Food Safety with a Side of ROI

Ken's Foods invests in wastewater processing system and serves up efficiency and dependability in the process

What started out as a signature dish in a restaurant more than 65 years ago has today become a company with over 400 varieties of salad dressings and sauces. When Ken's Steakhouse began in 1941, the owners were in search of a special salad and dressing to go with their steaks. The salad dressing soon rivaled the steaks in popularity - and a new company was born.

Today, the company has grown to include plant operations in Marlborough, Massachusetts, McDonough, Georgia and Las Vegas, Nevada. The company manufactures not only their own line of salad dressings, but also produces products for notable brand such as Paul Newman's line of dressings.

Ken's Foods has always been dedicated to providing customers with high quality, safe products. The company knows that food safety begins at the manufacturing plant – so when it came time to design its wastewater treatment system in the company's new Las Vegas plant, Ken's looked for best in class solutions. In 2002, faced with an expansion plan that led the company to build an 185,000 square foot Las Vegas plant, the salad dressing leader wanted to ensure they had the best wastewater treatment system available to help meet the company's strategic priorities. Additionally, it was important to the

Dave Muskopf stands with one of the five solids-handling, self-priming centrifugal pumps that makes up Ken's Foods' wastewater treatment system.

engineering team that they incorporated a system that would maximize efficiencies while maintaining as small a footprint as possible – as space "saved" in operations is space that later can be allocated for growth and expansion.

Keeping it Clean and Keeping it Safe

One of the critical issues to be addressed in any food manufacturing plant is sanitation. "In a typical day, we'll get solids, entire chunks of cheese, relish, similar produce and more into our wastewater system," offers Dave Muskopf, Vice President of engineering for Ken's Foods. The company needed a system that could handle large solids – dependably. "These solids can create real problems when they get through the traps on the floor drains," adds Muskopf. To address the challenge, Muskopf and his team turned to World Water Works for guidance.

World Water Works is a provider of complete turnkey installations including design, build, installation, startup, and operation of water or wastewater systems. Tailored to require as little or as much customer input as desired, World Water Works' engineering staff is expert at developing solutions which provide long-term reliability and consistent performance. Its products are constructed with state-of-the-art materials and control technology, with an emphasis on durability. In the end, the company strives to design solutions for customers such as Ken's by using a total systems approach. Brining their expertise in treat-ability analysis, filtration and clarification, and combined with a complete line of water treatment products and services, the World Water Works team was prepared to deliver top-notch solutions to Ken's Foods.

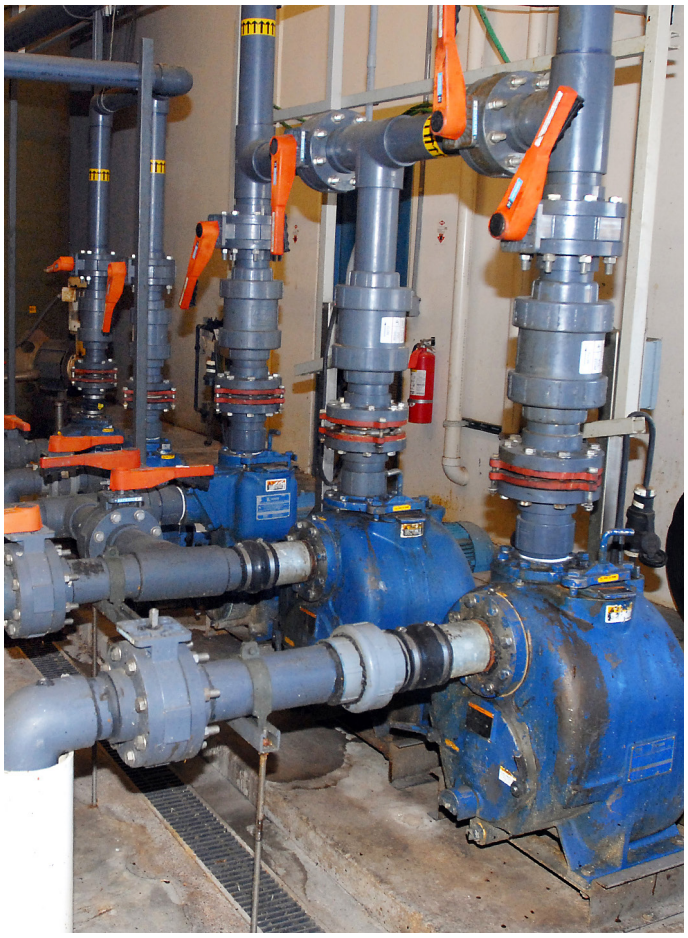
A Five Course Meal Approach to Wastewater

"We installed three solutions tanks at the new Ken's plant, utilizing a batch treatment solution to wastewater," shares Kyle Booth, engineer at World Water Works. "They fill one up, start filling the other one, and then treat the one that's full. Then, a pump will pull the wastewater from the tank and run it through the purification system to a pH adjustment tank – and then down the drain." This efficient operation keeps Ken's operation/management happy – as well as the local and state authorities and customers by maintaining strict food manufacturing safety practices.

Three 10 Series® and two Super T Series® trash pumps were incorporated into the system for heavy-duty solids-handling capability.

Another challenge that needed to be addressed was the sheer volume of the wash down. "Because of the amount of productivity this company handles on a day-to-day basis, the volume was an issue that needed to be factored long-term," adds Booth. World Water Works relied on The Gorman-Rupp Company's Super T Series® and 10 Series® technology to address the durability challenge. The Gorman-Rupp pumps are integrated into the total solution. "There are five self-priming, centrifugal pumps down there," explains Booth. In the process, the first pump takes the outfall from the plant, which is pulled up from the 24-foot tank. This operation requires a lot of suction due to the tank's configuration. From there, the system screens the water – making it necessary that the pumping technology can handle any trash that gets through the drain. Next, the system pumps it into a tank where the wastewater is separated from as much of the free oil as possible. The operation forces the wastewater into equalization tanks to regain clarity and purity in the water.

"When you batch treat water, you've basically got three equalization tanks. The first is filled up, the operator checks the water and the chemistry to see how easy or difficult it's going to be to treat – and



All five pumps feature the removable coverplate design for quick and easy maintenance access while not having to disconnect from piping.

then adjusts the chemistry accordingly to treat the entire tank while the second and third thanks continue to fill up," explains Booth. "In an application like this, where we've got a big section working, we ask a lot of the pumps. That's one of the big reasons why we've chose Gorman-Rupp."

For Booth, the equipment choice was both critical and obvious. In the end, the company relied on The Gorman-Rupp Super T Series technology for several reasons – but mainly for its ability to handle solids in demanding situations. In that the nature of the water contaminants at Ken's Foods include chunks of cheese and other food products, the pumping technology had to be up to the challenge of handling very large solids reliably. The two-vane, semi-open impeller allowed the technology to do so. Further, with the pumps' removable cover plates, maintenance was simple and painless, ensuring that if and when the pumps get clogged, down time would be reduced and costly delays minimized.

Satisfied and Content

"There are always unexpected, unanticipated situations in any treatment plant – but with this solution and these pumps, we've encountered absolutely nothing caused our operation to shut down the system for any period of time," adds Muskopf. In fact, Muskopf and the rest of his engineering team are particularly pleased with their improved ability to monitor the system electronically via a single operator during the treatment process.

World Water Works' solution also incorporated oversight of the operation's setup and training. "This treatment plant was a turnkey project," Muskopf adds. "World Water Works handled the initial startup and training, but our employees run it and maintain it."

It was a little bit challenging on start up just to make sure everything was set up correctly and people were communicating well, working together in the manner that was required," confesses Booth. "But with a strong team and a strategic design, everything works a little more smoothly. The operator at the Ken's plant has also done a great job."

Dependability and Safety = Smart Decisions

To many engineers, the cost associated with treating wastewater inside a food manufacturing plant is a necessary evil – simply the cost of doing business. Still, an investment in a dependable and well-engineered treatment system can save significant money in the long run. "If it is not treated properly you face problems, and possible fines from the EPA, and municipal water and sewer authorities," counsels Booth. "It's been our experience that trying to save

money in the short term with less expensive solutions can lead to increased costs, lost time and bad publicity in the long run. And that's never been an option for us or our customers."

About World Water Works, Inc.

World Water Works is dedicated to manufacturing the most cost effective system solutions for liquid/solids separation. Applications in influent water clarification and discharge compliance can be solved through their total systems approach.

About The Gorman-Rupp Company

The Gorman-Rupp Company is a leading manufacturer of pumps and pumping systems for the municipal, water, wastewater, sewage, industrial, construction, petroleum and OEM markets. The company's Engineered Systems operation also manufactures a full line of water pressure booster stations including pumps, motors, valves and controls – all housed in weather-proof fiberglass enclosures – meeting about any municipal water supply need.

Ultimately, Gorman-Rupp prides itself on manufacturing and delivering the right pump for the job.

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