Energy Storage & Safety

Safety is a Critical Aspect of the Entire Electrical System, from Power Lines to Your Outlets

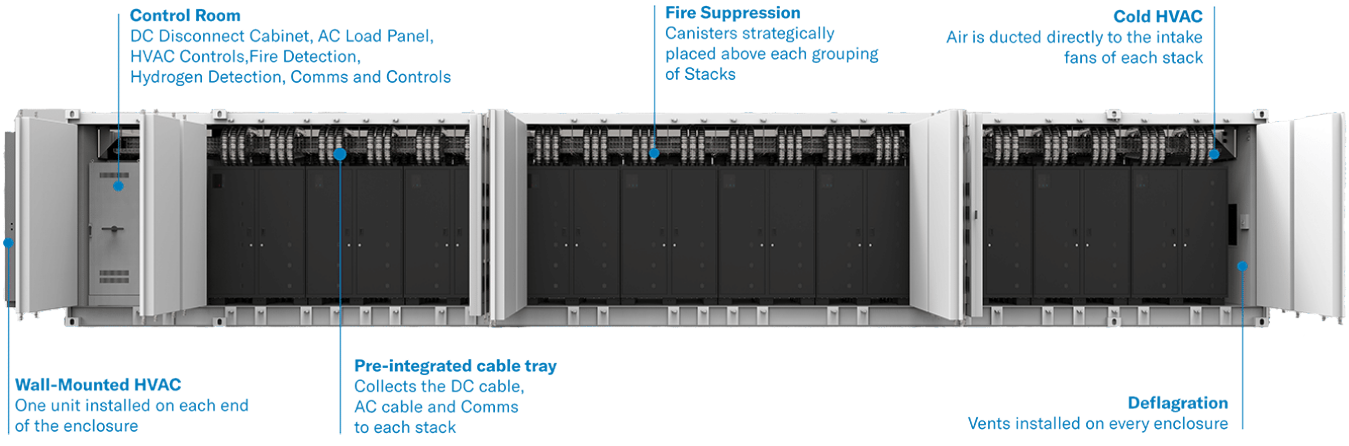
Safety is fundamental to all parts of our electric system, including energy storage. Each component of the electric system presents risks—from transformers and gas lines to power plants and transmission lines—and their safe operation is critical to provide the electricity that keeps our lights on, our refrigerators running, our homes air conditioned and heated, and our businesses operating. Energy storage is no different: with use of best practices and the proper design and operations, these facilities can mitigate risks and maintain safety while supporting reliable, clean electric service.

Battery Energy Storage Uses Technologies We Rely on Each Day

Batteries are present in every part of our lives, from mobile phones to laptops to electric vehicles – even toothbrushes and lawn mowers. Energy storage projects that power the electric grid, homes, and businesses utilize the same core technology as the battery that powers the phone in your pocket, just at a larger scale.

Energy Storage Systems are Regulated & Held to National Safety Standards

Because we rely on batteries in so many ways, the technologies have some of the most well-established safety features. On top of that, all energy storage projects must meet rigorous codes and standards to be permitted to operate – just like any other part of the electric system. Every battery technology that is installed on the electrical grid comes from a certified source. Every energy storage project integrated into our electrical grid is required to comply with national fire protection standards that are frequently updated to incorporate the best practices for hazard mitigation tools and strategies. State and local governments ensure energy storage facilities are installed and operated in compliance with their current standards.



Best Practices For Energy Storage Safety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Energy Storage Projects Use Numerous Strategies to Maintain Safety

Energy storage facilities use established safety equipment and strategies to ensure that risks associated with the installation and operation of the battery systems are appropriately mitigated. At every stage, from manufacturing to installation to operation, battery technologies and storage facilities use a variety of strategies to keep them safe. These strategies can include:

- **Pre-Installation Standards and Testing:** All modern batteries are designed and manufactured to adhere to and pass standard safety tests prior to operation. These safety standards and performance tests help to ensure that the technologies deployed in energy storage facilities uniformly comply with the highest global safety standards.
- **Proper Temperature Management:** All energy storage projects have thermal management systems, such as fans, ventilation, and heating and cooling equipment to maintain safe operating temperatures for the batteries.
- **Sensors that Regulate Temperature:** All projects are equipped with sensors that track battery temperatures and enable storage facilities to turn off batteries if they get too hot or too cold. A Battery Management System manages the charging and discharging of batteries similar to the system in your phone or computer.
- **Safety Equipment:** Energy storage facilities include equipment and systems designed to detect and suppress fires, to vent gasses, and incorporate fire-proof barriers. This safety equipment includes well-established tools deployed at all types of facilities across our electrical system.
- **System & Component Certification:** The Occupational Safety and Health Administration's (OSHA) Nationally Recognized Testing Laboratories (NRTL) provide screening, testing, and evaluation for battery energy storage technologies and components. Many energy storage technologies are also contained within certified enclosures designed to safely house them.
- **24/7 Monitoring by Trained Personnel:** Energy storage facilities are monitored 24/7 by trained personnel prepared to maintain safety and respond to emergency events.


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- **Emergency Response Plans:** All energy storage operators develop and maintain emergency response plans to ensure that, if there were an event, it is handled safely and according to best practices. Energy storage developers work with local fire departments and first responders for training and to share information about risks, response plans, and safety measures.

Relying on these measures, energy storage facilities are operated with a safety record consistent with the other technologies we rely on every day for electric service.