

GREEN STAR[®]

ALASKA HOSPITALITY P2 SUCCESS STORY



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ARAMARK DENALI PARK RESORTS

Ozone Laundry System Saves Water, Energy and Fabrics

Denali National Park & Preserve sits in the center of Alaska, surrounded by six million acres of remote wilderness. With four hotels, including 986 guest rooms, and nine restaurants to manage, Aramark's Denali Park Resorts faces extreme challenges when providing services to the hundreds of thousands of visitors who arrive during the short summer season. Laundry service is just one of those challenges. While its yearly poundage of laundry continued to increase, Aramark's remote and pristine location limits the amount of water, sewer and propane it can use.

With limited resources, Aramark turned to Automated Laundry and its ozone systems in the spring of 2008 to reduce water and energy consumption. After witnessing the success of ozone in laundry systems at the Days Inn in Anchorage, Aramark decided to install a similar system in Denali National Park.

Ozone Laundry Systems

Ozone systems inject ozone into laundry water to activate detergents and enhance cleaning cycles. Ozone activates detergents to break down dirt without high water temperatures. It also kills bacteria and slightly opens the weave of fabrics to make linens softer to touch and easier to clean and dry. With ozone, the colder the water is, the better ozone works making it an ideal system in Alaska where tap and well water can be as cold as 35°F.

Ozone laundry systems are able to reduce the amount of hot water necessary to approximately 6-15% of the total water used. These systems also work with less water than conventional washes and thus can reduce overall water consumption. While ozone activates detergents during the wash cycle, it also cleans the water of detergents in effluent water.

Reusing Laundry Water

A few years prior to 2008, Aramark installed seven large Unimac washers/extractors. These machines were designed to process used laundry water for reuse. However, the detergents remaining in the saved water were too plentiful to be able to use the water as a rinse and too sudsy to effectively pump through the reuse system. With these obstacles, Aramark's chemical vendor abandoned the idea of saving water and the reuse systems were not used.

Ozone is a process with diverse applications. It has been used for bottled water treatment, cleaning poultry plants, military laundry and cleaning space shuttle parachutes.

In 2008, Automated Laundry, located in Anchorage, installed an ArtiClean Ozone Laundry System, and advised Aramark to use its special blend of chemicals designed to optimize the ozone system. Prior to installing the ozone system, the company used two gallons of hot water per one pound of linen. That is now down to 1.25 gallons of cold water. It previously took four boilers to supply the hot water needed for the laundry; it now takes just one boiler. Currently, Aramark also is reusing 50% of all the water used in the wash process through its once ineffective water reuse system, thanks to the ozone system.

"We have been very happy with the results of our ozone system. We have noticed a reduction in propane use in both our washers and our dryers. This system goes a long way to ensuring that we are reducing our carbon footprint."

-- Craig Pester, Denali Park Resorts
General Manager

Reducing Energy Consumption

Aramark has experienced a reduction in laundry energy usage per pound of laundry. With the exception of table linens and cleaning rags, all hotel linens are washed in cold ozonated water. Aramark estimates that it is using half the amount of energy previously used in wash cycles.

“We are using half the amount of propane that we used a year ago,” Craig Pester says. “We are also saving on the drying end. The wash is coming out with a lot less water. Drying time has been reduced by 50 percent.”

THE NUMBERS

50% reuse of laundry water
 40% reduction in drying time
 50% reduction in lint from dryers
 20% faster wash cycles possible

With propane at \$2.96/gallon, Aramark saved \$52,943 on propane costs within the first season the system was installed. This savings paid for the large system capital cost of \$45,000, with an additional savings of \$7,943, all within the first season (approximately five months) of being installed.

A 200- to 300-room hotel can expect to recover its investment in ozone equipment in six to 12 months.

The table below shows the savings achieved in 2008, when the ozone system was in place, compared to 2007, despite the increase in room occupancy and linen use.

	2007	2008	Difference	Savings
Rooms Sold	100,647	101,906	1.25% increase	
Terry & Linen Used	1,050,850 lbs	1,112,255 lbs	5.84% increase	
Water Used	2,364,413 gallons	1,590,319 gallons	32.74% decrease	774,094 gallons
Propane Used	44,008 gallons	26,122 gallons	40.64% decrease	17,886 gallons

Reducing Chemical Use

Denali Park Resorts has found ozone in cold water to be far more effective than chlorine bleach in hot water. Ozone quickly kills bacteria and viruses and the laundry is sanitized.

“We went to a different type of chemical and chemical consumption decreased by 33 percent. Twenty percent of the decline was due to the ozone system itself,” says Pester.

Due to the elimination of chlorine bleach and hot water, and the ability for ozone to open fabrics Aramark has found washed linens and terry to be softer and of better quality.

The laundry manager has noticed a reduction in lint output from the dryers by 50% as ozone is gentler to fabrics than chlorine and hot water. The life of linens can be extended by as much as double when using ozone.

Key Players

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Green Star is an Anchorage-based non-profit organization dedicated to assisting, certifying and recognizing businesses committed to resource efficiency and environmental leadership.



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