

TECHNICAL CAPABILITIES

Resource Efficiency Management (REM) and Energy Engineering Technical Capabilities

Sain Engineering Associates, Inc.

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SEA provides Energy Management Professionals for federal programs. SEA is a consulting engineering firm established in 1988 specializing in energy as a service for new and existing facilities. Led by a team of acclaimed engineers, SEA challenges the brightest and most creative individuals in the energy services industry by providing an entrepreneurial environment that embraces initiative, innovation and results. Below is a high-level overview of the technical capabilities we provide.

Conducting Audits	SEA conducts energy audits to identify energy and water conservation measures for reducing usage and costs. Energy audits are ASHRAE Levels 1-3 and are performed strategically with a goal for continuous improvement of installations. SEA audits result in action plans for corrections to controls and equipment providing recommendations for new products and technologies to achieve optimized energy and water conservation.
Reduction of Energy Consumption	Utilizing various renewable and energy efficiency technologies, SEA develops projects to reduce energy consumption such as HVAC, lighting and motor improvements. This helps to achieve the goals set-forth by the Federal Energy and Water Performance Act. Additionally, renewable projects have been developed to reduce energy footprints of facilities to support resilience and microgrids.
Life Cycle Cost Analysis	Life Cycle Cost Analysis (LCAAs) are performed according to the process developed by the National Institute of Standards and Technology (NIST). The LCAA uses the BLCC5 Program.
Meter Data Analysis	SEA develops a metering upgrade strategy for electric and water monitoring to monitor and achieve accounting of resources for proper tenant billing. SEA also develops and implements plans to avoid disparate systems for ongoing metering projects that are being developed to expand programs.
Energy Master Planning	Energy Master Planning is the vehicle to help implement sustainable standards to provide a living document that is constantly refined with new sustainable energy and cost savings initiatives.
Retro-Commissioning	SEA specializes in seeking to improve current building equipment and retro-commission problems by identifying causes and recommending remedies for energy and water conservation. Solutions range from low-cost/no-cost actions, O&M improvements and/or retrofit opportunities. We find cost effective ways to improve the functionality of existing equipment and systems to optimize how buildings operate together. Performance improvements have included better indoor air quality, increased energy efficiency, enhanced occupant comfort and reduced building deterioration.
Controls	SEA will lead the support of resilience planning through the evaluation of current and planned facility loads based on building usage, demolition, construction and renovation. We author Energy Strategy Execution Plans to provide a holistic approach to conservation, efficiency, energy recovery and water management; updating the plan annually.
Program and Project Management	SEA conducts project facilitation by reviewing and bundling Energy Conservation Measures (ECMs), developing project forms, including DD Forms 1391, Statements of Work, BLCCs, LCCAs and/or eROI. We will also perform new and existing building design reviews and conduct facility energy audits. For Program Management, SEA develops briefings, federal or local awards submissions, strategic plans, supports data calls and annual reports providing data management analysis, and presents briefs to senior leaders. Additional essential activities are targeted to help our clients meet or exceed resource energy solutions as needed.
Rebates and Incentives	SEA develops rebate and incentive considerations based on the scope of work needed for all energy efficiency projects to ensure maximum benefits are obtained. Additionally, REMs will identify and process application submittals for grants, identify third party financing opportunities, perform LCAAs, and manage simple pay back or savings to investment analysis.

Portfolios	SEA assists in the development of portfolio-like tools to maintain data for separate locations, comprised of buildings or within a unit. This tool allows us to analyze energy and water use intensities for both individual facilities and campuses as a whole.
Facility Optimization	SEA places a priority on projects that support energy security and aligns with resilience and sustainability goals. We work to identify the capabilities and limitations in an energy system and coordinate project development and implementation. An energy vulnerability evaluation leads to the complex task of identifying and choosing which hazards to guard against. This process is essential to comprehensively and intelligently address and prioritize elements for facility optimization.
Project Costing	SEA engineers are instrumental in performing independent government estimates (IGEs) for multiple UESC ECMs to support project costing and O&M consideration. Projects include USECs, PPAs, ESPCs, ECMs, etc. All recommended measures have cost estimates and include life cycle costing performance measurements. SEA will provide an up-to-date industry standard database consisting of geographic specific pricing for sourcing materials and labor for project cost estimation using industry tools such as RSMeans.
Project Development and Implementation	At SEA, we primarily focus on augmenting energy and water conservation programs to achieve site conservation goals to meet federal mandates and save money. As an extension of your staff, we will work with you to find and implement energy cost savings solutions. These include the identification of inefficient practices, development of energy solutions, low cost / no cost fixes, improve energy awareness, facilitate third party financing and obtain utility rebates for billing analysis, as well as program management to identify opportunities for renewable energy projects.
Water Conservation	SEA will conduct water conservation audits and work to identify priorities for upgrades. We verify proposed savings numbers from utility bill analysis and implement/recommend new practices based on that analysis.
Energy Efficiency	SEA engineers evaluate energy systems and facilities to assist in the development of energy master plan strategies that mitigate energy risk and enhance energy resilience.
Lighting	SEA specializes in lighting upgrades, LED conversion and optimizing controls to drive optimized energy consumption. All lighting specifications meet ASHRAE, NED and UFC standards.
HVAC	SEA provides analysis and recommendations to ensure HVAC units are operating at optimized efficiency while also acknowledging the importance of occupant comfort. We serve facilities across the world with varying climates and have been instrumental in helping our clients reduce overall operating costs as it relates to HVAC, Life cycle cost components, and O&M considerations.
Training and Awareness	SEA provides staff and end-user training, authors articles and coordinates messaging for Earth Day and Energy Awareness month events and activities. We can also assist in marketing your energy conservation programs. Additionally, we hold quarterly facility manager trainings that help key stakeholders understand and prioritize critical conservation measure, hosting classes where we present case studies. SEA actively participates in panels and provides speaking engagements as subject matter experts for the Energy Exchange.
Utility Accounting	SEA teams evaluate annual utility billing rates and structures, recommending additional battery storage for increased ability to utilize PV generation during demand peaks. Each facility has a "Utility Analysis" spreadsheet to maintain usage and cost information for the previous 5-6 years. SEA will maintain and analyze the data keeping summary dashboards updated to display information indicating trends and potential problems in near real-time.
Rate Design and Cost of Service	We provide at least as much savings as your contract costs. This is done by actual cost savings and cost avoidance measures. SEA has a longstanding history with the federal government for achieving energy cost savings and pricing is determined by the requested qualifications, geographic location and travel requirements.
Working with Various Government Energy Databases	SEA works daily with the following energy databases: AWERS, Meter Data Management, LCCA escalation rates, DLC, FEMP, UL, ASHRAE, UFCs, NEC, Energy Star, LEED, PV Watts, Whole Building Design Guide, etc.