

# Energy storage lithium battery system standards



## Overview

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NFPA 855 is the flagship fire-protection code for stationary energy storage systems (ESS), covering everything from coin-cell pilot rigs to multi-megawatt battery energy storage systems (BESS). Its scope spans siting, construction, ventilation, detection, suppression, and . Battery Energy Storage Systems, or BESS, help stabilize electrical grids by providing steady power flow despite fluctuations from inconsistent generation of renewable energy sources and other disruptions. The International Fire Code (IFC) has its own provisions for ESS in Se ready underway, with 26 Task Groups addressing specific . NFPA 855, developed by the National Fire Protection Association, serves as a vital framework for ensuring the safe deployment of lithium battery systems. Safety concerns like thermal runaway or explosions highlight the need for strict adherence. It is increasingly being adopted in model fire codes and by authorities having jurisdiction (AHJs), making early compliance important for approvals, insurance, and market access.

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### [Battery and Energy Storage System Codes and Standards: What You](#)

However, storing and managing energy- especially lithium-ion batteries (LIBs)-presents unique fire and life safety challenges. To mitigate risks, a range of codes and standards guide the design,

### **U.S. Codes and Standards for Battery Energy Storage Systems**

This document offers a curated overview of the relevant codes and standards (C+S) governing the safe deployment of utility-scale battery energy storage systems in the United States.



### **Battery Energy Storage Systems: Main Considerations for Safe**

This webpage includes information from first responder and industry guidance as well as background information on battery energy storage systems (challenges & fires), BESS installation

### **Energy Storage Systems (ESS) and Solar Safety**

NFPA is keeping pace with the surge in energy storage and solar technology by undertaking initiatives including training, standards development, and research so that various stakeholders can safely





## [Safety Standards & Certifications for Battery Energy Storage Systems](#)

Learn about key safety standards for Battery Energy Storage Systems (BESS) and how innovations like immersion cooling enhance safety and reliability.



## **Lithium-ion Battery Storage Technical Specifications**

This document is meant to be used as a customizable template for federal government agencies seeking to procure lithium-ion battery energy storage systems (BESS). Agencies are encouraged to add,



## **Codes & Standards Draft**

Covers requirements for battery systems as defined by this standard for use as energy storage for stationary applications such as for PV, wind turbine storage or for UPS, etc. applications.



## **Energy Storage NFPA 855: Improving Energy Storage System**

The focus of the following overview is on how the standard applies to electrochemical (battery) energy storage systems in Chapter 9 and specifically on lithium-ion (Li-ion) batteries.



## **NFPA 855 Guide: Complying with Fire Code for Batteries**

Learn how to comply with NFPA 855 battery fire code requirements for energy storage systems.

Key rules, spacing, UL 9540A testing, and documentation steps.

## **Understanding NFPA 855 Standards for Lithium Battery Safety**

Proper installation of lithium-ion batteries is critical to ensuring the safety and efficiency of energy storage systems. NFPA 855 outlines comprehensive safety standards that address the



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