

Safety standards for energy storage products



Overview

This comprehensive standard covers electrical, mechanical, and fire safety requirements for stationary energy storage systems and equipment. It aims to ensure safety and reliability while keeping electricity costs low. Energy storage can mitigate the impact of power outages by providing backup power during emergencies, support an efficient and cost-effective energy system, and ensure broader storage facilities in the United States. Applying to all energy storage technologies, it includes requirements along with references to specific sections in NFPA 855. The International Fire Code (IFC) has its own provisions for ESS in sections currently under review, with 26 Task Groups addressing specific areas. Safety is the highest priority for our industry—a commitment reflected by rigorous safety standards and partnerships with the fire service that guide planning, developing, and operating each energy storage project. Fire incidents at energy storage facilities are extremely rare occurrences and events. Sandia National Laboratories is a multi-mission laboratory managed and operated by National Technology & Engineering Solutions of Sandia, LLC, a wholly owned subsidiary of Honeywell International Inc. NFPA Standards that address fire safety. Explore key standards like UL 9540 and NFPA 855, addressing risks like thermal runaway and fire hazards.

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Energy Storage Safety Codes, Standards, & Regulations (CSRs)

Section 1207 - Electrical Energy Storage Systems (ESS) Continued language alignment with NFPA 855 - Scope section of 1207 reads, "Material based on NFPA 855 2023 Ed."

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.

Energy Storage Safety Strategic Plan

The Department of Energy Office of Electricity Delivery and Energy Reliability Energy Storage Program would like to acknowledge the external advisory board that contributed to the topic identification,





Energy Storage Safety Information , Energy Storage Coalition

These established safety standards, like NFPA 855 and UL 9540, ensure that all aspects of an energy storage project are designed, built, and operated with safety as the highest priority.

A Comprehensive Guide: U.S. Codes and Standards for Energy

1.1 The test methodology in this standard determines the capability of a battery technology to undergo thermal runaway and then evaluates the fire and explosion hazard characteristics of those battery



Energy Storage , UL Standards & Engagement

This comprehensive standard covers electrical, mechanical, and fire safety requirements for stationary energy storage systems and equipment. Recent updates address explosion control, thermal runaway

[Safety Standards for Energy Storage Products: Why They Matter in 2025](#)

Without proper safety protocols, what starts as a minor glitch could turn into headlines about "another explosive failure." This isn't sci-fi - it's why safety standards for energy storage products have



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.

ADVANCING ENERGY STORAGE SAFETY STANDARDS

The clean energy industry, represented by the American Clean Power Association (ACP), encourages state and local jurisdictions to incorporate or adopt National Fire Protection Association (NFPA) 855,



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