

CASE STUDY

Award-Winning Memorial Sloan-Kettering Cancer Center Facilities Achieve Sustainability Success



SCOPE

As part of an effort to identify opportunities for energy conservation, Edison Energy's Engineering team was contracted by Memorial Sloan-Kettering to conduct a detailed Retro-Commissioning and ASHRAE Level II Energy Audit Project at two of their facilities, the Sidney Kimmel Center for Prostate and Urologic Cancers and Mortimer B. Zuckerman Research Center, both in Manhattan, New York. Totalling more than 296,000 sq. ft., these buildings range in facility type and use and are comprised of pharmacy, laboratory, diagnostic and treatment areas, office space, conference rooms, and a research library. They are recognized as world-class facilities. This was a particularly interesting and unique environment to work in due to the critical nature of the services provided and patients served—it was vital for our team to identify and implement Energy Conservation Measures (ECMs), which not only reduced energy consumption but significantly enriched quality-of-stay and comfort issues.

CLIENT

Memorial Sloan-Kettering Cancer Center

MARKET

Institutional

> Healthcare / Hospitals

OFFERINGS

Energy Audits & Retro-Commissioning

> Project Management

PROJECT RESULTS & KEY METRICS:

Sidney Kimmel Center for Prostate and Urologic Cancers		Mortimer B. Zuckerman Research Center	
Sq. Ft.	60,274	Sq. Ft.	236,000
Annual Savings:	\$191,250	Annual Savings:	\$1,661,597
Payback Period:	<1 yr	Payback Period:	1.9
kWh Saved Annually:	1,291,151 kWh	kWh Saved Annually:	6,133,816 kWh
Steam Saved Annually:	1,283 Klbs	Steam Saved Annually:	19,850 Klbs
Site Electricity Reduction:	50%	Site Electricity Reduction:	14.6%
Site Steam Reduction:	30%		



CUSTOMER VALUE

Through our distinct approach, experienced engineering personnel, and hands-on field testing, the project not only fulfilled but exceeded our client's operational needs and expectations. Not only did our team's recommendations significantly improve and enhance occupancy comfort levels at the facilities, but significant energy savings were also recognized. Both Capital and O&M measures were developed and analyzed for energy savings and prioritized based on ease of implementation, energy saving potential as well as cost effectiveness criteria. Our team identified and analyzed deficiencies and energy conservation opportunities, estimating more than \$1.8M in annual cost savings if all ECMs were implemented. Execution of these ECMs will reduce site electricity consumption by more than 40% and steam consumption by 30%, with a payback period of slightly more than one year.

Memorial Sloan-Kettering Cancer Center

VISION

To achieve major advances in controlling cancer and producing better outcomes for patients.

The Zuckerman Project won the award for Existing Commissioning Project of the Year by the BCxA as well as AEE's New York Chapter's Energy Project of the Year (2016).

- › MSKCC has since implemented all the HVAC control ECMs and as a result, both staff and hot/cold complaints have been immensely reduced, and comfort has been significantly enhanced. Moreover, MSKCC had already realized massive energy savings in just a very short timeframe of three months (May–August 2016).
- › Implementation of identified ECMs had already resulted in total savings of \$2 million, 1M kWh per month, and 1.9 MW kW per month, all with a simple payback of less than two years. Most notably, MSKCC received a \$4 million rebate from Con Edison to offset the \$8 million implementation costs.

The Kimmel Center Project won the award for Existing Commissioning Project of the Year by the BCxA (2014).

- › Edison Energy led the heat load analysis, AHU and VAV control sequence implementation, and VAV rebalancing effort to ensure the two major ECMs were executed optimally to achieve the greatest energy savings possible while still meeting occupant needs.
- › Edison Energy provided engineering, project management, and third-party review services throughout the course of the project to ensure that the HVAC Scheduling and Static Pressure Reset ECMs reached their full potential for energy savings.
- › MSKCC has since implemented the projects and energy savings were realized. This resulted in total savings of \$107,843, with a \$30,270 rebate (as executed under NYSERDA's Energy Advisor Program), equating to a simple payback of just 1.4 years.

Edison Energy is an independent energy advisory and solutions integration company with the capabilities to develop and implement a broad portfolio of energy services for commercial, industrial and institutional organizations. We help customers reduce their energy costs, improve the environmental performance of their operations, ensure energy resiliency and manage exposure to energy price risk.