

FRAMINGHAM STATE UNIVERSITY

**PREPARED
TO SAVE BIG**

THIS SCHOOL FOUGHT BACK AGAINST NEW ENGLAND WINTERS BY APPLYING NEW BURNER TECHNOLOGY TO AN OLD STANDBY OF A BOILER.



Framingham State University had been carefully planning facility upgrades for over five years. A 1979 Cleaver-Brooks water tube boiler (1,000 HP) was producing steam to the campus with an original burner that was only capable of burning #6 fuel oil. Achieving significant energy efficiency, maximum cost savings, and reducing emissions was of critical importance and considered long overdue.

“A significant problem with an antiquated system like this is the burner could not turn down to lower firing rates, which caused consistent boiler cycling issues. Boiler cycling is extremely inefficient and can create thermal stress on a boiler,” said Bob Tatro, assistant director of facilities at the university.

After considering all of their options, the university selected George T. Wilkinson, Inc. (the local Power Flame representative and energy conservation specialists) to oversee the project.

“We were familiar with Wilkinson and their long history in the area, and knew they had a terrific reputation,” said Tatro. “Wilkinson and Power Flame are leaders in the industry and known to be at the forefront of today’s boiler technology. The plan they outlined for us

addressed our needs for today and very far into the future.”

Wilkinson installed a new, high-efficiency Power Flame CMAX burner with an Autoflame Combustion Management System. The Power Flame CMAX is known for its high turndown (10:1), low emissions, minimal blower motor horsepower, and operation at low excess air levels. For this installation, a VFD was added to achieve very tight control throughout the combustion process. The combination of the CMAX burner and Autoflame controls minimized operating costs, and increased the boiler’s thermal efficiencies by lowering excess air levels throughout the entire operating range.

Recently, FSU added two additional 600 HP boilers that came with Power Flame CMAX burners and Autoflame controls. This is crucial for day-to-day efficiencies as the plant operators monitor the boiler operations and, through the Intelligent Boiler Sequencing software in the controls, enables ultra-efficient lead-lag control of the entire plant.

Originally, the chief engineer considered other competitive burners and linkageless controls, but after consulting with industry experts, they decided on the UL-approved Power Flame CMAX and Autoflame controls package due to its impressive results and availability of many factory-trained technicians in the area.

The system upgrades alone are estimated to deliver a minimum of 10% energy savings. Together with the fuel change, FSU estimates a total savings of close to 40%.

“It’s early yet, but you can really tell the difference already just by the way our systems fire and the overall operating performance. I really can’t wait to see the results after we get through a long New England winter,” said Tatro. **TB**