



Texas Solar + Storage Association

Battery Energy Storage Systems (BESS):

FAQ & Myth-Busting Guide

This FAQ is to help address misinformation and to educate decisionmakers and communities about battery energy storage systems (BESS) in Texas. It explains how these facilities are regulated, the safety measures in place, and what happens at the end of their useful life (if not repowered to keep operating), referencing new, industry-supported Texas BESS laws HB 3824 & HB 3809, adopted during the 89th Legislature. Texas is leading the nation in safe, responsible deployment of battery storage. With strong new laws, technical standards, and local engagement, these projects will strengthen our grid, create local economic development, and support a cleaner, more reliable energy future.

BESS Fire Safety – What Texans Should Know

Q: Are battery storage facilities safe?

A: Yes. Battery energy storage is one of the safest forms of modern energy infrastructure. The U.S. energy storage industry utilizes an array of certifications and standards that drive the safe design, installation, and operations of battery energy storage facilities. BESS facilities are designed and engineered with multiple layers of safety — fire suppression, thermal management, remote monitoring, and emergency shutdown systems. Many documented BESS fires involved early-generation battery systems and chemical compositions that predate modern safety standards and technology. The implementation of robust national codes and advancements in BESS design have significantly improved fire safety and reduced risks. In fact, energy storage fires or other incidents have decreased dramatically as a percentage of battery deployments/operational hours and during a time of rapid growth.

In 2025, Texas further strengthened these protections through HB 3824, which requires each facility to follow the highest national safety standards, such as NFPA 855 and UL certification. The bill also requires operators to maintain a Fire Safety and Emergency Operations Plan (EOP) reviewed by the Texas Department of Insurance (TDI), home of the State Fire Marshal. Plans are developed in consultation with local fire departments and emergency officials and updated regularly to ensure coordinated local response.

Q: What happens if there's a battery fire?

A: While extremely rare, if an event occurs, each project's Emergency Operations Plan (EOP), which is filed with, and reviewed by, the Public Utility Commission and Texas Department of Insurance, outlines containment, cooling, and communication procedures. Modern systems isolate affected units automatically, and responders follow established safety protocols. TDI is directed to adopt statewide guidance consistent with NFPA 855 and UL 9540A, ensuring that first responders are properly trained and that facilities have clear, standardized procedures for managing events.

An assessment conducted by the Fire and Risk Alliance, which studied historical data and scientific reviews of battery fire incidents over the previous decade at BESS facilities in the United States, found that in all reviewed cases of environmental sampling related to the BESS fire events, no previous incidents resulted in contaminant concentrations that would pose a public health concern or necessitate further remediation. Review of past incidents also demonstrates that fires are contained within the facility, and air quality in

neighboring areas remains at safe levels. It should also be noted that studies have shown a BESS fire is no different from a house fire or plastics fire from an emissions and water impact perspective.

Q: Are these facilities near homes or schools?

A: Battery storage projects are typically built on private property, and whether to host a project is the landowner's decision. NFPA 855 contains a range of distance standards and unit spacing based on technology configuration and location, including setbacks and buffer zones between the energy storage system and property lines, buildings, and other potential exposures.

These distances are determined based on type and size of the energy storage system, its energy capacity, and the surrounding environment. These setbacks are determined by fire safety experts, engineers, and scientists and are reviewed every two years. Texas currently does not have statewide setback requirements for any power generation facilities.

BESS Decommissioning & Recycling

Q: What happens when batteries reach the end of their life?

A: Batteries are typically designed for 10–15 years of use and can often be repurposed or recycled. Under HB 3809, battery storage operators must have a Decommissioning Plan in place before construction, along with financial assurance to ensure cleanup funds are available even if ownership changes. When a project ends, companies must remove all equipment, restore the land to its original condition, and recycle or reuse any components that can be recovered. Parts that cannot be recycled must be disposed of at approved facilities—not left behind or illegally dumped. These requirements protect landowners and taxpayers by ensuring cleanup and land restoration costs are covered up front.

Environmental and Community Benefits of BESS

- Zero emissions – batteries store and release electricity without combustion – there is no air pollution from BESS.
- Minimal land use – BESS projects utilize little land. 25 MW+ of capacity can be placed on one acre of land.
- No groundwater impacts – BESS units are sealed in containers and typically placed on concrete pads on a layer of crushed stone or on screw piles; they do not use or contaminate water.
- Economic value – BESS projects deliver millions in local tax revenue and landowner income throughout Texas.
- Grid reliability – batteries are dispatchable, providing power when Texans need it most. BESS also participates in all of ERCOT's reliability services, helping to lower costs while serving as the fastest-responding technology to address ever-changing grid conditions.