



REDSTONE ARSENAL, ALABAMA SOLAR ENERGY & BATTERY STORAGE PROJECT

BRINGING ENERGY DIVERSITY & COST AVOIDANCE TO TEAM REDSTONE

Energy resilience is critical to Army Readiness. The homeland is no longer a sanctuary.¹ The Army is modernizing its installations with energy solutions that are resilient, efficient, and affordable. The U.S. Army Office of Energy Initiatives (OEI), Redstone Arsenal (RSA), and the U.S. Army Corps of Engineers (USACE) collaborated with SunPower Corporation to develop a 10 megawatt (MW) alternating current (AC)² solar energy and battery storage project at Redstone Arsenal. In December 2017, the project became fully operational, bringing energy diversity and cost avoidance to Team Redstone. It includes the Army's first privately funded, commercially available, and economically viable battery energy storage system. To further enhance energy resilience, it was engineered and built for compatibility with a potential microgrid.

This project is one of three large-scale energy generation projects on Army installations in Alabama. Other projects include a 10 MW solar project at Fort Rucker and a 7 MW solar project at Anniston Army Depot. This project provides secure and reliable access to energy and ensures the mission can continue through power disruptions.

About Redstone Arsenal

Redstone Arsenal is a U.S. Army garrison located in the Tennessee Valley in Madison County, Alabama. Redstone Arsenal is a nationally recognized Department of Defense and Federal Center of Excellence.

The installation has over 70 tenant organizations, including the U.S. Army Materiel Command, U.S. Army Aviation and Missile Command, Missile Defense Agency, U.S. Army Space and Missile Defense Command, and NASA Marshall Space Flight Center. The Arsenal supports 39,000 personnel and has more than 38,000 acres of land, including over 25,000 acres of test areas.

Project Details

- The project generates about 10 MW from an onsite solar array and is coupled with a 1 MW / 2 MW-hour battery energy storage system.
- The project generates onsite, fuel-free power for use by Redstone Arsenal and its tenants, and stores a portion of that power to be used to offset power and demand charges during peak rate times.
- The project enhances energy resilience by adding diversity to RSA's energy supply, and adds operational flexibility for a potential future microgrid.
- These energy assets are critical to energy security during outages caused by weather events and other unexpected disruptions.
- The project includes a lease for approximately 114 acres and a 27-year Power Purchase Agreement.
- This facility generates enough energy annually to power about 2,500 homes for a year.
- Redstone Arsenal purchases the electricity produced by the project at a rate that is less than the current and projected utility cost.



About Army Office of Energy Initiatives

The Army OEI seeks to assist Army installations in optimizing operations, meeting mission essential requirements, mitigating vulnerabilities, and sustaining critical capabilities during any energy disruption. The Army OEI is aligned under the Assistant Secretary of the Army for Installations, Energy and Environment and the Deputy Assistant Secretary of the Army for Energy and Sustainability. The Army OEI serves as the Army's central program management office for the development, implementation, and oversight of privately financed, large-scale, energy projects focused on enhancing energy resilience, energy security, and sustainability on Army installations. Army OEI collaborates with industry, public utilities, and other stakeholders to implement projects using alternate resourcing strategies that provide energy generation, storage, and control capabilities. These "islandable" capabilities can support critical operations in the event of a grid outage, enabling the Army to achieve the levels of mobility and lethality to maintain its tactical and strategic edge. For more information about Army OEI, visit: www.oei.army.mil.

About U.S. Army Corps of Engineers

The U.S. Army Corps of Engineers (USACE) has approximately 37,000 dedicated Civilians and Soldiers delivering engineering services to customers in more than 130 countries worldwide. USACE's mission is to deliver vital public and military engineering services; partnering in peace and war to strengthen our Nation's security, energize the economy and reduce risks from disasters, and with a vision of engineering solutions for our Nation's toughest challenges.

About SunPower

SunPower Corporation provides a diverse group of customers with complete solar solutions and services. SunPower has more than 30 years of experience with residential customers, businesses, governments, schools, and utilities around the globe. SunPower delivers maximum value and performance throughout the long life of every solar system. SunPower Corporation's headquarters are located in San Jose, California.



A 1 MW / 2 MW-hour battery energy storage system is coupled with a 10 MW onsite solar array at Redstone Arsenal, AL.

¹ 2018 National Defense Strategy

² Alternating Current (AC) is provided to consumers. Inverters convert the direct current (DC) from solar panels to AC and losses occur during conversion.

