



Henry James Memorial School - Simsbury, CT

CASE STUDY

Client Profile

Henry James Memorial Middle School is a Blue Ribbon school in Simsbury, Connecticut, an affluent suburb of Hartford. The school educates 700+ seventh and eighth grade students. The building is two stories, 132,720 square feet and was built in 1957. The facility has undergone a number of modernization projects throughout the years to maintain its leadership as state of the art learning center. Yet the original cast iron, steam to hot water system, had remained in constant service.

Challenge

The 54 year old dual fuel(oil/gas)steam to hot water system, with constant speed circulating pumps and an out-dated control system were inefficient and expensive to maintain and operate. According to Steve Twitchell, Simsbury School System Supervisor, Building and Grounds, "We used to burn 5000 gallons of oil every 4 days during the peak of winter when our demand exceeded our allotment for natural gas. Rooms near the boiler room were very hot, including the kitchen, placing an extra load on the refrigeration units. The boilers were operated by hand to modulate the heat in the building. They were noisy and very expensive to maintain." When the school system approved a budget to upgrade the boiler room, some suggested replacing the system with new 'like for like' equipment. Scott Wheeler, Simsbury HVAC Technician said, "There's a better way."

Solution

Working with the engineering firm, Fuss & O'Neill, a better way was found. The existing system was replaced in October, 2011, with four sequentially staged, Camus "Dynaforce" hydronic, condensing, gas boilers. The state of the art condensing boilers and building automation control network(BMS) with additional improvements to distribution pumps were installed by HHS Mechanical Contractors of Manchester, Connecticut. HHS was very happy with the ease of installation, start up and operational simplicity of the new boilers.

High Efficiency Condensing Boilers Central to Heating Plant Upgrade

Goals and Objectives

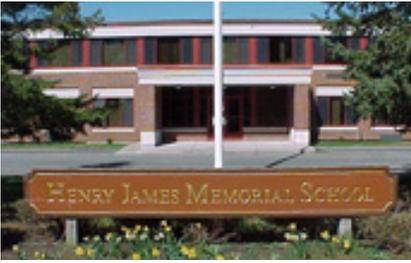
1. *Replace the failing steam to hot water system with a high efficiency system incorporating condensing boiler technology.*
2. *Improve comfort, dependability, and operation of the HVAC system throughout the facility.*
3. *Reduce energy use and operating costs.*
4. *Reduce the carbon footprint of the school.*



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RESULTS

Results

The new boilers operate at 92% efficiency, exclusively on natural gas. They take up a fraction of the space of the old system, are cool to the touch, and quiet. Their mirror finish, stainless steel, three-sided jackets promote attention to detail throughout the mechanical room and allow easy access to all parts of the boiler. They are very easy to maintain. The BMS Interface allows for constant real-time monitoring of the system from virtually anywhere, reducing nuisance maintenance expenses. Steve Twitchell estimates that Henry James Middle School has reduced its overall energy usage and carbon footprint significantly. Steve Twitchell said, "We were very happy with the entire project and the team! I feel very proud of the outcome." The school system is duplicating the effort at its largest elementary school in 2014.

BEFORE AND AFTER



Before

The old system was expensive to operate and maintain. The heat was uneven, the system was an energy drain and not environmentally friendly.



After

The Camus Hydronics, DynaForce gas-fired, condensing boilers take up a fraction of the space, use a fraction of the energy and emit a fraction of the emissions of the old system. They are easy to service, too. Two years after start-up the boiler room remains immaculate.

PARTNERS IN SUCCESS

Engineering: Fuss and O'Neill - Manchester, CT

Boiler Manufacturer: Camus Hydronics - DynaForce gas-fired, condensing boilers

Contractors: HHS - Manchester, CT

Manufacturers Representative: Blake Equipment - E Windsor, CT



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