



Project Highlight

U.S. Marine Corps Recruit Depot Parris Island, SC

AMERESCO 

Parris Island's Deep Energy Retrofit Reduced Utility Energy Demand by 75%

Technology Type:

Boiler Plant Improvements | Chiller Improvements | Energy Management Control System | Hot Water/Steam Distribution Systems | HVAC | Lighting Upgrades and Controls | Renewable Energy Systems | Water System Upgrades

Facility Size

8,095 acres (over 3.9 million square feet)

ESPC Energy Project Size

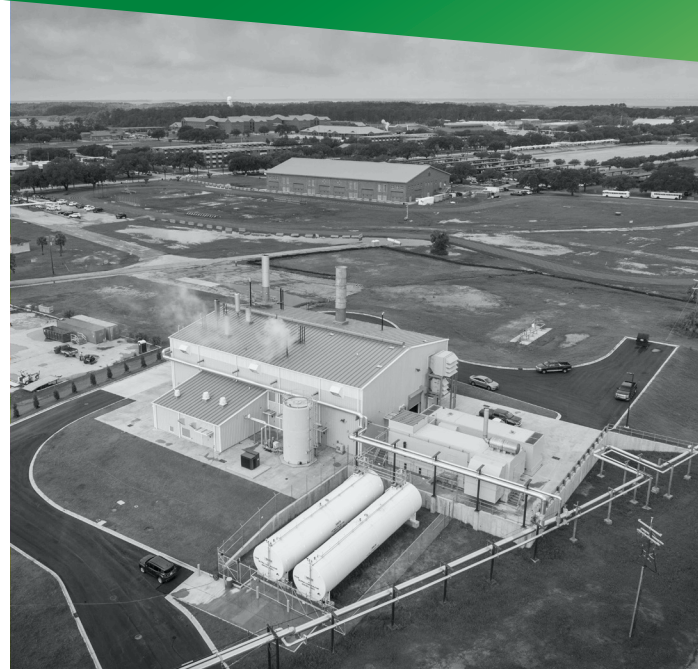
\$91,100,000

Solar PV Capacity

6.7 MW

ESPC Annual Energy Savings

\$6,000,000



Summary

The United States Marine Corps Recruit Depot Parris Island selected Ameresco in 2015 to deploy combined heat and power (CHP) and solar photovoltaic (PV) generation assets and to integrate them with a battery energy storage system (BESS) and a microgrid control system (MCS) capable of fast load shedding. Together with the improvements, this comprehensive project will further the Marine Corps Installation Command mission to ensure a reliable, secure energy supply and reduce lifecycle operating costs of Marine Corps facilities while managing future commodity price volatility.



Solution

Ameresco replaced the existing end-of-life steam plant with a new, fully automated, natural-gas fueled CHP plant capable of producing 3.5 MW of electricity and all of the steam required for the entire installation. Ameresco will deploy integrated renewable energy solutions, including solar PV, domestic hot water system upgrades, a battery energy storage system (BESS), and a microgrid control system (MCS) capable of fast load shedding.

The solar PV measure consists of a 1.6 MW PV carport system and a 5.1 MW ground mount system. Ameresco will assume the Operations and Maintenance (O&M) and Repair and Replacement (R&R) responsibilities for the installed energy conservation measures (ECMs), with the exception of the operations of the CHP plant.

This ESPC project is probably the most comprehensive ESPC ever entered into by the Navy, involving 121 buildings (3.1 million square feet total) and 20 energy conservation measures (ECMs). This will result in MCRD Parris Island reducing their energy consumption by 384,962 million BTUs (79%) and water consumption by 74.6 million gallons (27%) annually. I think the team at Parris Island, with this ESPC, may have just redefined a ‘deep energy retrofit!’

Daniel T. Magro
NAVFAC EXWC ESPC Program Lead



Benefits

This state-of-the-art infrastructure will provide Parris Island the capability to maintain reliable operations in the event of loss of utility services. This comprehensive project also features solar photovoltaic (PV) arrays that will add another 6.7 MW of on-site generation capacity. The PV systems will displace the purchase of electricity from the serving utility, and the carport PV system provides shading at the primary parking area for visiting family members.

Together with demand reduction ECMs, these improvements will result in:

- 75% reduction in utility energy demand
- 25% total water reduction
- 10 MW onsite electrical generation
- Combined annual carbon reduction of 37,165 metric tons of CO₂

Ameresco's team of energy experts can assist you in identifying the solution that fits your needs.

For more information about Ameresco and our full-range of energy efficiency and renewable energy solutions, please call **1-866-AMERESCO** or visit **ameresco.com**.

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