

2008 SUPPLIERS' FAVORITE FIELD REPORTS

LAARS[®]
Heating Systems Company
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It gets mighty cold in the 'UConn'

The Canadian Yukon can get mighty cold in the winter, but it can also get pretty chilly at the University of Connecticut, otherwise known as the UConn.

To keep their students warm and comfortable, university officials determined recently that they needed to replace the existing heating/hot water systems in 12 student housing units known as Hilltop Apartments. The problem was that this huge task had to be completed while the students were away for the summer, which put everyone on the project including mechanical contractor P&D Mechanical, Inc., Colchester, Conn., on the fast track to get the job done.

The existing water heaters were coupled with fan coil units to provide space heating and domestic water needs. These needed to be replaced for safety and environmental reasons. Plans called for removal of the water heaters while leaving the fan coil heat exchangers in place. Space heating and hot water would then be supplied by centralized boiler rooms at four of the 12 buildings.

Boiler options from four manufacturers were studied before settling on Rheos+ boilers from Rochester, N.H.-based Laars Heating Systems Company.

The small footprint of the Rheos+ boilers was an asset. The heat plant solution included the need for high-capacity, low mass boilers. The need for low NO_x emission levels and ultra-high fuel efficiency were also important issues.

According to manufacturer's representative Mike Skoldberg of Mechanical Marketing, Inc., Milford, Conn., the first consideration the engineers had was the need for boiler efficiency in the 95%+ range, and because of the low operating temperatures, the systems had to be condensing. Next, there was a concern about

air pollution, so the boilers had to have lower than 10 ppm NO_x emission rate, which Skoldberg says was met easily.

Skoldberg added that the school wanted a system that would give them some inherent redundancy and standby protection. So rather than choosing a five million Btu/h input boiler, engineers chose multiple boiler plants for which the capacity and size of the Rheos+ boilers was a perfect fit.

According to Dave Warzecha, on site project manager for P & D Mechanical, three of the boiler plants are equipped with three 1.6 million Btu/h input Rheos+ boilers and the fourth has three 2 million Btu/h units. The boilers are controlled by a building automation system. The BAS fires the boilers as need for both heating and domestic hot water. Indoor/outdoor temperature resets are used for heating, and they maintain constant water discharge temperature when needed for domestic hot water production.

To dispose of potentially harmful acidic condensate from the condensing boilers, each boiler is fitted with a neutralizer kit from Laars. The condensate is run through a marble chip bath that neutralizes it from an acidic pH range of from 5.2 to 5.6 and then disposes of it down a typical sanitary drain.

"The boilers' ability to maintain discharge temperatures ranging from domestic hot water, to peak heating requirements provided the best demand-to-output capacity match at the most efficient energy level," added Warzecha.

It's winter now in the UConn and the students living in the Hilltop Apartments are enjoying the benefits of their newly retrofitted heating and hot water systems. At last, there's plentiful heat in the UConn. ■



P&D Mechanical, Inc., Colchester, Conn. replaced the heating/hot water systems in Hilltop Apartments' 12 student housing units at the University of Connecticut, all during the summer when students weren't in residence.



Dave Warzecha, onsite project manager for P&D Mechanical, uses a manometer to check boiler gas pressure differential to verify that the combustion gas-to-air ratio is correct.



Tod Hebert, Northeast regional sales manager for Laars uses a combustion analyzer to assure optimal combustion (the device measures CO₂, CO and flue temperature, among other functions).