

Battery Energy Storage Systems (BESS): Best Practices

Best Practices

Energy storage facilities use numerous strategies and established safety equipment to ensure that risks associated with the installation and operation of the system are mitigated. Every stage, from manufacturing to operation, includes a variety of strategies to keep them safe, including:

Pre-Installation Standards & Testing

- All modern batteries are designed to pass standard safety tests prior to operation
- Safety standards and performance tests help to ensure the technologies deployed in BESS uniformly comply with the highest global safety standards

Proper Temperature Management

- All energy storage projects have thermal management systems, like 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 the facility to turn off batteries if they get too hot or cold
- A Battery Management System manages the charging and discharging of batteries

Safety Equipment

- BESS facilities include equipment and systems designed to detect and suppress fires, vent gasses, and incorporate fire-proof barriers

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System & Component Certification

- OSHA's Nationally Recognized Testing Laboratories provide screening, testing, and evaluation for BESS technologies and components

24/7 Monitoring by Trained Personnel

- BESS facilities are monitored 24/7 by trained personnel prepared to maintain safety and respond to emergency events

Emergency Response Plans

- All BESS operators develop and maintain emergency plans to ensure that if there were an event it is handled safely and according to best practices
- Developers work with local fire departments and first responders for training and to share information on risks, response plans, and safety measures



Sources:

1. American Clean Power Association. <https://cleanpower.org/facts/clean-energy-storage/>