

Mystic Aquarium

MYSTIC, CONNECTICUT



SERVICES PROVIDED FOR THIS CLIENT:



Opened in 1973, Mystic Aquarium is a nonprofit organization with a mission to inspire people to care for and protect our ocean planet through conservation, education and research. The aquarium, one of the most popular tourist destinations in Connecticut, has a variety of animals and exhibits open for public view. The Aquarium's campus is approximately 18 acres and operates year round.

CHALLENGE

The aquarium uses approximately 8.3 million kWh per year in electricity and came to ESC looking to make some energy saving changes to the facility's mechanical and electrical infrastructure. General improvements were recommended throughout the property, and specifically at the main building, visitor services building and ocean exploration center. All of the work would need to be performed while the building was either occupied by visitors or staff, which was 24 hours per day, 7 days per week.

SOLUTION

ESC identified a number of energy conservation measures to help the Aquarium save energy and money, including a high efficiency lighting package with building automation controls. ESC investigated the Aquarium's water process pumps, which were incredibly inefficient, and suggested installing new Variable Frequency Drives (VFDs) to reduce motor speeds and save energy, while maintaining optimal water flow for process. In addition, ESC expanded and upgraded the building management system to control the HVAC systems in the building that were unrelated to animal life and safety, to include demand controlled ventilation, dual enthalpy control and optimal start-stop control, and static pressure reset.

RESULTS

Providing a full turn-key energy solution, ESC was able to maximize the Aquarium's energy incentives and **reduce overall annual electricity usage by about 650,000 kWh per year. ESC was able to deliver \$541,000 in utility incentives for the Aquarium and save approximately \$85,000 in estimated annual energy costs.**

CLIENT

Mystic Aquarium

CLIENT REFERENCE

Keith Sorensen
Senior Vice President,
Facilities and Capital Projects

PROJECT LOCATION

55 Coogan Boulevard, Mystic, CT

SCOPE OF THE PROJECT

LED Lighting, Process Pump VFDs, Expansion and Upgrade of HVAC Building Management System, AHU & AC Unit Replacement

PROJECT TYPE

Building Automation, Energy Solutions, Mechanical Services

PROJECT SIZE

900+ lighting fixtures, (1) 50-ton RTU, (2) 50-ton condensing units, refrigerant piping, mechanical and controls for HVAC units, (16) VFD's on marine pool pumps

BUILDING TYPE

Private - Aquarium

ESC TEAM MEMBERS/ROLES

Jack Cunningham, Director
Energy Solutions Sales

Brian Mitchell, Project Manager
Lead/HVAC Controls

Daniela Iozzo
Lighting Project Manager

Mark Case
Mechanical Project Manager