Connecticut Valley Hospital

2020 Savings

564,879 KWH
ANNUAL ELECTRIC SAVINGS

21,234 therms
ANNUAL GAS SAVINGS

Therms Savings (Gas)

$109,413
ANNUAL ENERGY COST SAVINGS

About Connecticut Valley Hospital

According to their mission statement, "At Connecticut Valley Hospital, individuals receive services that assist them to better manage their illnesses, achieve personal goals, and develop skills and supports that lead to living the most constructive and satisfying lives possible."

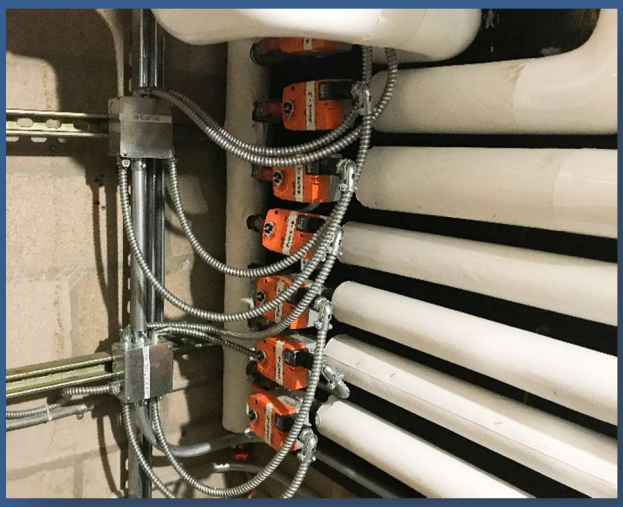
Connecticut Valley Hospital is "committed to promoting recovery through collaborative, compassionate, and culturally competent treatment in a safe and caring environment."

PRISM ENERGY SERVICES

Certified WBENC Women's Business Enterprise

Certified SDO Supplier Diversity Office

Top 100 Women-Led Businesses



The Challenges

- Identification of a comprehensive plan for physical plant upgrades with energy efficient equipment and strategies for operating cost reductions, prioritization of measure installation
- Aging major equipment across multiple campus building in need of replacement & upgrade
- Controlling energy consumption and costs campus-wide
- Limit disruption to client living spaces for maintenance & repair
- Improve comfort conditions for residents and staff
- Improve thermal comfort and climate control for building occupants
- Add more granular controls to facilities where ineffective control systems existed
- Convert steam heating systems to hydronic due to aging steam system and for safety reasons
- Fund within Connecticut state budget constraints and compliant procurement process

The Prism Solutions

Prism Energy Services collaborated closely with DHAS and Connecticut Valley Hospital (CVH) staff to comprehensively evaluate the physical plant and its components across the hospital campus, creating a Master Plan for a multi-year equipment replacements/upgrade project along with energy operating cost reduction strategies. Work included site visits, identification of equipment replacements and other energy efficiency measures & strategies, energy/financial analysis, submitting for utility incentives and ultimately a program of implementation. Prism's Solutions encompassed designing and installing a series of upgrades at twelve buildings around the campus. HVAC equipment upgrade projects were designed and installed at three buildings, all of which involved steam-to-hot water conversions. At one building with both residential and office spaces, two large air handlers were replaced with new, high efficiency units with variable frequency drives. Prism also installed three, new very high efficiency Viessmann condensing boilers in place of two older steam boilers used for space heating in an office building and two new boilers serving a residential building which no longer had access to steam from the central plant. The two boiler projects also required replacing existing steam heating distribution equipment as part of the conversion. Additionally, Prism added four new heating and cooling zones to the ductwork of the air handler, which solved myriad issues with comfort complaints.

To complement the HVAC ECMs, controls upgrades included new, open source Energy Management Systems in two buildings, replacing existing pneumatic systems. The new systems allowed for vastly superior control of the various spaces, brought new pieces of equipment under control, moved valves out of residential areas to solve a maintenance issue, and also introduced new control strategies such as demand control ventilation which reduces outdoor air flow as occupancy is reduced.

Prism also completed various other upgrades & ECMs such as the installation of ultra-efficient step-down and step-up transformers in eight separate buildings, almost completely eliminating losses that occur from the conversion process before it even gets to the end device. We also added spray-on insulation to exterior and interior chiller distribution piping serving five separate buildings around the campus.

A small portion of the installation work was completed in 2019 and a substantial portion was and continues to be completed in 2020. Subsequent phases are scheduled to be completed in 2021 and beyond.

The Outcome

Prism Energy Services listened to CVH's challenges and concerns and leveraged their expertise and interest in participating in the solutions. Collaborating, a Comprehensive Master Plan was developed in a timely fashion and measures were prioritized for implementation. Prism was then able to effectively phase the installations according to priority and systematically work through the list of measures. Prism not only provided new ultra-efficient mechanical equipment and controls to Connecticut Valley Hospital in multiple buildings campus-wide that would have been capital investments, but also addressed maintenance challenges, safety and code issues and comfort complaints and deficiencies.

Prism installed many of the 2020 measures safely under rigorous COVID-19 environmental health and safety guidelines with full PPE precautions due to our projects being essential services to the hospital. Lastly, to date, Prism projects will save over $100,000 annually for CVH, allowing them to deploy financial resources to better serve their patients and fulfill their mission statement.

PRISM ENERGY SERVICES

Future Projects

Prism Energy has the following future projects planned with Connecticut Valley Hospital. These projects have the potential to save the facility an additional 562,383 kilowatt-hours of electricity and 42,617 therms of natural gas which amount to another $122,107 in annual savings! They are slated for installation in 2020 and beyond.

Location and Project Name	Electric Savings (kWh)	Natural Gas Savings (Therms)	Annual Cost Savings
Whiting Forensic Hospital DHW Replacement	63,510	-2,468	$7,452
Whiting Forensic Hospital Hot Water Pump VFD	12,901	0	$1,997
Whiting Forensic Hospital (Interior & Exterior Lighting)	197,004	0	$30,496
Exterior Campus-Wide Building-Mounted & Nearby Lighting	62,597	0	$9,690
Exterior Campus-Wide Pole / Site Lighting	88,296	0	$13,668
Woodward Hall Exterior Lighting	2,338	0	$362
Page Hall Interior Lighting	65,757	0	$10,179
Woodward Hall FCUs & Radiator Controls	45,397	1,794	$8,329
Woodward Hall Demand Control Ventilation	9,694	2,003	$3,100
Woodward Hall Exhaust Energy Recovery	-3,374	35,341	$28,317
Woodward Hall Chilled Water Upgrade	2,323	0	$351
Woodward Hall P-K Hot Water Heater Controls	0	401	$327
Woodward Hall Add/Alternate: Steam Radiator Conversion	0	0	$0
Eddy Home Boiler Replacement	0	2,491	$1,995
Eddy Home Add/Alternate: Indirect DHW Heater	0	0	$0
HR Services Center Window Replacement	15,940	3,055	$5,844
Totals	**562,383**	**42,617**	**$122,107**

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