AEI

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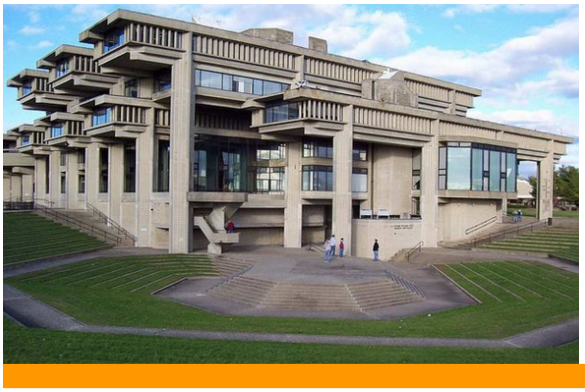
Case Study

Control of VFDs at UMass Dartmouth results in over $150,000 in annual energy savings

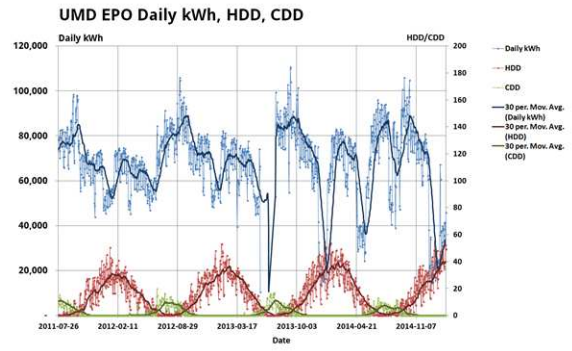
The Problem



UMass Dartmouth completed a large and expensive campus-wide ESCO performance contract but lacked the ability to quantify the cost of savings that were not achieved or being maintained. The University also had no quick and efficient way to evaluate millions of building automation system (BAS) data points and thousands of alarms.

Solutions

AEI obtained 5-minute utility interval data from Eversource and applied the AEI software analytics to benchmark the UMass Dartmouth energy use and help the University better understand its demand charges and identify peak demand mitigation opportunities.



We reviewed the available JCI Metasys BAS data and used our analytics and visualizations to quantify efficiency opportunities, including a better O&M approach to seven VFDs that were operating at 100%. Through proper control of the VFDs, the result was the discovery of over $150,000 in annual energy savings.

AEI also determined that some of the recently installed steam meters were not operational, resulting in a long opportunity to identify no-cost/ low-cost situations that could conservatively amount to an additional $190,000 in annual savings.

Building on this rapid and inexpensive survey with immediate victories for the facilities staff, UMass Dartmouth now has a baseline to support an ongoing continuous commissioning process where new savings opportunities are discovered while existing savings are maintained.

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Building Energy Efficiency with AEI

Take Back Control with AEI SoftStart™

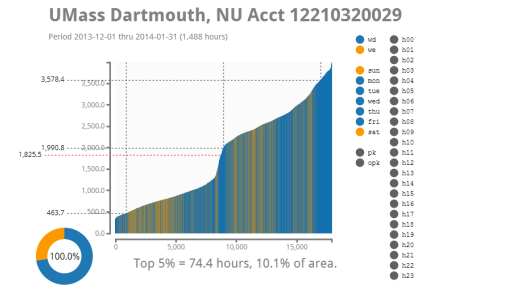
AEI energy data analytics help you take back control of your facility's energy use. The first step is an inexpensive main meter AEI SoftStart™ review using the data collected by your time-of-use (TOU) facility meters. Even with just the main meter, we can:

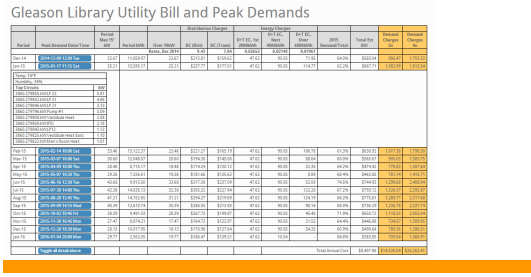
- Profile your facility's energy use by time of day, day of week, season/ season, year/year, including weather normalization,
- Show dynamic demand visualizations that quickly identify your peak demands during the year,
- Calculate the Energy Use Intensity (EUI) of your buildings and compare them to each other and to the DOE national database.

From these analytics, we can start to understand how your buildings operate:

- Do your buildings set back appropriately during unoccupied hours?
- What are the base, heating and cooling loads of the buildings?
- What are the top peak demand moments in the billing period? How does your peak demand compare to the average load?
- How do your buildings perform relative to each other per square foot, and to the national averages for similar building types?

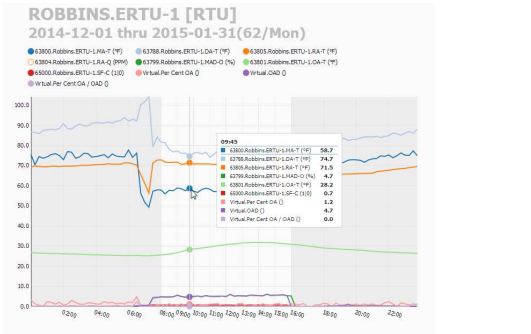
An AEI SoftStart review is the inexpensive way to answer these questions and others, pointing you in the right direction to choose the next best steps toward energy efficiency.





With BAS Data, Deeper Insights and Savings

With the Building Automation System (BAS) data from your facility, AEI kicks into high gear and goes well past what the main meter has told us. We'll dig deep into the air handlers, chillers, boilers and other assets to see that they are operating efficiently and to plan. We'll discover the typical inefficiencies such as simultaneous heating and cooling, excessive ventilation, VFDs in override, and hundreds of other performance indicators. We'll identify the simple and quick ROI O&M savings opportunities, and also give you the reference data for making capital improvement decisions. How well do your current assets perform against an ideal cost-to-operate model? We'll tell you all this and more, and in plain English. Commissioning a new BAS? We can qualify the installation to be sure it's been properly configured.



Lower Costs and Maintained Savings over Time

AEI is with you through the entire life cycle of your building, from early main meter insight, through renovations, and all the way to steady-state continuous commissioning. As your energy management partner, AEI and its CEMs deliver reporting and insight to your secure and private web portal. Your engineers and ours share a low-cost reference desk where your data is presented in logical and meaningful ways that are tuned to your staff's needs.

For more information, please visit our web site at www.aeintelligence.com, write to us at info@aeintelligence.com, or call us at +1 (978) 758-8883.