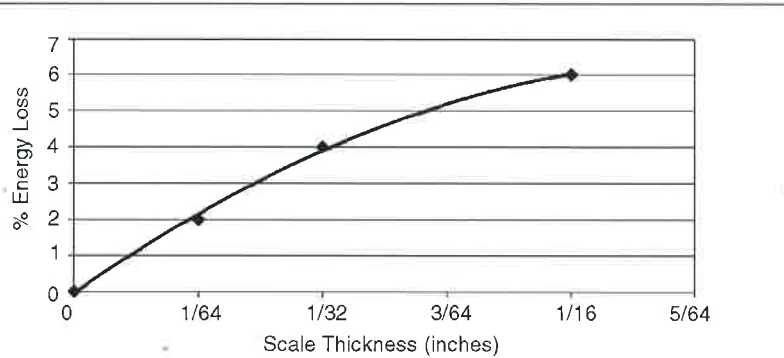




Essential Expertise
for Water, Energy and Air

NexGuard® Provides Dakota County Government Center Over \$11,000 in ROI - 980%

“At an average billing rate of \$100/hour for an outside contractor for 102 hours, the annual ROI is \$10,200.”



Steam Generation (lbs/hr)	1/64" Scale (2%)	1/32" Scale (4%)	1/16" Scale (6%)
5,000	\$5,600	\$11,600	\$18,000
10,000	\$11,200	\$23,200	\$36,000
20,000	\$22,400	\$46,400	\$72,000
50,000	\$56,000	\$116,000	\$180,000

Iron and mineral scale reduces boiler efficiency. That translates into dollars lost. By knowing the thickness of the scale in the boiler and the amount of steam generated, the real cost of scale can be determined.

Situation

Dakota County Government Center, a Judicial and Administration Facility located in Hastings, Minnesota, was looking for a water treatment supplier that could provide technical expertise and improved field support. Dakota County Government Center (DCGC) uses their 5 fire-tube boilers for steam heat and humidification approximately 34 weeks per year. The phosphate

program that was recommended by another supplier was not delivering acceptable results. They also spent over 100 hours testing boiler water each year, causing them to hire contractors for some necessary jobs. Since capital budgets are always tight, DCGC needed to find a way to minimize maintenance tasks so that they could address their backlog of over 300 work orders.

(Continued on Reverse Side)

Performance

DCGC was looking for a way to minimize the time they spent tending to their boilers and other water treatment related operations. Nalco's on-site expert worked with DCGC to understand their needs and recommended a customized water treatment program for all of their water treatment needs. One of the recommendations was NexGuard, a new "all-polymer" boiler internal treatment program that is part of the TRASAR® program. TRASAR Technology is an innovative water treatment program that uses proven technology to prevent operational problems and reduce operator testing time. The NexGuard TRASAR program can easily be controlled with the TRASAR 8000 Hand-Held Fluorometer.

NexGuard allowed Dakota County Government Center more time to work on other facility projects. Time is money and no one wants their tax dollars wasted.

Commenting on the improvements, the DCGC Engineering Supervisor stated, "We now have time to address our backlog of work orders and make operational improvements like installing upgraded controllers for the cooling tower chemical program, and filling loops with soft water to reduce potential for scale formation. We no longer need to hire outside contractors to work on the backlog. At an average billing rate of \$100/hour for an outside contractor for 102 hours, the annual ROI is \$ 10,200."

ENVIRONMENTAL & ECONOMIC RESULTS

NexGuard has also eliminated the potential for scale, unlike the phosphate program formerly used by DCGC. Over time, scale deposits result in under-deposit corrosion and reduced boiler efficiency. Under-deposit corrosion can cause tube failure, which can be dangerous and costly. To repair tube failures, a boiler needs to undergo expensive retubing. The reduction in boiler efficiency has significant costs as well: 1/64 inch of scale can cost 2% in fuel to steam efficiency, which can mean thousands of dollars lost up the stack. Annually, the DCGC will realize the following savings:

Cost of NexGuard program	\$2,133
Cost of former chemical program	\$1,000
Incremental cost to Implement NexGuard	\$1,133

$$\text{Annual ROI} = \frac{\text{Annual Savings} - \text{Incremental Cost}}{\text{Incremental Cost}}$$

$$\text{Annual ROI} = \frac{\$12,240 - \$1,133}{\$1,113}$$

$$= \mathbf{980\% \text{ or } \$11,107 \text{ ROI}}$$

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