

MEP Design – Health Care Kingsbrook Jewish Medical Center Building Management System Upgrade Brooklyn, New York

Program

NYSERDA FlexTech Feasibility Study and follow-up implementation services directly with the client

Scope of Services

- FlexTech Feasibility Study
- Design Services
- Construction Administration Services
- Incentive Assistance

Level of Involvement

Prime Contractor

Facility Size

558,550 sq. ft.

Facility Type

Acute Care Hospital

Systems Analyzed

- Install BMS
- Upgrade Condensing Stack Economizer
- Replace Steam Traps & TRV Controls
- Implement O2 Trim Controls
- Replace Old Motors with Premium Efficiency Motors
- Upgrade Lighting
- Replace DX Cooling with Central Chilled Water
- Install Kitchen Exhaust Hood Controls

Projected Annual Savings

Electric Demand: 396 kW

Electric Consumption: 1,595,378 kWh

Thermal: 15,095 MMBtu

Energy Cost Savings: \$553,094

EME Group performed a detailed energy study for the Kingsbrook Jewish Medical Center (KJMC) which comprises eight buildings and the Rutland Nursing Home which on a 9-acre campus located in the East Flatbush section of Brooklyn. KJMC is an 864-bed medical training institution, comprised of a 326-bed acute care hospital and a 538-bed adult and pediatric skilled nursing long-term care facility. There is a central boiler plant providing space heating, service hot water to the entire campus, and some space cooling is generated from natural gas and no. 6 fuel oil.



Minkin Emergency Center

Space cooling is provided by an assortment of systems including central chillers, steam absorbers and rooftop units.

The existing control systems were outdated and in need of repair. Space temperatures were manually adjusted by opening, closing and adjusting steam, hot water and chilled water valves. This method of operating the building results in poor temperature control, energy in-efficiency and occupant discomfort. The majority of the air handling unit's outdoor/mixed air dampers were in a fixed position with the damper actuators disconnected which resulted in lost opportunities for air side economizer and free cooling.

The existing control system is not capable of providing a number of energy efficient control strategies to optimize system operation. We designed the new system with the following:

- no night setback during heating season
- no night shut down during cooling season
- no scheduling of AC operation to match occupancy schedule
- no chilled water reset
- no demand based ventilation control
- no chiller optimization control
- no fan operation control
- no feedback on space temperatures noability to monitor heating and cooling operation

KJMC was awarded monies for implementation through NYSERDA-Administered ARRA funding. EME Group is currently assisting the facility with implementation of the recommended energy efficiency measures.