

SolarTech Power Solutions

Energy Storage Power Station Firewall Standards



Overview

This article breaks down the 2023-2024 firewall requirements for battery storage facilities, complete with real-world case studies and compliance strategies. What are the UL standards for energy storage systems?

UL 1973: Batteries for Use in Stationary and Motive Auxiliary Power Applications. Safety standard for modules and battery systems used in stationary energy storage systems. UL 9540, Energy Storage Systems and Equipment. Safety standard for energy storage systems used with renewable energy sources such as solar and wind.

Do bulk power systems meet ESS standards?

These standards cover physical security, cyber security, and other reliability issues for the bulk power system, which apply to bulk equipment (>20 MW) connected at 100 kV or greater. Some utility-scale ESS projects do meet these requirements.

Are energy storage systems vulnerable to cyberattacks?

Energy storage systems (ESSs) are becoming an essential part of the power grid of the future, making them a potential target for physical and cyberattacks. Large-scale ESSs must include physical security technologies to protect them from adversarial actions that could damage or disable the equipment.

Do battery energy storage systems comply with building codes?

Building codes: Battery energy storage systems (BESS) must comply with local building codes and fire safety regulations, which can vary across different geographies and municipalities. These codes are governed by the National Fire Protection Association (NFPA) in the U.S. and the performance-based European Standards (EN) in the European Union.

What is the regulatory and compliance landscape for battery energy storage?

The regulatory and compliance landscape for battery energy storage is complex and varies significantly across jurisdictions, types of systems and the applications they are used in. Technological innovation, as well as new challenges with interoperability and system-level integration, can also amplify risks.

What standards are used in power systems communication?

While not widely used in the United States, perhaps the most comprehensive standards for power systems communications is the IEC 62351 series . Furthermore, IEEE 1815 (DNP3) has a more secure version called DNP3 Secure Authentication (DNP3-SA) codified in IEC 62351-5.

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