GOODWAY® TECHNOLOGIES DELIVERS ANNUALIZED GAS SAVINGS OF OVER $11,000 FOR MILITARY FACILITY

Case Study

Military facilities operate around the clock, and with such a high demand, comes high operational expectations. These high operational expectations are especially true during winter months, where maintaining an optimal supply of hot water in the heating loop is imperative to the comfort heating of their building. To achieve this goal, two Lochinvar® KBN700 Knight® XL high efficiency boilers feed 30 Variable Air Volume (VAV's) boxes, 1 large air handler and 2 hot water coil air rotation units.

Lochinvar is a leading producer of energy efficient water heating solutions that are radically simple, brilliantly engineered and perfectly suited for most applications. Lochinvar focuses solely on serving the unique needs of each customer with a product portfolio including boilers, water heaters, pool heaters, cogeneration products and commercial package systems.

When the demanding heat load for the building could not be met, this military facility called in their technician to uncover potential issues. After careful diagnoses of the system, the drop in performance was traced back to fouling within the boilers. The fouling effecting the proper heat transfer was determined to be a combination of rust and mineral deposits.

The technician contacted Goodway's descaling expert, Tim Fregeau. Together they determined an action plan to return the customers' Lochinvar boiler's back to high operational efficiency. Goodway's GDS C-92 descaling pump system and ScaleBreak-SS (Stainless Steel) liquid descaling solution was identified as the best solution to restoring these boilers efficiencies. After following proper shutdown and lockout procedures and isolating the boiler from the rest of the system, the ScaleBreak-SS solution was thoroughly circulated within the boiler. A visual inspection was conducted, and the results were apparent. Once the system was put back online, the became undeniably clear.

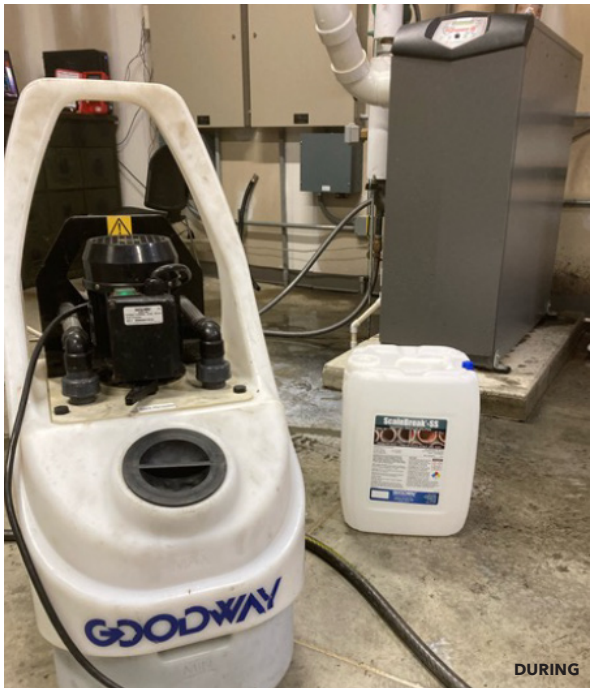
Boiler 1 before the cleaning operational parameters were 135.1° inlet temp, 187.7° outlet temp, 52.6° temp rise, 1 minute run time before it would "overshoot" and go into "anti-cycling" mode. The system loop temp could not get above 135/136° degrees with such short cycles on both boilers. In a few instances the technician monitored the boiler going into "overshoot" alarm within 15 seconds of run time! The boiler never went below 100% firing rate.

Boiler 1 after the cleaning operational performance achieved a 133° inlet temp, 162° outlet temp, 28° temp rise with a 20-minute run time! By the time the first cycle was satisfied and the boiler went into "standby" mode, the boiler loop temp had come up and the readings were 162° inlet temp, 187° outlet temp, 25° temp rise. The boiler was now modulating its firing rate.

Boiler 2 before the cleaning operational parameters were 128.6° inlet temp, 184° outlet temp, 55.4°-degree temp rise (as monitored by pipe wrap temp clamps) 129.5° inlet temp, 189.6° outlet temp, 60.1° temp rise (as monitored by on board boiler temp readings). It was only 1 minute run time before "overshoot" and "anti-cycling". This boiler firing rate also never went below 100%.

Boiler 2 after the cleaning operational performance achieved a 156 inlet temp (second boiler to be cleaned so the loop was warming up from first boiler), 184 outlet temp, 28 temp rise (as monitored by pipe wrap temp clamps) 162.6 inlet temp, 187.4 outlet temp, 24.8 temp rise (on board boiler temp readings. 15 minute run time and when up to setpoint boiler would satisfy and go into "standby" mode. Boiler started using modulating firing rate.

The results of the cleaning were substantial! The loop temp came up to the automation set point (170) and both boilers were commanded to standby via automation. This feat had not been accomplished for many years according to the customer! The successful cleaning of these two boilers provided an annualized gas savings of over $11,000! This success story is a perfect example that preventive maintenance pays for itself. Contact Goodway Technologies to ask how we can help your facility restore efficient equipment operation and reduce energy consumption.



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