial buildings and utilities.

Because of the flexibility that the energy storage systems provide, adoption is expected to expand rapidly across multiple sectors. Energy storage systems allows for the storage of renewable energy during periods when wind turbines lack sufficient wind to produce electricity and for solar PV sytems during the night or cloudy days. Energy storage systems also allows consumers to buy and store electricity from the grid when prices are low (such as at night) and use it when demand and prices rise. Hospitals, data centers, airports, and other facilities with critical operations can use battery power to ensure business continuity in an outage. For utilities, storing large amounts of energy in batteries means extra energy is available to carry the electricity load during infrequent spikes in demand, eliminating the need to build more power plants.

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Contact Us

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Disclaimer: This is not intended to be an iteration of all the changes, but a reference of a change that may affect the Thomas & Betts, ABB & Baldor product lines. For a more in-depth document, please contact the International Association of Electrical Inspectors at www.iaei.org.

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