



Code Outreach Program – Energy Storage Systems

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This edition of the Code Outreach Program discusses the requirements for Energy Storage Systems (ESS). On September 27, 2019, the State Fire Prevention and Building Code Council (Code Council) adopted a rule that amends Parts 1220, 1221, 1225, and 1227 of 19 NYCRR by adding provisions relating to the installation, use, and maintenance of ESS. As part of this adoption, the “[2019 Energy Storage System Supplement \(Revised September 2019\)](#)” (September 2019 ESS Supplement) was incorporated by reference into the various Parts of 19 NYCRR. The rule became effective on November 1, 2019.

The Code Council also voted to update the Uniform Code by incorporating New York Specific Editions of various model code books (based on the International Code Council, 2018 Codes). This update (2020 Uniform Code update) will integrate the provisions of the September 2019 ESS Supplement, eliminating the need for the supplement when the 2020 Uniform Code becomes effective. Please follow our website [here](#) for information on when the 2020 Uniform Code update will become effective and information on all rule making activities.

Summary of the September 2019 ESS Supplement

The provisions of the September 2019 ESS Supplement regulate the minimum fire safety requirements in both Commercial and Residential installations of new and existing ESS and addresses the fire prevention, fire protection, life safety, and use of ESS.

The September 2019 ESS Supplement amends the Uniform Code to specifically address the installation, operation, maintenance and repair of ESS. The amendments do not replace the amendments contained in the [2017 Uniform Code Supplement](#). The September 2019 ESS Supplement needs to be used in conjunction with the 2017 Uniform Code Supplement.

The September 2019 ESS Supplement is arranged into 5 Parts, each part amends specific portions of a publication from the Uniform Code. Certain provisions from the following publications are included: the [2015 International Residential Code](#) (2015 IRC), the [2015 International Building Code](#) (2015 IBC), the [2015 International Fire Code](#) (2015 IFC), and the [2015 International Existing Building Code](#) (2015 IEBC).

Pertinent amendments include requirements for: installation; operation, maintenance, commissioning, and decommissioning; repair; and retrofitting of ESS. Additionally, requirements for permits (Section 608.3 of the 2015 IBC), construction documents (Section 608.4 of the 2015 IBC), large scale fire tests (Section 608.6 of the 2015 IBC), and UL listings (Section R327.2 of the 2016 IRC and Section 608.10.1 of the 2015 IBC) are outlined in the September 2019 ESS Supplement.

What is large-scale fire testing and when is it required?

ESS is defined by the supplement as one or more devices, assembled together, capable of storing energy in order to supply electrical energy at a future time. This generally does not include stand-alone 12- volt car batteries or electric motor vehicles and only ESS of certain quantities are subject to various provisions. See Part 1, Section R327, and Part 4, Section 608.1 of the September 2019 ESS Supplement.

Section 608.6 of the 2015 IFC, as amended by the September 2019 ESS Supplement, details the requirements for large-scale fire test and specifies that the testing shall be conducted in accordance with UL 9540A or an approved equivalent standard.

The testing is a “performance” alternative to the “prescriptive” requirements of various provisions throughout the September 2019 ESS Supplement. If an ESS is manufactured and installed in accordance with the “prescribed” thresholds and provisions of the Uniform Code, large-scale fire testing is not required. If large-scale fire testing is required, the test report data provides the registered design professional criteria for designing the ESS on a performance basis. It also provides the CEO with information to verify a compliant ESS design. A registered design professional will use the data acquired from the large-scale fire testing to prove their system design and layout satisfy the intent on the Uniform Code; to determine what safety measures are needed to protect the occupants in and around an ESS; and how the ESS performs if a fire starts within the ESS. This includes but is not limited to: measuring the safe distance at which multiple ESS units can be placed from each other; how well a fire suppression system can prevent crossover fires from starting; and the type of off-gassing that will occur. This testing can include several phases starting with testing at the cell level, at the module level, at the complete unit level, and at the installation level, which includes the proposed fire suppression systems.

Please look for our next edition of the Code Outreach Program at the beginning of next month.

[Method of Contact Questionnaire](#)

DBSC - A Division of Department of State
OFPC – An Office of the Division of Homeland Security & Emergency Services

If you have questions pertaining to the Code Outreach Program, email us at COP.codes@dos.nv.gov

If you have questions pertaining to the Uniform Code or Energy Code, email our technical support group at: codes@dos.nv.gov

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