



Penn State Health Milton S. Hershey Medical Center



OptimumLOOP® delivers operational efficiencies and beats expected cost savings.

Introduction

Since 2009, the Penn State Health Milton S. Hershey Medical Center has been implementing a multiphase energy efficiency program. Six years into the program, Kevin Kanoff, the center's campus energy engineer, knew the chiller plants were efficient—but he believed they could be improved. Johnson Controls, the center's lead vendor, brought in Optimum Energy to perform an engineering site assessment (ESA), which proved him correct: optimizing the chiller plants across the campus would deliver significant energy savings.

After Optimum Energy completed the installation of its OptiCx® platform and OptimumLOOP in June 2016, the center's 12 chillers were running at peak efficiency, saving electricity costs, using less water, and reducing carbon emissions. In fact, annual energy savings were found to be almost 4.2 GWh/year, roughly 1 GWh more than expected, and campus energy intensity dropped 4 percent.

“We are more aware of energy efficiency and savings. It's helping the team see the bigger picture.”

—Kevin Kanoff, campus energy engineer, Penn State Health Milton S. Hershey Medical Center

Challenge: Optimizing a Large, Efficient Plant

The plant optimization project was not a small task. The Milton S. Hershey Medical Center serves more than 1.2 million patients and employs 10,000 people. The campus—which includes two hospitals, five institutes, and Penn State College of Medicine—has 2.6 million square feet of air-conditioned building space served by three chiller plants: a central plant of eight chillers and two



satellite plants with two chillers each that provide a total of 14,200 tons of cooling. The system also includes a 1.4 million gallon chilled-water storage tank.

The previous phases of the energy efficiency initiative had reduced the campus's energy intensity by 20 percent, but Kanoff had to find a way to squeeze out additional efficiencies. The ESA showed that optimization would provide the additional energy savings he sought.

First, Johnson Controls paved the way for the optimization solution and analytics platform, installing variable-speed drives on pumps and fans, adding power meters and sensors for precise measurement of all system components, and fully automating the plant.

Recognizing that the security of data systems is a high priority for a medical facility, Optimum Energy worked closely with the center's IT staff to ensure all data going from the plant in Hershey to Optimum Energy's cloud-based OptiCx platform would be absolutely secure.

