

MEP Design – Health Care Albany Memorial Hospital Albany, New York

Program

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

Scope of Services

- FlexTech Feasibility Study
- Infrastructure & Physical Needs Assessment
- Design Services
- Construction Administration Services
- Incentive assistance

Level of Involvement

Prime Contractor

Facility Size

283,000 sq. ft.

Facility Type

Acute Care Hospital

Project Results

- Replace inefficient lighting
- Occupancy based lighting controls
- Upgrade building management system
- Retro-cx air side HX loop on AHU-1, -2 and -3
- Install primary/secondary chilled water distribution
- Upgrade chiller and boiler plants
- Install boiler economizer

Projected Annual Savings

Electric Demand: 511 kW

Electric Consumption: 2,548,146 kWh

Thermal: 242,432 Therms

Cost: \$446,585

Albany Memorial Hospital is a 283,000 sq.ft. acute care hospital located in Albany, New York. EME Group has been working with the hospital since 2004 when we performed a detailed energy assessment of their facility through NYSERDA's FlexTech program. After we completed the energy assessment, we performed a detailed infrastructure study that examined the remaining systems in the hospital including plumbing, electric power and fire alarm. As a result, we developed a list of 70 projects including estimated construction costs.

Since then, we have been assisting the facility implement a \$15 million renovation program by providing mechanical, electrical and plumbing design services.



New Chiller and Piping

EME Group first developed construction documents and provided construction administration services for the replacement of two cooling towers which enabled the facility to meet the summer's demand. The following winter we replaced three independent 300-ton centrifugal chillers with two 500 ton high efficient chillers and designed a primary/secondary chilled water distribution system for the facility. This enabled the hospital to install variable speed drives on the secondary system to take advantage of part loads due to non-peak weather and for the areas of the hospital that are unoccupied on nights and weekends. An environmentally friendly, non-chemical water treatment system has been successfully employed for the condenser water with documented low bacterial counts at a fraction of the operating costs of traditional chemical treatment systems.

The digital control system evaluates the power requirements of each mechanical element, chillers, cooling tower fans and pumps and will automatically seek out the combination of parameters that will effectively deliver the required cooling for the least amount of composite energy. Under part load conditions the system performance is often below 0.2 kW/ton and remains below 0.5 even under anticipated peak demand. These efficiencies would have been unachievable just a few years ago.