

# Pipeline

Spring 2009

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## FROM THE PRESIDENT

### Start your spring cleaning in the boiler room

Winter has finally come to an end. With the heating season behind us, it's no surprise so many people are turning their thoughts to summer days on the beach instead of maintaining warm, toasty buildings.



While I know how easy it is to delay preparing for next winter, I also know the consequences looming for those who wait too

long. In my experience, it's never too early to get ready for the cold!

Why not use the warm-weather break as an opportunity to perform energy-saving upgrades to your facility?



**PRESIDENT,**  
continued on page 4

*George T. Wilkinson Inc. recently performed a substantial energy efficiency project at a large superconductor facility in Massachusetts.*

## CLIENT SERVICES

### Boston University partners with Wilkinson for an A+ in energy efficiency

**T**hanks to the Energy Efficiency Engineers® at George T. Wilkinson Co. Inc., Boston University has saved 12 percent in No. 4 fuel oil costs and 13 percent in electrical costs in just one year of operating their "new" Central Power Plant.

Boasting five 600 HP low-pressure (15 PSIG) steam boilers, the power plant has been the primary source of steam for the Boston University law school and other campus buildings since 1964.

BU's Associate Vice President of Facilities

Management Tom Daley explained the school has maintained a very long relationship with Wilkinson and knew they had successfully upgraded similar steam plants in the area.

Wilkinson removed the aging equipment without changing out the heat exchangers, saving the university a considerable expense.

This allows for maximum fuel flexibility while meeting all existing state and federal regulations and improving overall efficiency.

Each boiler was stripped to

its shell—all fire tubes, rear doors, steam trim and outer jackets were removed.

Wilkinson then upgraded the existing No. 4 oil burners with cutting-edge dual fuel burners from Limpfield Combustion—a manufacturer known for producing burners with the lowest O<sub>2</sub> levels across the globe.

The combustion control panel was also updated with the Autoflame MK 6 Evolution, with Exhaust Gas Analyzers to perform three parameter trim, effectively reducing CO, CO<sub>2</sub> and O<sub>2</sub> emissions and significantly reducing the school's carbon footprint.

**BOSTON,** continued on page 2



*Before & After: Wilkinson upgraded BU's existing Central Power Plant Cleaver Brooks boilers with burners from Limpfield Combustion. By removing the aging equipment without changing out the heat exchangers, Wilkinson helped save BU a considerable expense.*



## COMPANY NEWS

# It's Full Steam Ahead for Mass. Maritime Academy Cadets Wilkinson donations build training facility, support affordable education

**W**hile many organizations have reduced donations to charities and other organizations in light of the current economy, George T. Wilkinson Inc. just keeps on giving.

During the past 10 years, the company pledged more than \$350,000 to the Massachusetts Maritime Academy (MMA).

"I'm giving back to the institution that helped build my success," said Geoff Wilkinson, a graduate of the class of 1972. "It's very important to remember where you came from—my education is directly related to the level of knowledge and service Wilkinson customers receive."

**2** Most recently Wilkinson served as one of the chief architects of

the Leaders for Leaders Challenge — a new scholarship program for MMA cadets.

Thanks to the program, each dollar donated to the school from April 2008 through June 2009 will be matched dollar for dollar by the members of the four presiding boards at the Academy.

"The Leaders for Leaders Challenge generates scholarships for tomorrow's cadets as well as today's," said Wilkinson, who made the first donation to the program.

A large portion of Wilkinson's donations was used to build a steam lab used for training at the school's Buzzards Bay campus.

"The generator is an actual working model of what's on



A large portion of Wilkinson's donations was used to purchase a new turbine generator used for training at the Mass. Maritime Academy's Buzzards Bay campus.

the ships," said Dean of Development Gary Lowe. "The room is a powerful training facility for cadets."

"It's important that others continue to benefit from the same level of education as I

had," said Wilkinson. "Training equipment should accommodate evolving worldwide technology — and I'm more than happy to help when and where I can."

## BOSTON, from page 1

A Continuous Emissions Monitoring Software package was installed, as well as Variable Frequency Drives to lower electricity costs.

Together, the upgrades allow the school to efficiently operate the appropriate number of boilers at any given time to meet steam load demand. All boilers now fire at maximum nameplate rated input, compared to a pre-upgrade input of 70-80 percent.

"The boilers operate much more efficiently and with lower emissions," said Daley.

And, thanks to the upgrades BU may now expand and construct new buildings

without having to create space for boilers — an additional 1 million square feet of space is now available for classroom, office or dormitory usage.

"If properly maintained, the equipment installed at Boston University should add at least 20 years to the lifespan of the existing systems," said Geoffrey Wilkinson. "This was a great team effort and we are most proud of allowing Boston University to trust us with this important retrofit."

"As with so many of our vendors we have found them very knowledgeable and enjoyed a very professional relationship with them," said Daley.

## Trivia

### THIS ISSUE'S QUESTION

**Q.** Primitive 18th century kettles that used fire to heat a partially-filled water container from below, were also known by what name? These boilers generally produced and stored large volumes of very low-pressure steam. Though efficiency was very low, these could burn wood, or most often, coal.

E-mail your answer to [kderienzo@gtwilkinson.com](mailto:kderienzo@gtwilkinson.com) by July 1, 2009. Please include your address. Winners will receive a George T. Wilkinson, Inc. gift pack and their names will be listed at [www.gtwilkinson.com](http://www.gtwilkinson.com).

### Last Issue's Trivia Question:

During the 1850s steam boiler explosions were occurring at an alarming rate, though it wasn't until 1865 when the worst boiler disaster in U.S. history occurred. This same event is also known as the worst maritime disaster in U.S. History. What is the name of the famous ship involved and on what river did it meet its demise?

**A.** The Sultana went down in flames in the Mississippi River when its boiler exploded. The death toll was 1,547 even more than the 1,512 lives lost on the Titanic.





## NStar awards rebate to assist with energy efficiency upgrades Boiler room overhaul cuts fuel and energy usage for Graystone Corp.

**W**hen George T. Wilkinson Inc. replaced Graystone Corporation's existing atmospheric boilers with AERCO condensing boilers, not only were boiler room operating costs significantly reduced, but Graystone received a substantial rebate from NStar to assist with project costs.

Located in Cambridge, Mass., Graystone installed its original boilers during the 1970s.

One of the downsides of operating atmospheric gas boilers is the inability to properly control fuel and air. Because of their significant intake of O<sub>2</sub>, these boilers require excessive use of fuel to

From the low-fire input of a single module (45,500 BTU per hour) to the unit's full fire capacity (1,060,000 BTU per hour), the boiler matches the load precisely, without a cycling or temperature surplus by always employing as many modules as possible — each firing at the lowest possible firing rate.

Less energy is required for the group of thermal modules, each firing at part-load to heat a building. This results in greater fuel savings compared to a module requiring each thermal module to reach full 151,500 BTU per hour capacity before the next module goes online.

The independent operation of two or more thermal modules increases each boiler's turndown range while also increasing its overall reliability. Because thermal efficiency increases as firing rates drop, the simultaneous low-fire operation of multiple modules ensures Modulex boilers continuously maximize operating efficiency.

"They were very, very good. Very thorough and professional. All of the service technicians were very knowledgeable," said Snow.

"The heat in the building has never been better," he said.



Replacing Graystone Corporation's existing atmospheric boilers with AERCO condensing boilers significantly reduced boiler room operating costs.

From 2008 to 2009 Graystone saved 30 percent in fuel costs — including therm reduction as well as heating degree days.

Graystone Buildings Manager Bob Snow explained this was Graystone's first time working with Wilkinson. Snow invited Geoff Wilkinson and Geoff Wilkinson, Jr. onsite and was very impressed with what they had to say.

The Wilkinson Energy Efficiency Engineers identified the best equipment for Graystone's unique needs, which resulted in substantially reducing fuel costs and energy usage.

counteract the intake — without enough fuel the boiler is at risk to "blow out."

The nine inefficient, gas-fired Hydrotherm atmospheric boilers were replaced with two natural gas-fired AERCO Modulex 1060 condensing boilers.

Constructed with cast aluminum heat exchangers, the units are able to condense without any thermal shock. The MLX-1060 combines the power of seven thermal modules, each operating with greater than 3:1 turndown to deliver a 23:1 range of operations.

Load in BTU/hr.	MLX-1060
45,500	
136,500	
318,500	
500,000	
650,000	
850,000	
1,060,000	

AERCO's unique controls approach employs load sharing to maximize operating efficiency. After all thermal modules in a boiler come online, with each operating at its lowest firing rate (45,500 BTU per hour), they continue to share the increasing load equally. All modules smoothly increase or decrease output in 1% increments to meet load changes.

## Pipeline

### GEORGE T. WILKINSON INC.

Geoffrey C. Wilkinson ..... President  
 Geoffrey C. Wilkinson, Jr. .... Vice President of Operations  
 Alan C. Bishop ..... Vice President of Sales  
 William F. Holloway ..... Vice President Finance & Administration  
 John F. Sieminski ..... Service Operations Manager  
 David Roche ..... Installation Manager

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[www.gtwilkinson.com](http://www.gtwilkinson.com)

## BRIEFS

### Wilkinson ranks among top sellers worldwide

The results are in, and George T. Wilkinson Inc. once again ranks among the top sellers in the world. In 2008, the organization was the second leading seller of Autoflame® in the world. The company also ranked 2nd worldwide for Power Flame sales for fiscal year 2008.

Power Flame and Autoflame® are among the most advanced

heating industry equipment manufacturers. Agents of both products must demonstrate they are an established organization and meet predetermined standards before representing either name.

"The recognition really should go to Wilkinson's customers," said Geoff Wilkinson. "I'm truly honored so many have put their trust in this company and I look forward to continuing to provide the high level of products and service customers have come to expect."



4 Wilkinson recently purchased a smart car in an effort to reduce emissions.

### Little car delivers big savings

In an effort to join the crusade for a better tomorrow, George T. Wilkinson Co. Inc. recently purchased a new Smart car. With an exterior custom designed to feature an actual image of a boiler room installed

by Wilkinson, the car significantly reduces CO<sub>2</sub> emissions. Shooting flames and a "WESAVU" license plate tops off this vehicle's unique appearance and makes it impossible to miss!

## PRESIDENT, from page 1

Consider one of these cost cutting upgrades:

- The Autoflame® Combustion Management system conserves fuel and electricity, and reduces harmful emissions — users typically experience 7 to 10 percent in energy savings.
- Limpfield Combustion burners operate at the lowest O<sub>2</sub> levels in the world. Upgrade to save fuel and operation costs — all while

reducing the amount of harmful emissions released into the atmosphere.

- Highly efficient Power Flame burners utilize cutting edge technology to maintain extremely low NOx emissions.

To learn more about energy efficient upgrades, visit [www.gtwilkinson.com](http://www.gtwilkinson.com).

Respectfully,

*Geoffrey C. Wilkinson*  
Geoffrey C. Wilkinson  
President

### Exhaust Gas Analyzer

Commissioned Vals							
	Amb	Exhaust	Delta	Eff%	O <sub>2</sub> %	CO <sub>2</sub> %	CO ppm
High	97°F	275°F	210°F	86.2	2.3	10.3	0.0
Inter 1	95°F	264°F	201°F	86.4	2.5	10.1	0.0
Inter 2	95°F	266°F	203°F	86.3	2.6	10.1	0.0
Inter 3	95°F	262°F	199°F	86.4	2.5	10.1	0.0
Inter 4	95°F	259°F	196°F	86.5	2.6	10.0	0.0
Inter 5	93°F	255°F	194°F	86.6	2.5	10.1	0.0
Inter 6	93°F	252°F	190°F	86.6	2.6	10.0	0.0
Inter 7	93°F	248°F	187°F	86.7	2.5	10.1	0.0
Inter 8	91°F	239°F	180°F	86.9	2.6	10.0	0.0
Inter 9	91°F	230°F	171°F	87.1	2.7	10.0	0.0
Inter 10	-	-	-	-	-	-	-
Inter 11	-	-	-	-	-	-	-
Inter 12	-	-	-	-	-	-	-
Inter 13	-	-	-	-	-	-	-
Inter 14	-	-	-	-	-	-	-
Inter 15	-	-	-	-	-	-	-
Start	91°F	217°F	158°F	87.1	4.5	8.9	0.0

This chart represents a recent actual start-up on a retrofitted Cleaver Brooks boiler with a Limpfield low O<sub>2</sub> gas burner. The O<sub>2</sub> levels from low to high fire are unmatched by any other product with zero CO emissions!

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