

## **MEP Design - Multifamily Parkway Village Steam to Hydronic Conversion Queens, New York**

### **Program**

NYSERDA Multifamily Performance Program Feasibility Study and follow-up implementation services directly with the client

### **Scope of Services**

- MPP Feasibility Study
- Design Services
- Construction Administration Services
- Incentive assistance

### **Level of Involvement**

Prime Contractor

### **Facility Size**

109 Buildings, 685 Units

### **Facility Type**

Garden Style Apartments

### **Projected Annual Savings**

- Replace central steam heating plant with individual building based hydronic systems
- Replace central DHW system with individual building based DHW systems

### **Projected Annual Energy Savings**

Electric Demand: 15 kW

Electric Consumption: 13,493 kWh

Thermal: 66,910 MMBtu

Energy Cost Savings: \$853,965

EME Group conducted a detailed energy audit and recommended replacement of their entire heating plant including the central boiler plant and steam distribution with a building based hydronic heating plants incorporating high efficiency gas fired condensing boilers with new baseboard distribution and a new DHW system. The existing plant was past its expected service life and the underground distribution system was leaking to the extent that temporary boilers had been installed around the property to maintain pressure in the system.

The new heating plants include two condensing boilers located in each of the 109 buildings, each boiler sized for approximately 2/3 of the load to provide



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redundancy. The boilers provide heating with a projected combustion efficiency ranging up to 95%. The old steam radiators and piping are being replaced using a combination of fin tube and cast iron radiation connected with PEX tubing that simplifies the piping installation in existing buildings. At the time the project was done, New York City had just recently allowed the use of PEX.

The client insisted that the new heating plant provide for individual temperature control to each apartment. This was accomplished by designing individual heating hot water supply lines to each apartment and installing thermostats and two-way motorized control valves that control flow of heating hot water to each apartment.

Domestic hot water is generated in an indirect fired tank supplied with heating hot water and supplied through the original distribution system to the apartments.

New gas services were installed to each building to support the new gas loads.

EME Group also oversaw over \$1 million in energy incentives from implementing these measures. These included NYSERDA's Commercial Industrial Performance Program (CIPP) and Con Edison's gas program.