CASE STUDY: Largest U.S. Non-Profit Healthcare Group

Energy Management for Healthcare

Client Testimonial

"Our compliance is at 98% this month and we're at 99% comfort, which is up 2% from last month. We're saving an additional 25 cents per square foot compared to last year."

With this report card, it is easy to see how the facility is doing and the improvements that are being made."

- Jim Prince, Director of Energy and Facility Performance Excellence, Medxcel

Medxcel

Executive Summary

The nation's largest U.S. Non-Profit Healthcare Group chose Talisen's Enterprise Sustainability Platform (ESP) as its energy management solution to gather, analyze, trend and report energy consumption and Building Automation System (BAS) data for each of their acute-care hospitals.

The ability to analyze utility bills, meters and BAS data enables healthcare staff and their engineering partners to find additional ways to tune and optimize hospitals for maximum patient comfort, regulatory compliance and energy consumption on an on-going basis.

Challenge

Create a healthy facility by proactively identifying issues that pertain to building health before those issues become noticeable while supporting the 3 C's:

1. **Cost-Effectiveness:** Has the building's energy consumption changed recently? How do we maintain savings generated by our Energy Conservation Measures (ECMs)?
2. **Compliance:** Are all operating and critical procedure rooms within acceptable ranges for temperature, humidity, pressure and airflow? If out of acceptable ranges, what triggered the change and why?
3. **Comfort:** Are all spaces controlling their temperatures at or near setpoint? Have temperatures deviated from thermostat setpoint?

Solution

ENERGY MANAGEMENT PROGRAM: The nation's largest non-profit healthcare group developed a comprehensive Energy Management Program aimed at the goal of reducing system-wide energy costs at all acute-care facilities by 20% by the end of FY2018. This goal amounts to an annual savings target of $33M.

In order to reach this goal, the healthcare group is implementing two Enterprise Sustainability Platform (ESP) modules across their portfolio to provide insight into energy usage and optimize performance and efficiency:

- Utility Bill Management Module
- Building Analytics Module

ESP Statistics

- 116 Hospitals
- 50.9M+ Square Feet
- $542M+ Utility Costs Managed
- 73,700+ Utility Bills
- 1.2M+ BAS/Meter Points

01 Utility Bill Management Module:

The Utility Bill Management Module incorporates historical utility bill data for over 100 hospitals directly from Schneider Electric metering devices on a weekly basis. The utility views allow energy managers to analyze data at a portfolio level, regional level, building level or even down to an individual meter level. This module provides a granular view of energy usage at sites in order to detect anomalies faster than the previous technology allowed.

02 Building Analytics Module:

The Building Analytics Module is deployed at over 80 acute-care hospitals. Talisen's ESP system analyzes over 1.2M Building Automation System (BAS) points. Daily reports are generated for BAS equipment in the hospitals, ranking equipment based on compliance rules (i.e., deviation from setpoint, etc).

Talisen's ESP Fault Detection algorithms provide detailed analytic rules that are applied to BAS and meter points. BAS and meter data is normalized to ensure compliance with a standard naming convention and units. ESP also provides a Measurement and Verification (M&V) platform for tracking energy conservation measures that replaces current manual processes and reduces overall cost.

Results

- **Cost-Effectiveness**: The Cost-Effectiveness of the hospitals is improving. Lighting and retro-commissioning projects combined with ESP's Fault Detection system decreased the energy consumption.
- **Compliance**: Compliance scores are monitored and projects are implemented to address spaces struggling to stay in compliance on a consistent basis.
- **Comfort**: Facility comfort scores are improving every month, and any new comfort issues are being addressed real-time.

COST-EFFECTIVENESS

ESP monitors and reports data (i.e., utility bill, local meter, & BAS data) to monitor energy consumption, operations and maintenance costs.

COMPLIANCE

ESP helps monitor and maintain compliance standards related to temperature, humidity, pressure and air changes in operating rooms and critical spaces.

COMFORT

ESP helps to monitor and maintain comfortable temperature and humidity levels in all occupied spaces.