

Energy Audit - Multifamily New York City Housing Authority HUD-Mandated Energy Audit New York City

Program

Not Applicable

Scope of Services

- Energy Audit

Level of Involvement

Prime Contractor

Facility Size

344 Developments, 2600 Buildings, 170,000+ Units

Facility Type

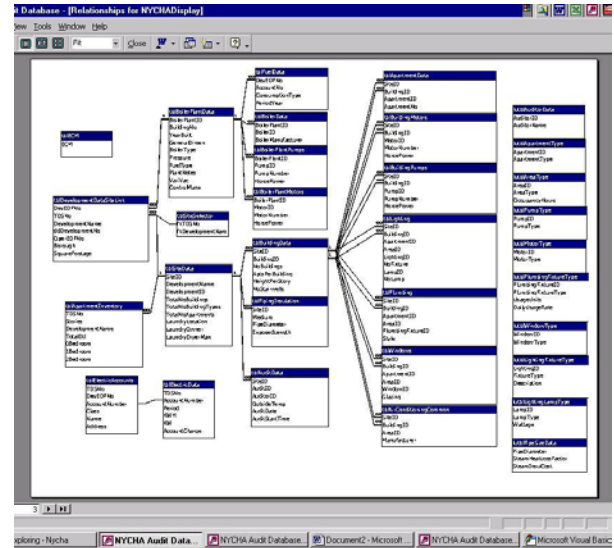
Multifamily

Project Results

- Instantaneous Hot Water Heaters
- Boiler Replacements
- Burner Replacements
- Vari-Vac Steam Distribution System Repair
- Window Replacement
- High Efficiency Common Area Lighting
- High Efficiency Apartment Lighting
- Photo-cell Exterior Lighting Control
- Pipe Insulation
- Energy Star Refrigerators
- Replace Leaking Buried Steam & Condensate Piping
- Install Roof Insulation
- Install Low Flow Showerheads & Aerators

EME Group completed a portfolio wide energy audit for the New York City Housing Authority (NYCHA) to comply with 24 CFR 965.302 that requires that all public housing authorities complete an energy audit for each PHA-owned project under management not less than once every five years. We had completed a similar effort in 2000 and developed an MS Access 2000-based tool that organized utility data, field survey information and prepared summary reports for each development. We updated this tool in 2006 to be compatible with MS Access 2003 and populated the tables with utility data from 2005 and NYCHA information regarding development upgrades that have been implemented since 2000.

In 2006, NYCHA managed 344 developments in full operation that include 2,961 residential buildings



containing 179,388 current apartments that house 413,817 people. Thermal energy used for heating and domestic hot water represents about 44% of the usage followed by electricity (31%), water (22%) and cooking gas (2%).

The typical configuration for a NYCHA development includes a central boiler plant producing low pressure that is distributed to multiple buildings through underground supply and condensate return piping. Each building has a vari-vac steam distribution system that supplies cast iron radiators and domestic hot water generation equipment. Ventilation is usually natural through operable windows and cooling is provided by window air conditioning units. Common area lighting includes fluorescent and exterior HID fixtures.

EME Group developed an Audit Tool to evaluate energy consumption, organize development data and screen energy conservation measures (ECMs). All the ECMs were analyzed for each development, and depending on the measure's applicability and a payback period of less than 15 years, the measure was recommended for implementation. Each measure was analyzed according to its estimated energy savings and resulting cost savings. A cost estimate was computed based on NYC cost data for the installation of the measure. Each measure's simple payback was then computed based on its estimated capital cost divided by the energy cost savings. Based on this approach we identified opportunities totaling approximately \$38 million in savings or 13% of the current energy costs. Findings were summarized in an Executive Summary Report that analyzed the results and provided a broad range of solutions.