

CASE STUDY:
Alverno College

Industry:
Education



Alverno College Reduces Fuel Cost by 20% with Boiler Replacement

In early 2009, following a long winter, the 70-year-old boilers at Alverno College in Milwaukee, Wis., started to blow tubes. As a result, John Marks, director of plant operations for Alverno College, contacted PBBS Equipment, Menomonee Falls, WI, to determine whether to fix the old boilers or replace the entire system.

Scott Holzli at PBBS Equipment reviewed Alverno College's options and proposed a new Cleaver-Brooks boiler package system. The decision to replace the boilers was a logical one since the college's existing system was on the edge of expiration. PBBS estimated that it would cost \$150,000 in mechanical repairs just to keep the old units online. In addition, by installing a new boiler system Alverno College could take advantage of the energy savings rebate offered through Wisconsin's Focus on Energy program.

Based on PBBS's recommendation, Alverno College purchased two 300 HP Cleaver-Brooks low-emission, low-pressure steam firetube boilers with Hawk advanced control systems and feedwater system. The Hawk boiler/burner management control system is preprogrammed for ease of installation with numerous optimization options for flexibility.

"The whole system is engineered to work together. This is a plus, so we don't have to match the boiler with another burner or controls manufacturer."

—John Marks, Director of Plant Operations

The new boiler system has enabled Alverno College to reduce energy, fuel consumption and emissions. Since the installation, Alverno College has reduced NOx emissions to less than 60 ppm and increased system efficiency from 65% to 85%. In the first year, its fuel bill decreased by 20%, and Marks expects the savings to be even greater in the second year.

As a result of the variable frequency drive on the blower motor, Alverno College will save an additional \$5,000 in electricity usage annually. In addition, the new system is easy to operate and maintain. Marks said, "The maintenance operators love the boilers due to their ease of maintenance and the continuous status and alarm communication of the Hawk control interface. The new system is like night and day compared to the old one. It is much quieter and more efficient."



ALVERNO COLLEGE

LOCATION

Milwaukee, Wisconsin

PROFILE

Replace 70-year boilers with current boiler technology.

CHALLENGE

Recommend a cost-effective solution to meet the requirements of their current equipment.

SOLUTION

Install two Cleaver-Brooks low emission, low pressure steam firetube boilers, while taking advantage of utility incentives.

RESULTS

Reduced emissions to less than 60 ppm and increased steam efficiency by 20%, significantly reducing their fuel bill and electrical usage.

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