



# Custom Efficiency

For Complex Projects

## Roaring Springs cools off their electric bill

Roaring Springs in Meridian, Idaho, is the largest water park in the Northwest. Every hour, it pumps a half million gallons of water through 20 slides and pools, giving the park's 250,000 annual visitors the ride of their lives. In summer 2009, it took all of the park's 25 pumps to circulate the water. One year later, with the help of Idaho Power's Custom Efficiency program, the park was able to turn off 7 pumps, reducing electricity use by 30 percent.

Pat Morandi, Roaring Springs' managing partner, was impressed with the effort Idaho Power put into the project. "They spent days out here," he marveled, "hooking up the flow meters and checking out the pumps on each individual ride."

### Dialing back the pumps

Idaho Power found that each ride had two or three pumps that operated at only one speed: full throttle. However, these pumps also had flow valves, to regulate the water delivered to the rides, that kept the flow from reaching its maximum. In Idaho Power's view, this was not the most efficient use of electricity.

"Think of it this way," explained Chris Pollow, an Idaho Power project engineer in the Custom Efficiency program. "If a pump is running at 100 percent, but its flow valve only allows 50 percent of its maximum flow, that means 50 percent of the pump's capacity is wasted."

Idaho Power recommended opening the flow valves 100 percent, then using variable frequency drives (VFD), coupled with harmonic filters, to reduce the electricity the pump receives. This slows the pumps, allows them to last longer, reduces the water flow, and saves energy in another way: "Installing the VFDs," said Morandi, "allowed us to shut some pumps down altogether and still get the required flows on the rides themselves."



### Energy-efficient operation was only the beginning

The scope of the Roaring Springs Custom Efficiency project went beyond finding ways to save energy. "We also wanted to reduce their demand charge," noted Chris Pollow.

A demand charge requires commercial and industrial customers to pay for a maximum amount of power capacity, based on their highest use (peak demand), every month of the year. This ensures they have the power they need when they need it. However, Roaring Springs only operates during the warmest three or four months of the year. *Continued on back.*

***“The return on investment on this project is amazing.”***

– Pat Morandi  
Managing Partner  
Roaring Springs Water Park

## The Savings

“I think we’re saving about 40 percent more than Idaho Power estimated when they first looked at the project,” Morandi said. The savings are actually 45 percent more.

Idaho Power initially projected a savings of 565,749 kilowatt-hours (kWh). Roaring Springs’ actual savings during the first year totaled 822,825 kWh. “That saves us about \$65,000 on our annual power bill,” Morandi pointed out. “That means we have more capital available to invest in improvements and new attractions. It’s a big win for us and for our customers.” From Idaho Power’s standpoint, the energy saved at Roaring Springs can serve 63 average homes for a year.

The project cost \$108,093 to complete, of which Idaho Power rebated Roaring Springs \$75,665, or 70 percent. “When you consider what we’re saving every year, the return on investment (ROI) on this project is amazing,” Morandi said.

Roaring Springs was so impressed with their VFD project that they shared it in a presentation to 400 water park operators during the World Waterpark Association’s annual conference in San Antonio, Texas.

## Uncommon savings are quite common

Saving energy has always been a smart business decision. Now, Idaho Power makes it attainable. Our complete suite of energy efficiency programs provides attractive incentives to commercial and industrial customers who want to reduce their utility costs.

- The **Custom Efficiency** program offers substantial rebates to large commercial and industrial customers who invest energy-saving improvements in their facilities.
- **Easy Upgrades** provides incentives of up to \$100,000 when companies retrofit their infrastructures with energy-saving upgrades.
- The **Building Efficiency** program pays up to \$100,000 *per project* to mitigate the additional capital costs when companies upgrade their lighting, cooling, controls, and building shells to more efficient components.
- **FlexPeak Management** offers commercial and industrial customers incentives in the form of recurring payments for reducing their power consumption during times of overall peak demand.

*The above success story was produced in cooperation with, and approval from, Roaring Springs Water Park.*



## Energy-efficient operation was only the beginning (continued)

By reducing Roaring Springs’ peak demand enough, it would drop them into a lower rate class and protect them from being charged for energy they do not use during the other eight or nine months of the year.

Idaho Power’s recommended efficiencies allowed Roaring Springs to do exactly that. “I can’t thank these guys at Idaho Power enough,” Pat Morandi says. “They really went above and beyond.”

## How much can your company save?

For more information about Idaho Power’s energy efficiency incentive programs, go to [www.idahopower.com/business](http://www.idahopower.com/business) or call us at 208-388-5624. We’ll show how you can join smart companies like Roaring Springs, saving energy and money.

