

## Energy Audit – Commercial Office PRADA USA New York, New York



### Program

NYSERDA FlexTech

### Scope of Services

- Analyze Utility Data and Benchmark Facility
- Gather and Review Facility Documentation
- Facility Surveys
- Identify Retro-Commissioning Opportunities
- Develop Trane Trace Computer Model
- Identify Energy Conservation Projects
- Investigate Funding Opportunities
- Prepare Comprehensive Audit Report

### Level of Involvement

Prime Contractor

### Facility Size

140,000 sq. ft.

### Facility Type

Offices, showroom

### Project Results

- Retro-commission & Calibrate BMS
- Install Dedicated Data Room Cooling System
- Install Occupancy Sensors
- Install Day Lighting Controls

### Project Savings

Electric Demand: 53 kW

Electric Consumption: 667,979 kWh

Thermal: 14,376 Therms

Cost: \$113,709

EME Group conducted a NYSERDA FlexTech energy audit and analyzed ways to reduce the energy costs for the Prada North American Headquarters in Manhattan, New York.

The Prada building consists of a 7-story concrete structure totaling approximately 140,000 square feet that was completely rehabilitated in 2002.

Mechanical systems include 4 air-cooled Tech System chillers generating chilled water located in the penthouse mechanical equipment room. Natural gas fired cast iron boilers provide heating hot water. Hot water and chilled

Water is distributed to perimeter ceiling mounted four-pipe fan coil units and two air handling units on each floor for space conditioning. A central building management system provides control of the mechanical systems.

One of the key findings was to retro-commission the building management system when we identified that it was not functioning in accordance with the design documents and underutilized. EME Group developed an outline that identified checklists and procedures for retro-commissioning it to maximize its capabilities and energy saving features.

We evaluated the installation of a dedicated cooling system for the server room, data rooms on each floor, and the electrical room in the cellar. This would involve the installation of a dedicated cooling tower on the roof to provide condenser water to direct expansion (DX) units within the server room, data rooms, and cellar electrical room. The cooling units which are presently located within these rooms would have to be replaced with DX units.

Approximately 20% of the buildings electrical consumption is due to the lighting of internal areas. The lighting is currently controlled by a time clock. The lighting for a space is automatically switched on at 8am and switched off at 8pm regardless of many spaces being unoccupied for large periods of the day. EME Group recommended that ultrasonic infrared occupancy sensors be installed in appropriate areas throughout the building so that lighting fixtures can be turned off when they are not required.

Lighting energy can also be minimized by the installation of day lighting controls. EME Group recommended that day lighting controls be installed to serve the perimeter office areas along the south and east facing façades of the building on the fourth to the sixth floors inclusive. Day lighting sensors measure the amount of light received within a space from outside and automatically adjust the internal lighting to suit the requirements and ensure that a specified minimum level of lighting is provided within the space.