



Goodwill Industries – Milwaukee Installation Summary

Location: Goodwill Industries of Southeastern Wisconsin, Inc.
James O. Wright Center
Milwaukee, WI 53225

Installation Date: March 15, 2007, Bryan Boiler

Summary: Upon completing combustion and draft analysis of the Bryan Boilers used to heat the facility and the two hot water heaters at the facility, it was determined that, due to excess draft and oxygen levels, there was a good opportunity for significant fuel savings by applying the Stanlin Energy System technology. The chart below reflects the draft and oxygen readings for all the units. They show a significant drop in both draft and oxygen after the installation of the technology. The reduction allows the boiler to operate at its optimal efficiency, as certified by the manufacturer. In addition, the technology reduced the stack temperature by 43 degrees, keeping more heat inside of the heat chamber, resulting in less run time for the boiler to reach target heating levels.

Bryan #3, 16" stack, 2,700,000 BTU input rating

	Before Installation	After Installation	Final Readings after Boiler Tuning
Flue gas temperature taken	389 °F	350 °F	346°F
Flue draft measured	-.24 In. WC	-.02 In. WC	-.02 In. WC
Excess Air	149%	24%	17%
Flue O ₂	12.9%	2.8%	2.4%

Operating Results: Using the data provided by Goodwill a **12%** reduction in fuel usage using therms used per degree days was realized.