



U.S. Navy

Energy and Water Audits, Retro-Commissioning Services

About the Project

Sain Engineering Associates, Inc. (SEA) conducted ASHRAE Level I, II, and III energy and water audits for the U.S. Navy throughout the world. More than 60% of the Department of Navy's footprint was conducted as a prime contract. All facility systems were involved, such as Energy Management Control Systems (EMCS,) HVAC, mechanical and lighting systems and cooling/heating plants. SEA's responsibilities included:

- Identifying low and no-cost energy savings opportunities
- Identifying Energy Conservation Measures (ECMs)
- Determining ECM costing analysis
- Creating an in-depth Energy Rate Structure Analysis
- Building energy modeling programs

Scope of Work

When required, data logging was installed and monitored over time to determine true conditions in facilities. Conducting data analytics helped inform the energy engineer of recommendations for energy savings opportunities. Access into high security areas, such as nuclear submarine bases and high security manufacturing facilities was required.

SEA audited over 146 CONUS and OCONUS Navy sites covering more than 163 million square feet. The results identified 1,419 ECMs of projects in excess of \$900 million to help the Navy meet its energy intensity goals, energy security, and federal mandates. This resulted in a potential savings for the Navy in the amount of \$98 million.

This contract demonstrates SEA's proven capabilities for collecting, managing and analyzing facility and energy use data. ECM suggestions covered all aspects of a facility, as well as installation level processes. Audits included identifying conventional energy retrofits and renewable opportunities such as wind energy, solar electricity, solar heating (water and ventilation,) ground-source heat pumps, natural lighting, high-efficiency equipment, and water savings opportunities. Also, retro commissioning opportunities were identified and projects were developed that continue to sustain the Navy's properties to date.

As primary Retro-Commissioning Authority, SEA audited more than 163M square feet across 146 sites to identify 1,497 ECMs to result in a potential annual savings of \$98M for the U.S. Navy.



Annual Estimated
Cost Savings



Buildings Assessed in
Six Weeks



Square Feet



Walter Reed National Medical Center, Bethesda MD -
One of 146 sites where SEA enhanced energy savings