
Fire protection requirements for energy storage projects

Are battery energy storage systems a fire hazard mitigation strategy?

The challenges of providing effective fire and explosion hazard mitigation strategies for Battery Energy Storage Systems (BESS) are receiving appreciable attention, given that renewable energy production has evolved significantly in recent years and is projected to account for 80% of new power generation capacity in 2030 (WEO, 2023).

What are NFPA 855 requirements for energy storage systems?

Electrical and Wiring Safety - Proper electrical wiring and connections are critical for fire safety in energy storage systems. NFPA 855 outlines specific requirements for cable management, grounding, and circuit protection to ensure that electrical components do not pose a fire risk.

What is battery energy storage fire prevention & mitigation?

In 2019, EPRI began the Battery Energy Storage Fire Prevention and Mitigation - Phase I research project, convened a group of experts, and conducted a series of energy storage site surveys and industry workshops to identify critical research and development (R&D) needs regarding battery safety.

Are battery energy storage systems a fire hazard?

This text is an abstract of the complete article originally published in Energy Storage News in February 2025. Fire incidents in battery energy storage systems (BESS) are rare but receive significant public and regulatory attention due to their dramatic impact on communities, first responders, and the environment.

There has been an increase in the development and deployment of battery energy storage systems (BESS) in recent years. In particular, BESS using lithium-ion batteries have ...

This white paper outlines the safety issues at stake in energy storage projects, and explains how fire testing to UL 9540A standards helps project stakeholders address safety ...

To strengthen battery energy storage safety management, manufacturers now conduct large-scale fire testing (LSFT) to provide ...

Introduction This white paper provides an informational guide to the United States Codes and Standards regarding Energy Storage Systems (ESS), including battery storage ...

The investigations described will identify, assess, and address battery storage fire safety issues in order to help avoid safety incidents and loss of property, which have become ...

Learn how to comply with NFPA 855 battery fire code requirements for energy storage systems. Key rules, spacing, UL 9540A testing, and documentation steps.

This webpage includes information from first responder and industry guidance as well as

background information on battery energy storage systems (challenges & fires), BESS ...

Explosion control and testing: Projects will need to meet new recommendations around thermal runaway protection, explosion control ...

Safety is crucial for Battery Energy Storage Systems (BESS). Explore key standards like UL 9540 and NFPA 855, addressing risks like ...

As the battery energy storage market evolves, understanding the regulatory landscape is critical for manufacturers and stakeholders. ...

The gravity of these consequences highlights the urgent need to implement strong fire and explosion prevention measures in BESS. The industry has ...

Industry is Advancing Safety Standards Across the United States The battery energy storage industry advocates for the adoption and enforcement of the latest and most rigorous ...

The National Fire Protection Association has released an updated version of its Standard for the Installation of Stationary Energy Storage Systems (NFPA 855), strengthening ...

The Importance of Fire Safety in BESS Battery Energy Storage Systems, especially those utilizing lithium-ion batteries, can ...

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