



## The Challenge

The Penobscot Bay YMCA, having state-of-the-art equipment including an eight lane swimming pool, warm therapy pool, and therapeutic sauna (among many others), was interested in increasing energy efficiencies, thereby reducing their operating expenses at their Rockport, Maine facility. They were also interested in determining if they had the best maintenance contract to keep their equipment in optimal condition without overspending for 2011.

## Our Findings

- A 18% reduction in annual energy costs resulting in a savings of approximately \$21,033 annually
- Predicted return on investment of 1.1 years
- Negotiating a new equipment contract could reduce operating expenses an additional \$3,000 - \$4,000 annually
- Improved capital and lifecycle investment decisioning
- Extended service life of facility assets

## The Solution

In the interest of increasing energy efficiencies and reducing operating expenses, the Penobscot Bay YMCA looked to Cordjia Capital Projects Group ("Cordjia") to perform a Building Systems Operational Check at their facility in Rockport, Maine.

The systems that were investigated by the Cordjia team included the mechanical, electrical, and plumbing systems, building automation system, and building operations. The investigation included:

- **Systems Verification.** We verified that the systems and equipment were installed pursuant to the design drawings. We inspected the condition and confirmed the age of all major components.
- **Systems Performance Analysis.** We evaluated all documents and sequence of operations for proper systems installation and operations.
- **Systems Testing.** We tested and operated all sensors, actuators, valves, and system components to ensure proper operation.
- **Energy Performance Analysis.** We provided technical feasibility, cost savings, return on investment, and new energy saving design options.

Systems evaluated included:

- Heating and Ventilation Equipment
- Circulation Pumps
- Building Automation
- Lighting

## FINANCIAL HIGHLIGHTS

- Total Implementation Cost: \$44,505
- Efficiency Maine Incentive: (\$20,650)
- Cost to Penobscot Bay YMCA: \$23,855
- Annual Energy Savings: **\$21,033**
- Return on Investment: **1.1 years**

## Findings

Cordjia's investigation determined the mechanical, electrical, and plumbing systems are in good overall condition.

Installation of additional variable frequency drives ("VFDs") on heating coils, domestic hot water boiler, and circulation pump was the primary energy conservation measure ("ECM") recommended.

Scheduling all existing and new equipment through the building automation system was another significant ECM recommendation. This will allow the equipment to be scheduled based on occupancy and need.

A time clock to turn off parking lot lights after hours should be considered.

The recommendations contained within the report represent an 18% reduction in annual energy costs or approximately \$21,033 annually. If all the recommendations are implemented, with the Efficiency Maine incentive, the return on investment is 1.1 years.

Cordjia has commenced implementing various energy savings solutions identified in the Building Systems Operational Check report.

