PROJECT PROFILE

ENERGY SYSTEMS GROUP

US Coast Guard Base Portsmouth

Portsmouth, Virginia

Savings Information

- Annual Energy and Operational savings of over $744,000

Project Size

- $7.66 Million

Project Recognition

- Winner of the 2016 US Coast Guard Sustainability, Energy, & Environmental Readiness (SEER) Award in the Overall Sustainability Category

Located along the Elizabeth River in Portsmouth, Virginia, US Coast Guard (USCG) Base Portsmouth provides shore services to home ported vessels, including six 270-foot cutters, along with numerous smaller boats. Through the Dominion Virginia Power (Dominion) Utility Energy Services Contract (UESC) program, USCG Portsmouth sought to reduce its energy cost and intensity. Dominion competitively selected Energy Systems Group (ESG) as its ESCO partner to develop, design and build the multi-phase UESC funded project.

Strategies & Solutions

Solution development led to a final scope of 5 ECMs to be included in the project implementation. The ECMs were selected to impact buildings and systems base-wide. They include: Fuel conversion (fuel oil and propane to natural gas) including new natural gas service establishment, controls, automated meter reading, & HVAC upgrades in 19 buildings; Lighting retrofits (interior & exterior) in 22 buildings and several outdoor areas, including street lighting, and extensive interior and exterior LED retrofits; Electric utility rate change / savings and a peak shaving generator design and installation scope as well as a microgrid preliminary analysis, which will include examination of existing power sources and capacities, along with consideration of the general requirements to allow USCG Base Portsmouth the ability to maintain power in island mode using the engine generator installed during the project; Water Conservation (fixture replacements) in 22 buildings; and retro-commissioning in 6 buildings.

The microgrid study is the first ever microgrid study done by the Department of Homeland Security. The microgrid study helps establish a deliberate pathway towards resiliency and energy independence across all of Base Portsmouth's missions and commands. The UESC installation of a 1.2 megawatt peak shaving generator not only lowers the Base utility rate and supports future microgrid capabilities, it is also associated with new switchgear that improves safety and stabilizes electrical power.

Key Installed Technologies

- Conversion of fuel oil and propane to natural gas
- HVAC upgrades
- Lighting retrofits
- Peak shaving generator
- Retrocommissioning
- Water conservation fixture replacements

ESG ENERGY SYSTEMS GROUP

Energy Systems Group (ESG) is a leading energy services provider that specializes in energy efficiency, sustainability, and infrastructure improvement solutions in the government, education, healthcare, commercial, and industrial sectors. ESG offers a full range of sustainable infrastructure solutions including waste-to-energy, distributed generation, and renewable energy.

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