A holistic approach to curing energy waste

Case Study

Name:
NYU Langone Medical Center

Square Footage:
338,424 Sq. Ft.

Energy Savings Results:
382,455 kWh and $57,369 in cost savings annually

Sector:
Healthcare

Location:
Manhattan, NY

"The process was quite straightforward."

utiliVisor
continuous energy oversight
https://utilivisor.com/

Background

NYU Langone Medical Center, Hospital for Joint Diseases is a 338,424-square-foot building located in the heart of Manhattan. Creating a healthy environment is central to the Center's mission, taking into account the environmental, societal, and economic impact on the community. As a participant in the NYC Carbon Challenge and committed to pursuing sustainable operating practices, the Center constantly strives to lead by example.

The Target

To help meet sustainability goals, the Center invested in building a best-in-class energy management program. UtiliVisor, an energy advisory firm, came on board to oversee the chilled water plant and distribution at the facility. Bringing more than three decades of experience in improving HVAC equipment efficiency through monitoring for hospitals, universities, and Class A office space, utiliVisor implemented a real time energy management system that would rapidly reduce operating costs and energy waste.

The goal was to reduce the costs involved for generating and distributing chilled water by 12–20% by improving the operations of the existing systems. utiliVisor began implementing their solution by capturing holistic energy efficiency data from the chilled water plant and chilled water distribution at the facility.

The Approach

The utiliVisor Software Suite is a web-based, networked solution built on open standards. It works in real time, five-minute intervals to collect and format data, monitor operations and equipment error states, and deliver oversight through the web via alerts and alarms. The advanced software collects and formulates data, which is then turned into a defined solution that results in an actionable and measurable, cost-saving plan.

utiliVisor developed an interface between the CBAS Building Management System that read approximately 473 data points and received a software upgrade in addition to the creation of an FTP upload gram. Because of the capability already existing within the current CBAS system in NYU HJD's facility, utiliVisor was able to set up a data push directly from the current equipment without adding additional hardware. Due to this, no additional processes or instrumentation was added to the system.

"There were operational issues identified that we wouldn't have otherwise been aware of."

There were nine recommendations over the course of the project, ranging from reducing the chilled water pump minimum speed to 12HZ to resetting air handler schedules to be altered seasonally. By implementing these recommended actions, the facility saw an energy savings of 382,455 kWh, which equates to $57,369 in cost reduction annually.

The Benefits

By having utiliVisor and the support of the operation center, the facility benefitted from having essential continuous oversight to ensure efficient operation as well as having assistance in identifying areas where facility constraints are too great and capital project may be necessary.

According to the Center, the most significant benefit of the management system was the comprehensive review of equipment performance and system operating costs on a real-time basis. Daily monitoring by experienced engineers to analyze and optimize ventral energy plant performance consistently helped develop new operating strategies. An online blog, maintained by the operations center, tracked real-time data, system performance, and system alerts based on set operating thresholds and performance criteria. Savings are documented and reported on a monthly basis and compared to the base year's operating costs with weather normalization.

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