



STATE ULTRA FORCE WATER HEATERS BRING HIGH EFFICIENCY TO AN OUTDATED HOT WATER DELIVERY SYSTEM



Built in 1963, Springhill Lakes Garden Apartments complex is one of the largest garden apartment complexes on the East Coast. Set on 154 acres in Greenbelt, Md., and centrally located between Baltimore and Washington, D.C., the complex houses a diverse population. The residents include college students from the University of Maryland as well as Beltway professionals and government employees. There are nearly 3,000 units featuring 27 different floor plans and an unmatched range of amenities.

The original system of central boiler rooms and underground pipes that delivered hot water to the residents had become outdated since the complex was constructed over 40 years ago. Due to the size of the complex, that system was not an efficient means of providing domestic hot water, often requiring service that would interrupt the supply, leaving residents without hot water for long periods of time.

The existing system was evaluated by a team of experts that included a consulting engineer and plumbing contractor, working in conjunction with a local State wholesaler and State manufacturer's representative. Their conclusion: this system needed to be modernized. Collectively, they selected the 94 percent efficient Ultra Force commercial gas water heater by State as the best product to address the many challenges at Springhill Lakes. Ultimately, 37 Ultra Force heaters were installed

to provide service to the 42 buildings in section seven of the complex during August and September 2004.

The Product Solution

The State Ultra Force commercial gas water heater delivers up to 240,000 BTU input with 94 percent thermal efficiency. This results in significantly lower water heating costs when compared to standard commercial gas water heaters with 80 percent thermal efficiency.

Multiple Ultra Force units can be manifolded together to meet the need for high-demand applications (like the one encountered at Springhill Lakes). For flexibility and ease of installation, Ultra Force features include a small footprint, zero clearance to combustibles, and top-mounted gas and electrical connections and controls. Add the options of conventional power-vent operation or sealed-combustion power direct-venting, which uses inexpensive PVC pipe, and you have a well-engineered solution.

Addressing the Challenges

At Springhill Lakes, the team was faced with the challenge of updating an archaic system that did not provide adequate hot water supply. "The old system of central boiler rooms and underground pipes was simply not the best way to deliver hot water to the apartments," states Walter Mendoza of Mendoza, Ribas, Farinas & Associates, the consulting engineers for the project. "We needed a value-engineered system to meet the domestic hot water needs in this section of the complex," he concluded. By working through the challenges during the design phase, the solution would add value initially as well as over the life of the system.

During the winter months, the boilers were operating at only 60 percent efficiency. "We needed to isolate individual buildings in order to bring this hot water delivery system up to

IN BRIEF:

Project:

Springhill Lakes Garden Apartments

Location:

Greenbelt, Md.

Products:

State Ultra Force

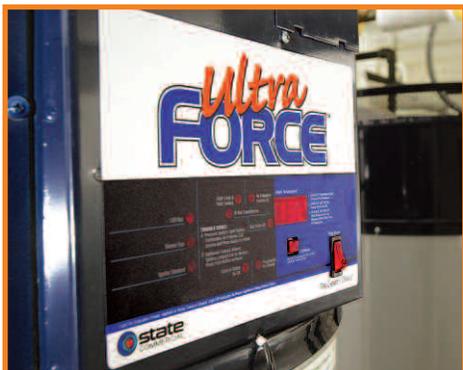
Model Numbers SUF100 199NE and SUF100 240NE

Quantity Installed:

37

Overview:

State Water Heaters was able to handle the tough task of providing hot water to almost 3,000 Springhill Lakes apartment units by using 37 durable SUF commercial water heater units. The State Ultra Force Water Heaters delivered higher efficiency and more hot water.



date and improve overall efficiency," noted Jay Sparrow, account manager at Ferguson Enterprises, the State wholesaler in Beltsville, Md.

Many of the buildings in the section were indirectly connected to one another via shared plumbing and gas lines. Consequently, installing one or two water heaters in one building could supply two or three additional buildings with domestic hot water. The installation of 94 percent efficient State Ultra Force water heaters in 14 of those buildings would produce more than enough domestic hot water for the entire section. The new system would deliver thousands of dollars in water heating operating cost savings as compared to the cost of running the 60 percent efficient boilers.

Since the water heaters were going to be installed in an enclosed area, combustion air and venting were also issues that needed to be



addressed. "Many commercial water heaters require a chimney or stack, and we didn't have that option on this job," said Sparrow. It was necessary to install water heaters with a direct vent/power vent option. The Ultra Force models were installed with vent runs ranging from 6 to 10 feet, which eliminated concerns

about indoor ventilation and air quality by venting through a nearby wall.

Ultra Force also solved another problem: the corrosion of underground pipes due to the flow of domestic hot water. "By using Ultra Force for domestic hot water, we could treat the HVAC water delivered by the boilers, and the pipes would require little or no maintenance. The added time and expense for labor and continual maintenance on these pipes would be eliminated," Joel Mateer, co-owner of Raine and Son Plumbing LLC, the plumbing contractors for the job, explained. "That will help keep the pipes working properly for a long time," he added.

By eliminating the domestic hot water supplied by boilers, the residents were no longer inconvenienced by maintenance issues. "They don't have to worry about going without hot water because the pipes need repair," said Mateer. "The State Ultra Force solution successfully simplified maintenance and increased reliability," he concluded.

Making It Happen

The local State sales representative from ROI Marketing and the Ferguson Enterprises distributor worked closely with Raine and Son to deliver the right solution to maximize efficiency, simplify maintenance and eliminate inconvenience. They were challenged with a logistically complex project from the start. State Water Heaters provided the product solution with the 94 percent efficient Ultra Force. The team worked together to ensure that engineers, inspectors and local utility companies were in the right place at the right time to make the project happen.

Representatives from Ferguson Enterprises were often on-site with the contractor and the specifier. "The entire Ferguson organization jumped through hoops to make this happen," said Mateer. In the end, section seven of the Springhill Lakes complex had a state-of-the-art hot water delivery system in place.



www.statewaterheaters.com
500 Tennessee Waltz Pkwy
Ashland City, TN 37015

THE TEAM:

Manufacturer's Representative:

ROI Marketing
622 Mary Street
Warminster, PA 18974

Wholesaler:

Ferguson Enterprises
11730 Baltimore Avenue
Beltsville, MD 20705

Engineer/Specifier:

Mendoza, Ribas, Farinas
and Associates
6265 Executive Boulevard
Rockville, MD 20852

Contractor:

Raine and Son
2925 52nd Avenue
Hyattsville, MD 20781

STATE WATER HEATERS

For more than 60 years, State Water Heaters has built dependable, long-lasting water heaters for commercial and residential applications. State remains focused on manufacturing durable products that last longer. For more information, visit www.statewaterheaters.com.

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