THE FRANKLIN
Commercial Building

Award-winning engineering for Chicago office towers

AECOM, using Panoramic Power™ wireless sensors from Centrica Business Solutions, delivers 7% energy savings by monitoring circuit-level energy in a 2.48 million square foot office property.

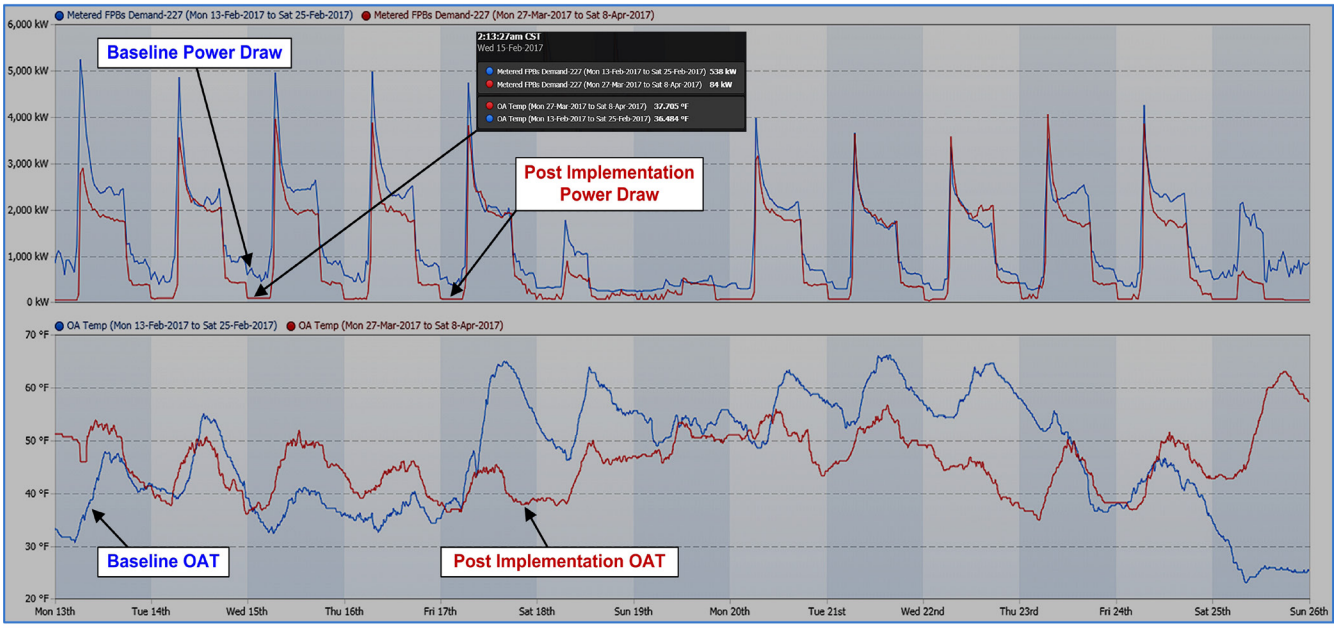
Using Panoramic Power sensors and communication bridges from Centrica Business Solutions, AECOM discovered The Franklin was unnecessarily heating the property during unoccupied hours, while year-round heating tendencies led to simultaneous heating and cooling in the summer.

3
MILLION
Kilowatts of annual energy savings

$214k
ANNUAL SAVINGS
Energy savings

5.6
MONTHS
Payback on original investment

centrica
Business Solutions



Delivering monitoring-based energy efficiency

The Franklin's management and engineering team was searching for new ways to uncover energy efficiency opportunities. Critical areas included heating energy at the property's hundreds of fan-powered boxes, scattered throughout its tenant-occupied floors.

Establishing energy monitoring dashboards

Developed in two phases in 1989 and 1992, The Franklin is a 2.48 million square foot, two-building, multi-tenant office property and home to some of Chicago's most prestigious businesses.

When building owner, Tishman Speyer, engaged AECOM to perform monitoring-based commissioning services, the property's annual energy use exceeded 40 million kWh.

After establishing HVAC data integration protocols, The Franklin's engineering personnel were alerted to operating anomalies that could lead to excessive wasted energy. The Centrica Business Solutions PowerRadar™ mobile application enabled the site engineering team to view the same daily and weekly performance data available to AECOM.

Panoramic Power sensors and communication bridges monitor power draw to the property's fan-powered boxes from 98 electric panels. PowerRadar revealed that the majority of tenant floors consume electricity during unoccupied hours and that nighttime setback controls were keeping the floors at unnecessarily warm temperatures at night.

It was also revealed that heating was operating throughout the year resulting in simultaneous heating and cooling during summer months.

The Results

AECOM used PowerRadar data to correct these operational problems and reduce annual energy use by more than 3 million kWh, or more than 7% of the property's historical annual energy consumption. The projected energy cost savings enable the property to recover its investment in Panoramic Power devices and repairs in less than six months.

The project was awarded an Excellence in Engineering award from the ASHRAE Illinois Chapter and earned Energy Performance in a Single Site honors from the U.S. DOE Smart Energy Analytics Campaign.

System description

- Monitoring-based commissioning (MBCx)
- Leverages "big data" to reduce operating costs

System size

- Base building energy use of 40 million kWh

System production

- 3 million kWh annually saved

Environmental benefits

- Reduce annual energy use by more than 3 million kWh
- Saving more than 7% of the property's historical annual energy consumption

"Building engineers often struggle to gain insight into energy usage, as we did at The Franklin in Chicago. AECOM's analytics platform utilised Panoramic Power wireless sensors to visualise real-time energy usage and identify anomalies in the building HVAC operations. The combination of wireless sensor data and analytics resulted in significant cost and energy savings for our client."

Syed Suhail, CEM, Manager Energy Analytics
AECOM

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