



ENERGY STORAGE FREQUENTLY ASKED QUESTIONS

HOW DO BATTERIES WORK? HOW DO THEY SUPPORT THE PROJECT, THE COMMUNITY AND THE GRID?

Energy storage systems store energy for use at a future time. For the Sandhill Solar Project, a battery system would assist in providing power to the grid during high demand and could be utilized as backup power in the case of an outage. Battery systems support the grid by providing it with a reliable source of generated electricity to be used as demand from the grid is needed.

WHAT WILL THE CONTAINERS SIT ON? WILL THEY REST DIRECTLY ON THE GROUND OR WILL A CONCRETE PAD BE POURED?

Energy storage system enclosures are properly engineered and installed. Typically, they sit on a concrete pad, although sometimes driven piles or concrete piers are used.

WHAT TYPE OF CONTAINERS ARE USED TO PROTECT THE BATTERIES FROM THE ELEMENTS AND FOR ADDITIONAL FIRE PROTECTION?

All manufactured energy storage systems have approved enclosures that are rated for this use. This protects the battery system from the elements and helps contain them in the unlikely event of a fire.

WHAT TYPE OF SAFETY MONITORING SYSTEMS ARE USED IN ENERGY STORAGE SYSTEMS?

Energy storage systems incorporate monitoring and fire response systems. These systems vary based upon manufacturer but often include some or all of the following safety precautions components – remote monitoring and controls (typically instantaneous monitoring); gas, smoke, heat and fire detectors; vent fans, deflagration panels, and fire related insulation. Heating, ventilation, Air Conditioning systems (HVAC) are also incorporated in the battery system to maintain the optimal operating conditions for the batteries, which often can contribute to thermal runaway events. The HVAC will keep the batteries cool during the summer and at an appropriate temperature during the winter, to optimize the use of the system. Energy storage systems are also routinely monitored by onsite Operations and Maintenance (O&M) technicians who ensure the facility is operating as intended.

ARE PFAS USED IN BATTERY RELATED FIRE SUPPRESSION?

Per-and Polyfluoroalkyl Substances (PFAS) are not used as a suppressing agent for potential fires within an energy storage system.

WHAT HAPPENS IF A FIRE OCCURS IN A BATTERY SYSTEM?

Manufacturers incorporate safety features into the design of systems. Because of this, a system can automatically disconnect batteries from the electrical system and activate the built-in response features and protocols to contain the fire. Additionally, local first responders will be notified in the event of a fire or other incident. An Emergency Response Plan will be customized to the project and will be reviewed by the local response officials in advance of a system becoming operational.



WHO IS RESPONSIBLE FOR RESPONDING IF A FIRE WERE TO OCCUR?

Before a project begins operating, the local fire department will be trained by industry subject matter experts on how to respond to a fire at the energy storage system. In the event of a fire, after it is extinguished, the owner/operator of the system will be responsible for any cleanup and repairs resulting from the incident.

HOW WILL LOCAL RESPONSE ORGANIZATIONS BE INVOLVED IN PLANNING?

The Sandhill Solar team will meet with local emergency response leaders to ensure safety is integrated into all phases of the project—from planning to operating. This work with local First Responders will ensure they are educated on the energy storage technology as a potential for the Sandhill Solar site. Furthermore, an Emergency Response Plan will be prepared in consultation with local first responders. Such a plan will detail access to the site in the case of an emergency, who to be contacted from the operations and maintenance team, access points, equipment accessibility, and more. Our team values the input provided by local First Responders and we look forward to collaborating on these efforts throughout the development of Sandhill Solar.

WHAT PRACTICES ARE USED TO PREVENT A FIRE?

The most common Energy Storage Systems utilize lithium-ion batteries to store energy for use at a later time. The system is designed with an enclosure around the batteries, protecting them from the elements, such as excessive heat, cold, and water intrusion from other weather elements. The enclosure also ensures that in the unlikely event of failure, damage to the system is contained to that enclosure and does not spread.

The system also includes management software that monitors sensors for temperature, voltage, and current down to the individual battery level. This technology allows the system to automatically shut down the string of batteries if a module is at risk of failure or if communication with the sensors monitoring them is lost.

Furthermore, a fire suppression system is included within each enclosure. This system is comprised of a fire alarm, smoke and heat detectors, heat activated sprinkler system, fire rated insulation, strobe lights, and horns. HVAC systems are also incorporated in the system to keep the batteries from experiencing overheating. The HVAC system will keep the batteries cool during the summer and at an appropriate temperature during the winter, to optimize battery production and system operations.

HOW IS AN ENERGY STORAGE SYSTEM DESIGNED?

The batteries used to store energy generated by the solar panels are located in enclosures, which are generally sited near the project substation. Each enclosure will be properly spaced to allow for adequate cooling of each energy storage enclosure.

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