

Viant



Business

Medical Device
Manufacturing

Town

Chicopee

Project

Variable Frequency
Drives on Chilled Water
Plant

Total Project Cost

\$22,410

Annual Cost Savings

\$18,280

Annual Electric Savings

165,443 kWh

Simple Payback

1.23 years

Project Overview

Viant Chicopee, Inc. is a medical device manufacturing facility located in Chicopee, Mass. The facility has a chilled water plant used for the manufacturing process that operates year-round with the exception of plant shutdowns.

Viant worked with Energy Engineering, LLC to install two variable frequency drives (VFDs) on the cooling water circulation pump and the condenser water pump. The cooling water circulation pump VFD was equipped with a controller that sets the motor to an optimal flow rate rather than throttling the pump at the discharge of the heat exchanger. The new operation opens the heat exchanger valve and reduces pump speed until the flow rate is as designed. The VFD installed on the condenser water pump optimizes the water differential by varying the flow rate based on the temperature sensor readings at the inlet and outlet of the condenser to keep the differential temperature constant.

Technical Analysis

Viant provided Chicopee Electric Light's (CEL) Green Opportunity (GO) team with the specifications for the existing pump equipment and the proposed upgrade. The team reviewed the technical data for accuracy and prepared a cost-effectiveness evaluation based on estimated energy savings.

Measure	Electric Savings (kWh)	Demand Reduction (kW)	Cost Savings
Cooling Water Pump VFD	57,314	6.543	\$6,667
Condenser Water Pump VFD	108,129	N/A	\$11,613

Incentive Calculation

CEL's GO program is designed to offer incentives up to 30% of the project's costs with an incentive cap of \$25,000. The incentive payment cannot reduce the project below a one-year payback. Based upon the project's cost and the program's guidelines, CEL was able to offer an incentive of \$4,130 which reduced the payback to one year. Viant implemented their project in February 2020.