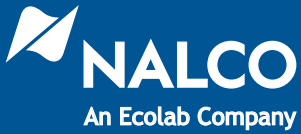


# 17.1 Million Gallons of Water Saved

*Sacred Heart Medical Center and Children's Hospital in Spokane, Washington is an excellent example of dedication to care of earth's natural resources.*



## CASE STUDY - INSTITUTIONAL

CH-819



### SITUATION

Sacred Heart Medical Center is located in Spokane, Washington in the high desert of northwestern USA. The hospital is one of the largest in the region, with over 600 beds. Its university affiliations foster medical research and professional education.

"Stewardship is one of the five core values of our health care system" Sacred Heart Medical Center's manager of facilities, Philip Kercher explains. "We regard not only our physical assets but the earth's resources to be valuable gifts that deserve prudent care, are never to be wasted, and are to be used for the common good."

With this approach in mind, Sacred Heart strives for efficient operation of all its facilities as a means to reduce financial waste and minimize use of natural resources. For over ten years, Nalco has been providing tools that help Sacred Heart Medical Center achieve these goals. According to Kercher, "Nalco has proven itself over the years to successfully deliver exceptional services that often exceed our expectations. Chemical usage has been greatly reduced, water consumption has seen a major drop

over the years and, of course, reduced energy consumption is closely related to optimized boiler water surfaces as well as chiller condenser surfaces to avoid compromising heat transfer efficiency."

"Nalco is a highly respected company offering the best in water treatment." Kercher continued. "Their service is directly related to longer equipment service life, minimizing operational costs including energy consumption, plus Nalco is a ready resource to us."

Ongoing suggestions for improvement have resulted in optimizing and updating the boiler pretreatment system. Also, 3D TRASAR® technology has been implemented in the cooling water systems. These improvements have provided an excellent return on investment.

### Program

Three years ago, Nalco implemented 3D TRASAR technology for the medical center's cooling towers. A 17-million gallon reduction in water consumption in the cooling towers in the last 3 years has been documented. This is particularly significant as

#### ENVIRONMENTAL INDICATORS

Water savings of 17.1 million gallons of water annually

eROI



#### ECONOMIC RESULTS

Annual savings of \$89,775

*Nalco reports eROI values to customers to account for contributions in delivering both environmental performance and financial payback.*

*(Continued on Reverse Side)*



the site is located in the high desert where every drop matters. The results showed a 70% return on investment and the 2-year projected payback was met earlier than expected.

### ENVIRONMENTAL/ECONOMIC RESULTS

A major project designed to improve feedwater quality and improve heat transfer efficiency and overall boiler cleanliness was completed. This was a 2-step effort.

First, water softener systems were optimized. Deficiencies in the previous system required an extensive process and teamwork with medical center staff to correct.

The improvements resulted in:

- 45% reduction in regeneration events
- 26% reduction in salt usage
- \$29,000 cut in total cost of operation

Second, installing a dealkalizer for boiler water make-up improved feedwater quality, reduced boiler blowdown, reduced condensate amine usage by 67%, and natural gas consumption dropped resulting in \$52,000 in documented savings. Based on these savings, the capital cost for the dealkalizer had a simple payback period of less than 4 months. Additionally, steam production costs have decreased by more than 50% based on improved heat transfer efficiency, lower blowdown rates and reduced chemical demand.

As a result of these recent improvements, for every dollar spent

with Nalco, Sacred Heart Medical Center has documented seven dollars in cost savings.

“The real key to Nalco's success is the quality of their people. We enjoy working with representatives who are highly educated in their field, care about our business, and can communicate well with managers and staff. It is also clear to me that they have strong ‘backup’ within their organization,” according to Kercher.

Sacred Heart Medical Center has earned the Energy Star Partner of the Year for Excellence in Energy Management. Congratulations to an organization dedicated to protecting the natural resources of the planet.

SHMC Water Conservation		
Operations Area Savings	Project	Total Gallons Saved
Boiler Water	Dealkalizer, cycle up, increased efficiency	2,439,117
Cooling Water	3D TRASAR, cycle up	7,099,000
Softener Water	Regeneration optimization	7,564,038
	<b>Total Gallons Saved</b>	<b>17,102,155</b>
	<b>Total Gallons Saved per Day</b>	<b>15,618</b>

#### NALCO COMPANY Locations

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