FLEET™

CASE STUDY: Spring Creek Towers

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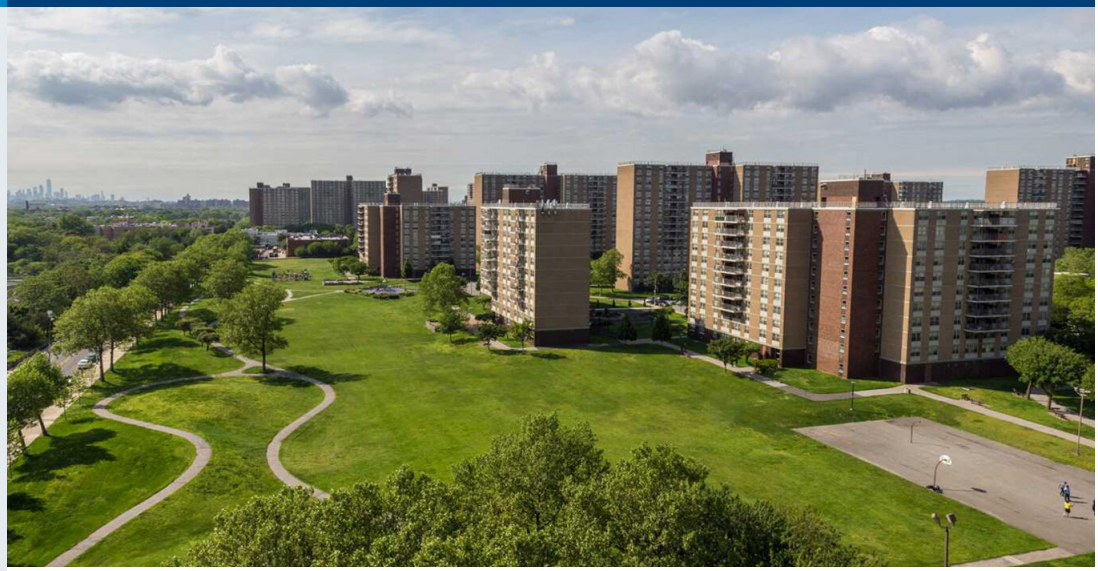
Customer: Spring Creek Towers

Location: Brooklyn, NY

Equipment:

- 46 AERCO Benchmark boilers (2500, 3000, 5000, & 6000)
- Eight Modular EnviroSep Custom Plants

Each plant includes heating water pumps, summer pumps, controls, and complete electrical systems for lighting and heat.



Energy Savings Grow in Brooklyn

Large urban housing complex carves path to decarbonization with new boilers that slash both energy costs and emissions.

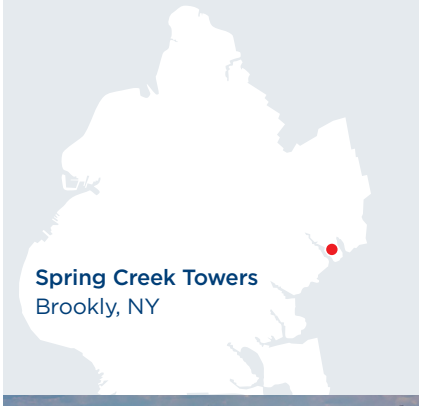
A 46-building, multi-family housing complex with 5,881 apartments and its own school in Brooklyn, NY, is experiencing significant energy savings while lowering carbon emissions and improving air quality—all by installing a high-efficiency heating system.

The new system of condensing boilers replaced an aging, inefficient underground system at Spring Creek Towers. As a result, residents now have reliable heat, while facility management and the property owner have a superior system that is easy to operate and maintain, delivers major energy savings, and provides peace of mind.

81%
INCREASE IN EFFICIENCY

91%
REDUCTION IN NOx

0
DRAIN ON POWER GRID



PROBLEM:
OLD SYSTEM TOO MUCH FOR LOCAL GRID

Heat and domestic hot water for every building at Spring Creek Towers had previously been generated and distributed by a central, gas-fired combined heat and power (CHP) plant that was more than a half-century old. Brooksville Partners, owners of the complex, initially planned to upgrade to an electric heating system, but the local electric utility's grid could not support the heavy loads for the plant's electrification to upgrade the deteriorating infrastructure.

When Brooksville and its facility manager at The Experts decided to upgrade their infrastructure with high-efficiency, compact gas-fired boilers, they turned to G.A. Fleet Associates, an engineered solutions provider in Rye Brook, NY. The new modular plants now provide residents with reliable heat, without adding stress to the power grid or to the occupants' lives.

continued

Above: AEROC Benchmark Boiler

Below: Modular EnviroSep Custom Plants

Each of the eight modular plants services a mechanical room in an adjacent parking garage surrounded by a cluster of hi-rises.

SOLUTION:
REDUCED NOx EMISSIONS AND LOWER ENERGY COSTS

G.A. Fleet selected **AERCO** Benchmark boilers for multiple reasons. Among the persuasive factors were high efficiency, patented AERtrim O2 Trim combustion technology, ultra-low NOx (under 9 ppm) capability, and predictive maintenance remote monitoring. That allows facility managers to ensure the units continue to operate at peak performance.

To service the large complex, G.A. Fleet provided eight modular **EnviroSep** plants that consist of 46 Benchmark boilers of various sizes. Each plant is designed with multiple Benchmark 5000 and two Benchmark 2500 boilers or multiple Benchmark 6000 and two Benchmark 3000 boilers. The smaller two units in each modular plant were selected to provide higher turndown and lower boiler water flow rates for direct hot water (DHW) during the summer.

Each plant includes heating water pumps, summer pumps, controls and full electrical systems, lighting and heat. All the plants are approved by the New York City Office of Technical Certification and Research (OTCR) and UL listed. Each of the eight plants services a mechanical room located in a parking garage that is surrounded by a cluster of high-rise buildings. They are monitored by a SCADA system, which is also capable of remote monitoring via the predictive maintenance analytics tool. That allows Spring Creek Towers facility managers to remotely view boiler plant operations and status, track performance and efficiency, and set and view alerts such as faults or maintenance.

Having 24/7 off-site access helps ensure the units are operating at maximum efficiency with the lowest possible emissions. Because it monitors on a constant basis, the tool also helps prevent potential costly issues before they develop.

RESULTS:
IMPROVED PERFORMANCE AND RELIABILITY

Since the boilers have been installed, the fuel-to-hot water efficiency at the mechanical room entrances has improved from 49% to 89%. Not surprisingly, the 40% increase has also provided significant energy savings for the sprawling property.

Overall reliability has been markedly improved through diversification and redundancy created by the modular plant design. The new Benchmark plants will help reduce future maintenance costs due to improved monitoring via the SCADA system, as well as the onAER predictive maintenance tool.

So far, Spring Creek Towers has also seen a 91% reduction in NOx emissions. This is no small feat, as its campus has a larger population density than many small towns and sits in an area with high levels of NOx due to its proximity to major highways and John F. Kennedy International Airport.

Additionally, the new system helps to conserve the world's most precious resource—water. Aged piping had begun to crack in the complex and water was leaking into the ground. By decentralizing the system, Spring Creek Towers now no longer has to worry about wasting water via leaky/damaged pipes, or the additional costs needed to chemically treat the make-up water.