

WASHREIT: ESTABLISHING AN ACTIVE PEAK LOAD MANAGEMENT PROGRAM

SOLUTION OVERVIEW

Washington REIT (WashREIT) was facing a lot of capacity charge costs and wanted to find a way to optimize its existing energy intelligence software (EIS), allowing properties to anticipate and avoid peak loads at critical times while minimizing impact on operations. The expanded operational software changes are anticipated to save an estimated \$30,000 in capacity charge costs in 2020.

CHALLENGE

Managing properties' peak loads on a more frequent basis to reduce capacity charges without affecting tenant comfort

SOLUTION

Expanding the organization's energy intelligence program in coordination with their EIS provider to enable properties to enhance EIS responsiveness to help curtail demand

OUTCOME

Expected savings of \$30,000 on electricity capacity charge costs in 2020

PROCESS

WashREIT deployed energy intelligence software (EIS) in coordination with an EIS provider across its portfolio to monitor market data and property energy load profiles in real-time. The WashREIT team was looking to expand upon the capabilities of the existing software to create an energy management program that avoids receiving capacity charge costs during peak demand events. Capacity charges are a way electric utilities disincentivize using large amounts of energy during times of great demand to try and mitigate strain on the grid. Reducing capacity charges represents a large savings opportunity, as charges accumulated during high-demand summer days are applied to bills across the entire subsequent year.

The sustainability team's first step was to present the idea to its property management leadership. After confirming buy-in, the WashREIT team had to account for several challenges in developing the more robust process:

- Knowing when to curtail demand during annual system peaks
- Preventing too-frequent curtailment and risking negative impacts on tenant comfort,

especially during the summer months when peak periods are at the highest

- Identifying curtailment actions and strategies at the property level
- Having property teams execute the necessary curtailment actions on short notice

WashREIT worked with its EIS provider to solve each of these challenges. Prior to the start of the curtailment season, WashREIT held site-specific calls with the provider and the building engineers to discuss load reduction strategies and develop building-specific curtailment plans. This helped to identify the correct points of contact at each property and established a line of communication with the service provider for the necessary support while making sure to be extremely mindful of their tenants' comfort levels and so far, have not received complaints from tenants. The WashREIT team also ensured there was no barrier to capturing the capacity savings. The company's energy supply contracts pass-through capacity and transmission rates to customers rather than fixing them for the life of the contract, so any savings are directly seen by the customers.

In order to accurately anticipate properties' peak loads, WashREIT followed a "Monitor, Notify, and Respond" protocol:

- Monitor: Use predictive analytics to monitor market data to assess the chance of a system peak;
- Notify: Receive notification from the EIS provider on the probability of high peak periods; and
- Respond: Execute an energy reduction plan to better control energy consumption by a variety of building system's including heating, cooling, and lighting set points to conserve energy and save money.

Additionally, during system peak events, WashREIT notifies and engages with the property engineering staff to assist with reducing the building's energy load to optimize occupant comfort. With up to 10 capacity load management events in a summer season, WashREIT wanted the buildings' actions to be invisible to tenants. WashREIT also provided its property teams the necessary assurance that they would not be penalized or criticized if in pursuing curtailment they encountered some tenant comfort complaints.

MEASURING SUCCESS

WashREIT's goal was to reduce the number of capacity charges they received by bringing down energy use during peak events. This required upgraded software, engaged property team participation, and being mindful of tenant comfort concerns. WashREIT piloted the new program at nine D.C. properties to determine its viability as a tool in meeting the company's 2025 sustainability targets.

OUTCOMES

WashREIT successfully deployed an energy intelligence software (EIS) that reduced peak capacity by 770 kW and provided annual savings of \$30,000. The company supported its property teams' efforts to curtail energy use and so far, they have not received negative feedback from tenants about comfort. Based on the program's success, WashREIT plans to expand the use of this EIS

technology across a larger part of its portfolio to increase demand savings.