Tentative Interim Amendment

NFPA® 855

Standard for the Installation of Stationary Energy Storage Systems

2023 Edition

Reference: 15.3.1, 15.12(new), and 5.13(new)
TIA 23-1
(SC 23-8-64 / TIA Log #1727)

Pursuant to Section 5 of the NFPA *Regulations Governing the Development of NFPA Standards*, the National Fire Protection Association has issued the following Tentative Interim Amendment to NFPA 855, *Standard for the Installation of Stationary Energy Storage Systems*, 2023 edition. The TIA was processed by the Technical Committee on Energy Storage Systems, and was issued by the Standards Council on August 25, 2023, with an effective date of September 14, 2023.

1. Revise paragraph 15.3.1 to read as follows:

15.3.1 ESS Spacing. Individual ESS units shall be separated from each other by a minimum of 3 ft (914 mm) unless smaller separation distances are documented to be adequate based on fire and explosion testing complying with ~~9.1.5~~15.13.

2. Add new section 15.12 and associated Annex text to read as follows:

15.12* Test Reports. ESS installed in accordance with Chapter 15 shall be provided with a product-level evaluation by an approved qualified person with expertise in energy storage as a supplemental safety document to be used by the AHJ and the installing contractors.

A.15.12 The test report will provide information that, among other things, describes the size and energy capacity rating of the unit being tested, model numbers of the modules and ESS units, orientation of ESS in the test facility, and proximity of the ESS unit under test to adjacent ESS, walls, and monitoring sensors. The test report also includes a complete set of test results and measurements. For example, a complete UL 9540A test report that includes a unit-level test should also include the UL 9540A cell and module-level test.

3. Add new section 15.13 and associated Annex text to read as follows:

15.13 Fire and Explosion Testing.

15.13.1* Where required by 15.3.1, fire and explosion testing shall be conducted on a representative ESS in accordance with UL 9540A or equivalent test standards.

A.15.13.1 A UL 9540A or equivalent test should evaluate the fire characteristics of the composition of gases generated at the cell, module, and unit and installation levels for ESS undergoing thermal runaways, such as what might occur due to a fault, physical damage, or exposure hazard. The evaluation of the fire characteristics during fire vent testing at the unit-level and installation-level testing should document whether the fire event propagates to the neighboring ESS units and include radiant heat flux measurements at enclosing wall surfaces and at various distances from the ESS being tested at the unit level. The fire and explosion testing data is intended to be used by manufacturers, system designers, and AHJs to determine if the required separation distance for an ESS installation can be reduced.

15.13.1.1 The complete UL 9540A or equivalent test report shall be provided to the authority having jurisdiction, including the cell, module, and unit level.

15.13.1.2 Lead-acid and nickel-cadmium batteries used in standby power systems and listed to UL 1973 shall not require UL 9540A testing when installed with a charging system listed to UL 1012, UL 60950-1, or UL 62368-1, or a UPS listed to UL 1778.

15.13.1.3 The testing shall be conducted, witnessed, and reported by an approved testing laboratory to characterize the composition of the gases generated and show that a fire involving one ESS unit will not propagate to an adjacent unit.
15.13.1.4* The representative cell, modules, and units tested, including any optional integral fire suppression system, shall match the intended installation configuration other than the addition of the cell failure mechanism utilized for cell thermal runaway initiation.
A.15.13.1.4 Changes in an installation configuration, including the internal architecture of modules and units that don't match the parameters tested, such as size and separation, cell type, or energy density, should only be accepted if it can be shown that the configuration provides equivalent results. For example, scaling such as height, depth, and spacing need to conform to the configuration of the test. Changes also might include multiple levels of units on top of each other, located on a mezzanine floor above, or back-to-back units. These configurations might have yet to be evaluated in the test.
15.13.1.5 The testing shall include evaluating deflagration mitigation measures when designed into ESS cabinets.

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(Note: For further information on NFPA Codes and Standards, please see www.nfpa.org/docinfo**)**
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