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KENOSHA NEWS

Local company, city work together for benefit of both

BY JON OLSON jolson@kenoshanews.com

A local manufacturer and the Kenosha wastewater treatment facility have entered into a partnership that saves the city thousands of dollars and gives the company a showcase and teaching facility for clients and users of its products.

The company, Centrisys, makes large centrifuges, which are used to separate heavier fluids from lighter ones, or to dry out, or “dewater,” solid materials.

“Kenosha was in a market for improving the operation, so we showed them how to improve the operation,” said Michael Kopper, president and founder of Centrisys.

“It’s been a pleasure to work with them. We’ve been real happy so far,” said David Lewis, director of operations at the wastewater plant.

The plant collects water from the sanitary sewer systems from Kenosha, Pleasant Prairie, Somers and part of Bristol. The plant cleans the water and returns it to Lake Michigan. It is different from the water treatment plant that collects water from Lake Michigan, and cleans it for drinking and use in homes and businesses.

Complex process

The process of cleaning sewer water is circular and complex, involving repeated cycles of similar processes to separate water from the impurities it carries. The impurities can be as large as basketballs and old tires and as small as motes of dust. The centrifuge takes a central role in the process by taking sludge and pressing the solid material out of it.

Centrisys centrifuges are made in various sizes — 8 or 10 feet long, or more depending on their use — and they work by spinning at a fast rate, which throws heavier materials out to the side and keeps the lighter water closer to the center.

Inside the centrifuge is a large corkscrew, called a scroll, that fits tightly inside the spinning tube, and it spins at a different rate, pressing the solid material that has migrated to the sides forward and out an opening. The water is propelled backward and out a pipe at the other end.

The result is that fluid that goes into the machine looking like oil comes out looking like water.

When the entire cleansing process is complete, “the water we put back in Lake Michigan from this plant is cleaner than the water we take out of Lake Michigan at our drinking water plant,” Lewis said.

Huge cost savings

Until January, the city plant separated water from solids with a system of presses, special plates that

squeezed the liquid sludge and pushed the water out. They required nearly daily repair, a human operator and large amounts of lime and other expensive chemicals, Lewis said. And they worked less efficiently.

“There’s a huge cost savings for us. Hundreds of thousands of dollars a year,” Lewis said. “(The presses) use a lot of chemicals ... truckloads of lime every day,” he said.

The new machine saves the plant the cost of lime, \$8,000 to \$12,000 a week; allows Lewis to reassign the operator to other maintenance duties; and reduces the amount of solid waste — because of the volume of the lime — from four truckloads a day to two or three, thereby cutting down on fuel costs, landfill dumping fees and impact on the environment.

The machine costs the plant a little over \$400,000, Lewis said, and it requires the addition of a small amount of a polymer, which assists in the separation of the solids.

While it’s a little early to predict, Lewis said they could pay for the machine in the savings of one year.

On display

Centrisys gives classes in the use of centrifuges to wastewater treatment system operators thinking about an invest in the technology or seeking to optimize the use of the ones they own.

Next week, for example, the company is hosting a continuing education workshop for plant operators, including an afternoon at the Kenosha plant.

“We take people down there often and show them the technology,” said Michele Whitfield, Centrisys sales coordinator.

“We love to tell people how great it works,” said Lewis.

City gets on board

In the beginning, Lewis was one of those who needed instruction.

“They approached us. They came ... and asked if we’d ever considered having a centrifuge at our plant and we said, well, let’s talk to them, and then we found out they were manufactured right in town, and our board of water commissioners thought it was great.”

In April 2009, Centrisys brought a unit on a trailer and ran it off of one of the plant’s lines.

“They ran it for three or four days, made a big pile on the pavement, and we were impressed,” said Lewis. “It worked really, really well.”

Centrisys’ next product is a centrifuge that will thicken sludge — one of the many necessary steps in the complicated water-cleaning process.

And Kenosha will be the first installation.

“We’re learning things from them,” Whitfield said.

Founded in 1987

Centrisys is the brainchild of Michael Kopper, a German-born mechanical engineer who worked for a European centrifuge manufacturer as a U.S. service and repair manager.

He founded Centrisys in 1987 as a centrifuge repair operation, and because it was close to its American customers, they began to turn to Centrisys when they needed new machines.

It moved to Kenosha from Libertyville, Ill., in 1998, and its size has steadily grown, from about 25 employees in a 20,00-square-foot plant to about 70 employees in Kenosha in more than 100,000 square feet of space in two buildings.

It has annual sales in the \$23 million to \$28 million range, Kopper said. It is the largest American manufacturer of decanter centrifuges — meaning centrifuges that are set horizontally.

The company sells 100 or more machines a year, and sales of new machines make up 65 percent of its business.

While municipal wastewater treatment is the largest market, there are many applications of centrifuges, including the manufacture of fruit juices, the processing of soy milk, the capturing of olive oil, animal rendering and drilling mud. Centrisys machines were used in the cleanup of the Gulf after the oil rig Horizon disaster.

Centrisys relies heavily on suppliers, Kopper said.

“We conceptualize and do the design. We do some of the purchasing of raw material, but we contract out for parts,” he said.

Service and innovation are emphasized.

“We have a service contract with them, so they come in and do any repairs it needs,” said Dave Lewis, director of operations of the Kenosha wastewater plant. “Whenever they change a design, our machine automatically gets upgraded to the latest and greatest, which we’re really excited about.”

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