

# **Energy Storage System Safety Planning**





## Overview

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This roadmap provides necessary information to support owners, operators, and developers of energy storage in proactively designing, building, operating, and maintaining these systems to minimize fire risk and ensure the safety of the public, operators, and environment. What is an energy storage roadmap?

This roadmap provides necessary information to support owners, operators, and developers of energy storage in proactively designing, building, operating, and maintaining these systems to minimize fire risk and ensure the safety of the public, operators, and environment.

What's new in energy storage safety?

Since the publication of the first Energy Storage Safety Strategic Plan in 2014, there have been introductions of new technologies, new use cases, and new codes, standards, regulations, and testing methods. Additionally, failures in deployed energy storage systems (ESS) have led to new emergency response best practices.

What are energy storage safety gaps?

Energy storage safety gaps identified in 2014 and 2023. Several gap areas were identified for validated safety and reliability, with an emphasis on Li-ion system design and operation but a recognition that significant research is needed to identify the risks of emerging technologies.

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.

What are the three pillars of energy storage safety?

A framework is provided for evaluating issues in emerging electrochemical



energy storage technologies. The report concludes with the identification of priorities for advancement of the three pillars of energy storage safety: 1) science-based safety validation, 2) incident preparedness and response, 3) codes and standards.

Can energy storage be used as a temporary source of power?

However, energy storage is increasingly being used in new applications such as support for EV charging stations and home back-up systems. Additionally, many jurisdictions are seeing increasing use of EVs and mobile energy storage systems which are moved around to be used as a temporary source of power.



## Energy Storage System Safety Planning

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### 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 ...

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### [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 ...

### BATTERY STORAGE FIRE SAFETY ROADMAP

This roadmap provides necessary information to support owners, operators, and developers of energy storage in proactively designing, building, operating, and maintaining these systems to ...

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### Proactive First Responder Engagement for Battery Energy ...

Energy Storage System Safety: Plan Review and Inspection Checklist. Pacific Northwest National Laboratory, Richland, Washington, and Sandia National Laboratories, Albuquerque, New Mexico.

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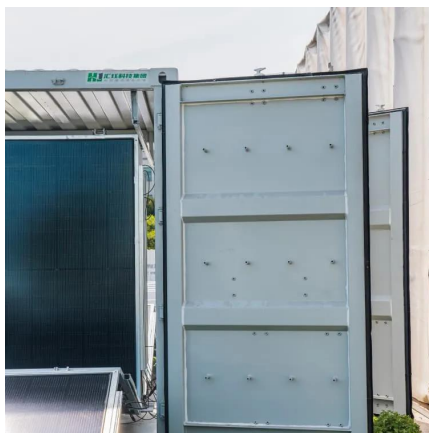
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### **New York Battery Energy Storage System Guidebook for ...**

The Battery Energy Storage System Guidebook (Guidebook) helps local government officials, and Authorities Having Jurisdiction (AHJs), understand and develop a battery energy storage ...

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### **ENERGY STORAGE SYSTEMS SAFETY FACT SHEET**

This material contains some basic information about energy storage systems (ESS). It identifies some of the requirements in NFPA 855, Standard for the Installation of Energy Storage ...

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### **Energy Storage Safety Information . ACP**

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 ...

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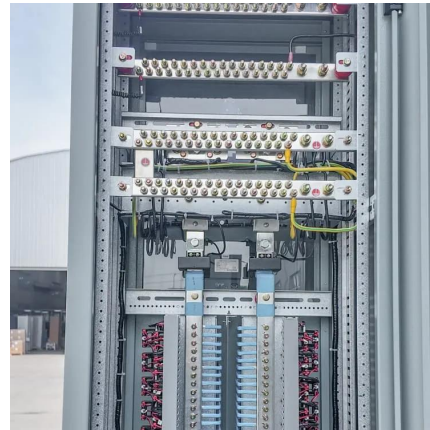




## Strategic planning for the battery energy storage system (BESS) safety

Over the recent years, there has been growing interest in the development of large-scale battery energy storage systems (BESS). For BESS and their critical components, it is important to be ...

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## Siting and Safety Best Practices for Battery Energy Storage ...

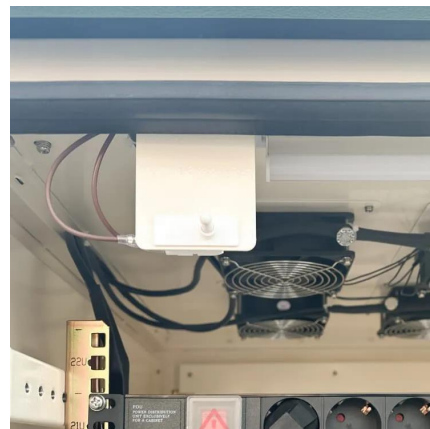
The following document summarizes safety and siting recommendations for large battery energy storage systems (BESS), defined as 600 kWh and higher, as provided by the New York State ...

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## Managing fire risk Battery Energy Storage System

Battery Energy Storage System We are helping to strengthen Victoria's renewable energy future by developing Battery Energy Storage Systems (BESSs). Safety is our number one priority. ...

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## CPUC Adopts New Rules Governing Safety of Battery Energy Storage Systems

On March 13, 2025, the California Public Utilities Commission (CPUC) modified General Order (GO) 167 to establish new standards for the maintenance and operation of battery energy ...

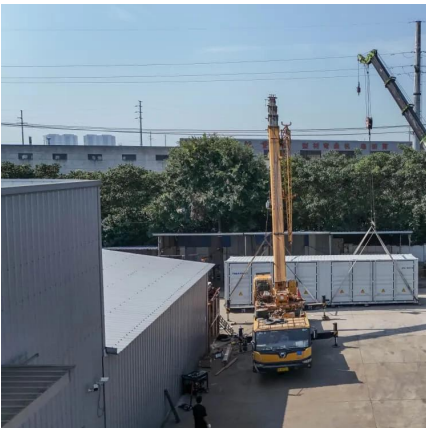
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## Heywood Battery Energy Storage System Risk Management ...

1 Introduction Fire Risk Consultants has been engaged to develop a Risk Management Plan (RMP) for the proposed Heywood Battery Energy Storage System (BESS) (the Project). ect is ...

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## [Energy Storage Systems \(ESS\) and Solar Safety . NFPA](#)

NFPA is undertaking initiatives including training, standards development, and research so that various stakeholders can safely embrace renewable energy sources and respond if potential ...

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## [DOE OE Energy Storage Systems Safety Roadmap](#)

DOE has fostered a number of efforts to address energy storage risk assessment and mitigation, including numerous publications, educational materials, communications and meetings ...

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### [Energy Storage NFPA 855: Improving Energy Storage ...](#)

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.

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### [Utility-Scale Battery Energy Storage Systems](#)

About this Document This document is intended to provide guidance to local governments considering developing an ordinance or rules related to the development of utility-scale battery ...

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