

Chicago Housing Authority Goes Green & Turns Up The Heat



With winter fast approaching, The Chicago Housing Authority (CHA) decided to move forward on a proposal to update the 35-year-old heating system at the James “Major” Adams Community Center to avoid yet another heating season of headaches and inconvenience. Mike Hollub, Jr. of Mid-Lakes Distributing, an HVAC equipment supplier serving the Chicago area since 1928 and Cyril Regan of Regan Heating were brought in to offer their expertise and tackle this tough heating system upgrade.

Housed in a very small mechanical room accessed through only a 27” elevated door on metal risers, sat the original system, a bank of 13 Triad Boilers operating at maximum capacity of 350 MBH each. Two of the units were used for the domestic hot water supply and the 11 other units provided heat to the building thru fan coils placed throughout the facility.

The boiler room configuration led to constant concerns due to the amount of fresh air needed to provide clean combustion to 4550 MBH of equipment. The outside air dampers were properly sized for optimal combustion, however when temperatures dropped below 32°, the open dampers caused a host of other concerns including equipment damage and frozen pipes. To limit such damaging factors, the room was left tight and the boilers choked. This resulting poor combustion, caused sooting and additional boiler ignition problems. The sooting was so prevalent that the walls, the equipment and anyone who entered the maze of pumps and piping were covered in black.

After the demolition and removal of all of the old equipment, the small mechanical room received a fresh coat of white paint and was now ready for the new high-efficient heating equipment as recommended by Mike Hollub, Jr. and Cyril Regan.



KN-10 boiler installation at The James (Major) Adams Community Center in Chicago.

Three Hydrotherm KN-10 (100 MBH) condensing cast iron boilers were recommended for the community center. The KN Series of boilers were chosen not only for their high efficiencies but also for their small footprint and the longevity associated with a cast iron boiler.

The challenge: getting the boilers into the existing mechanical room with the elevated 27” doorway.

The solution: as proposed by Mid-Lakes Distributing involved removal of the wall louvers, located 20 feet off the ground outside, and inserting the (3) KN-10 condensing cast iron boilers thru the opening with the help of a large fork lift to lower them into place.

The KN Series boilers were safely set in place in the tiny mechanical room. To solve the combustion issues that had previously plagued the building, the KN boilers were piped utilizing their sealed combustion option. This allowed fresh outside air to be brought in through a separate air

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The KN-10's were inserted through outside wall louvers 20 feet off the ground.

intake piping system that was connected directly to the existing wall louver. The threat of poor combustion or freezing air entering the mechanical room was eliminated.

The community center now had a reliable heating and domestic hot water application. Additionally, the small footprint of the KN Boilers coupled with the reduction from the original 13 units down to only 3 KN units provided far more space in their freshly painted mechanical room for annual maintenance of the equipment.

The James “Major” Adams Community Center now contains ultra efficient environmentally friendly equipment. Hydrotherm boilers utilize up to 80% recycled material during their manufacturing process. Additionally, Mike Hollub’s green-friendly utilization of all the original pumps, expansion tanks, air separators and other equipment resulted in an environmentally friendly mechanical room and resulted in savings of over \$15,000 to CHA.

From start to finish, the project was accomplished in an amazing 30 days during September and October of 2008. All of the units are set to run at optimal condensing efficiencies resulting in a radical drop in fuel consumption for the CHA. The occupants, who regularly went with insufficient heat are now warm and comfortable even when the temperature drops below 0°. The James “Major” Adams Community Center is the “Crown Jewel of the many KN projects in Chicago” says the local manufacturer’s representative Callahan Mechanical Sales.

For more information about Hydrotherm KN Series Boilers call **413-564-5515** and in Canada call **905-6672-2991** or visit www.hydrothermkn.com.