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Water Operations Manager  
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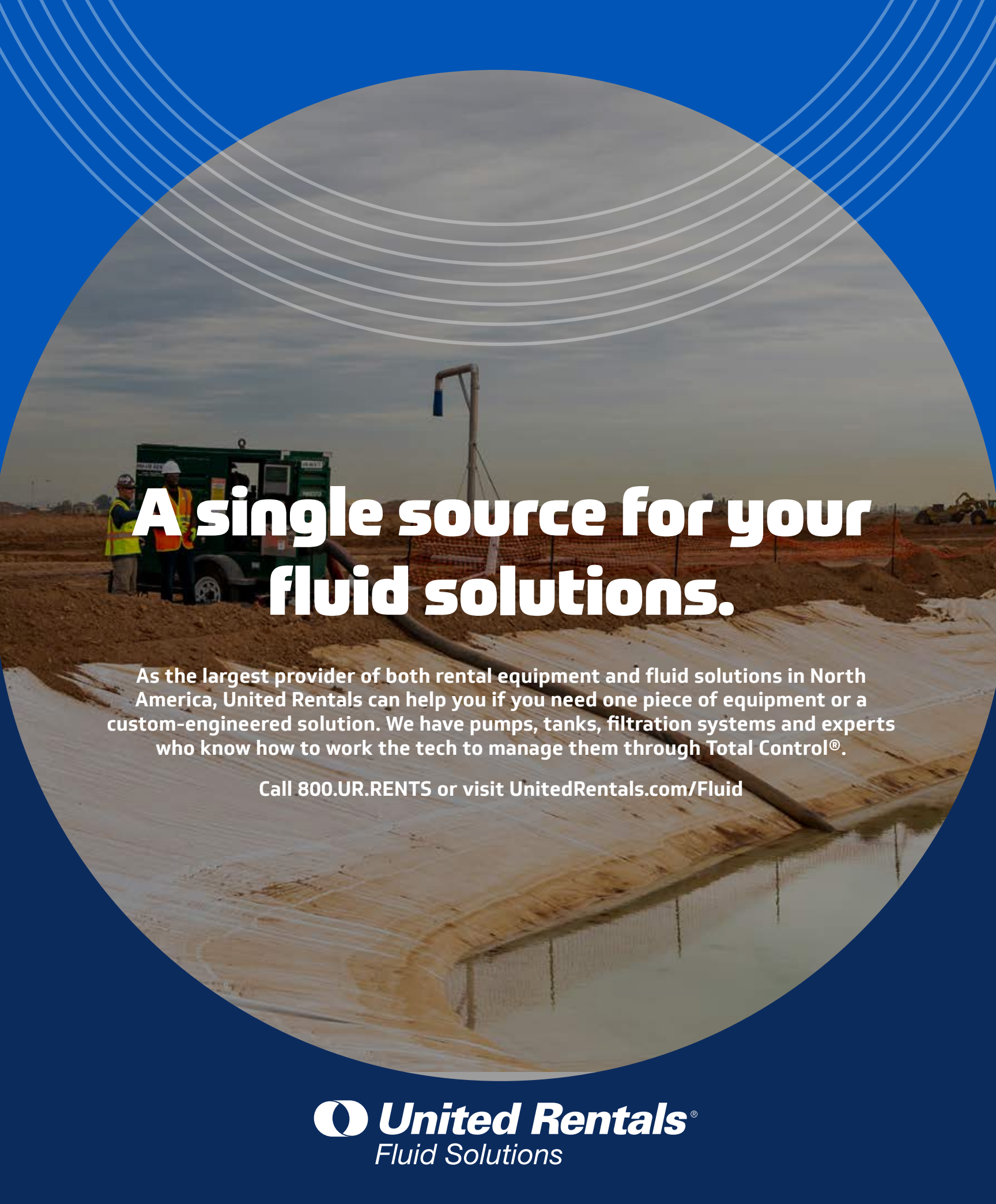


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let's be clear

## What's in a (Team) Name?

THE ANNUAL WEF OPERATIONS CHALLENGE IS A GREAT EXERCISE IN TEAM-BUILDING AND CELEBRATING EXCELLENCE. THE NAMES OF THE TEAMS ARE AN IMPORTANT PART OF THE FUN.

By Ted J. Rulseh, Editor



In a couple of months, a team of operators from all over the U.S. and around the world will join the Operations Challenge at WEFTEC.

I've watched some of the challenge events, and it's inspiring to see the team members' enthusiasm, and how seriously they take the competition. But there's nothing wrong with having a little fun on the way, and that starts with the names the teams choose for themselves.

If you look at the results from past years' competitions (visit [www.rmwea.org/docs/2022\\_WEF\\_Ops\\_Challenge\\_Final\\_Scores.pdf](http://www.rmwea.org/docs/2022_WEF_Ops_Challenge_Final_Scores.pdf)), you'll find any number of team names all but certain to bring a smile.

One might argue that what might be called the "poopy names" are a bit denigrating to the profession, whose members, of course, perform work of incredible value and worthy of great respect. But then, operators can be excused for refusing to take themselves too seriously, at least in the context of competing with their peers for bragging rights and recognition.

### TAKING A LOOK BACK

The Water Environment Federation certainly takes the Operations Challenge seriously. Why else would the organization post a history of the competition, going back to 2000, on its website? (Visit [www.weftec.org/attend/operations-challenge](http://www.weftec.org/attend/operations-challenge).)

In looking back over about 10 years of challenge results, it's great to see the variety of team names. I imagine it lends an extra note of energy and enjoyment when operators feel proud not just of their skills but of the team name on their shirts. I found four basic kinds of names that appeal to me for different reasons.

**Intimidators.** These are serious names that denote teams with serious intentions about winning the competition. In order of my preference:

1. Lethal Concentration, WEA of South Carolina
2. Centrifugal Force, WEA of Texas
3. LA Wrecking Crew, California WEA
4. Elevated Ops, Rocky Mountain WEA
5. Terminal Velocity, Virginia WEA
6. Critical Motions, Chesapeake WEA
7. Controlled Chaos, WEA of South Carolina

**Plays on words.** These names have a little fun with the raw material of the clean-water profession.

1. Poseidons, WEA of Texas (you know, Poseidon the sea god, aka Neptune)
2. Charley's Chocolate Factory, WEA of South Carolina
3. 50 Shades of Brown, Indiana WEA
4. 50 Shades of Grey Water, WEA of South Carolina

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5. Sewerside Squad, Rocky Mountain WEA
6. Sanitary Confinement, Pennsylvania WEA
7. Commode Commandos, Rocky Mountain WEA
8. Brown Tide, New York WEA
9. 69th Street Poo Mafia, WEA of Texas
10. Motley Poo, Chesapeake WEA (as in Motley Crue, the rock band)

**Pride of profession.** These teams chose to emphasize the real work they do, and the importance of it.

1. River Guardians, WEA of Texas, Trinity River Authority
2. River Rangers, Pacific Coast Clean Water Association
3. Watershed Warriors, New York WEA
4. WOW (Women of Wastewater), North Carolina WEA
5. Genesee Water Recyclers, New York WEA
6. Smooth Operators, North Carolina WEA
7. Fluid Mechanics, Chesapeake WEA
8. Blue Wave, Chesapeake WEA

I imagine it lends an extra note of energy and enjoyment when operators feel proud not just of their skills but of the team name on their shirts.

**Pride of place.** These teams are named after the area they come from, or a prominent feature of it.

1. Force Maine, New England WEA
2. Harlem Pumptrotters, New York WEA
3. Bowery Bay Coyotes, New York WEA
4. 808 Island Sharks, Hawaii WEA (808 is the Hawaii area code)
5. Mesquite Rangers, WEA of Texas
6. Seacoast Sewer Snakes, New England WEA
7. Utah Wasatch All-Stars, WEA of Utah
8. LUS Cajuns, Louisiana WEA
9. Great Danes, Denmark
10. Blueridge Brawlers, Virginia WEA
11. Ocean State Alliance, New England WEA
12. Kelowna Heat, British Columbia Water and Wastewater Association

Some of these teams have taken part in the challenge just once or twice. Others have competed for multiple years, and some have walked away with high places in their divisions.

Operations Challenge is a great feature of WEFTEC and an excellent change for operators to shine. If your organization hasn't entered the Challenge, maybe this is the time to think about putting a team together for 2024. **tpo**



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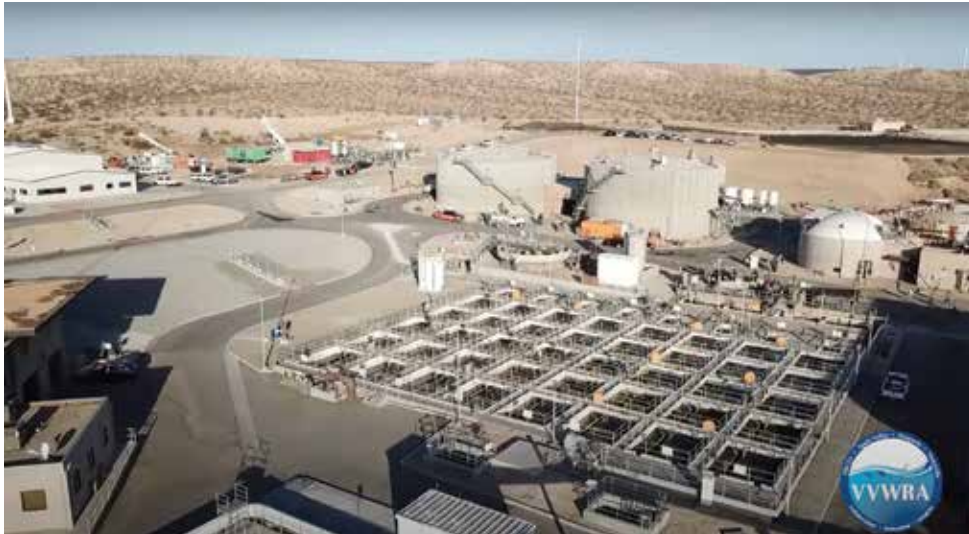


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## PROJECT OF THE YEAR

### From Biosolids to Biomethane

A state-of-the-art co-digestion and biogas upgrading facility at California's Victor Valley Wastewater Reclamation Authority recently won the 2023 Global Water Award for Wastewater Project of the Year. The facility collects methane from co-digestion of food waste and municipal biosolids and converts the material to renewable natural gas.

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## FUNDING ANNOUNCEMENT

### Desalination Research Facility

While in southern New Mexico in May, Secretary of the Interior Deb Haaland and Congressman Gabe Vasquez announced a \$12.6 million investment from the president's Investing in America agenda to support the Brackish Groundwater National Desalination Research Facility in Alamogordo. Read more about it in this online exclusive article.

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## OVERHEARD ONLINE

“Voters support government-led water affordability programs and the majority would pay more to ensure clean, safe and affordable water services for their communities.”

*Value of Water Campaign Releases Eighth Annual Poll*  
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## INDUSTRY CONFERENCES

### Spotlighting El Paso Water

Serving as host for two recent industry conferences provided El Paso (Texas) Water with the opportunity to showcase the utility's world-renowned innovation. The Water and Wastewater CFO Forum and the Association of Regional Water Organization's ARWO '23 conference were both held at El Paso Water's TechH2O Learning Center.

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# Whatever It Takes

AMANDA MARTIN AKINS REACHES BEYOND WATER AND WASTEWATER TO IMPROVE FACILITIES, THE ECONOMY AND QUALITY OF LIFE IN HER GEORGIA COMMUNITY

STORY: **Ted J. Rulseh** | PHOTOGRAPHY: **Matt Odom**

**Y**ou don't typically picture a clean-water superintendent writing grants for items like a street sweeper, flower plantings for the downtown, or vests and radios for the police department.

Just over two years into her tenure in Sparta, Georgia, Amanda Martin Akins has made such things a part of her job description. "She's not someone who says, 'How much are you going to pay me and when do I get off?'" says R. Allen Haywood, elected mayor in 2019. "She's like 'OK, let's get this done. I'll stay here until we get it finished.' It's amazing how dedicated she is. She's young, and I hope we have her for a long time."

Martin Akins came to Sparta (population 1,235) after working about seven years in various capacities in nearby Milledgeville, a city of 18,500 in central Georgia. Taking over a lagoon wastewater system compromised by more than two decades of neglect, she immediately got busy with repairs and upgrades.

Along the way she lent a hand at the water filtration plant, set up an in-house laboratory for water and wastewater sam-

ple testing, launched a health and wellness program for city staff, and acted as an ambassador for an industry in need of new talent.

Meanwhile, she's working toward a Georgia Rural Water Association Class III Drinking

Water Treatment Operator license, with help from a 2022 Water Environment Federation scholarship.

"I plan to sit for my Class I Wastewater license within the next year, budget permitting," she says. "And I am looking at additional certifications on the water side as well."

## SCHOOLED IN BUSINESS

A Georgia native, Martin Akins earned degrees in business management and marketing from Georgia College &



Amanda Martin Akins received a 2022 WEF scholarship that she will use toward a Georgia Rural Water Association Class III Drinking Water Treatment Operator license.

State University and Georgia Military College. She started her career in sales and worked her way up to a marketing position with responsibility for the entire Southeast U.S.

A change in her job status led her to look for a new career with stability and a promising future. "I had no idea what I was going to do," she recalls. "I had a friend who worked for the City of Milledgeville. He said they had a job opening, and he thought that with my business background I would be a good fit."

She started with the city in 2014 as a FOG inspector and soon moved up to coordinator for the FOG program. She then moved into industrial pretreatment, operations, biosolids, water and sewer maintenance, safety, laboratory, supervisory positions and even billing and budgeting.

She moved over to Sparta in April 2021 for the chance to take on a supervisory role. "When I met her, I was most impressed," Haywood observes. "Afterward I did a little check-

“It’s amazing how dedicated she is. She’s young, and I hope we have her for a long time.”

**MAYOR R. ALLEN HAYWOOD**

Martin Akins is shown in front of the effluent spray field, one of many items for which she has spearheaded renovations.



## BRANCHING OUT

Amanda Martin Akins has plenty to do taking care of Sparta's wastewater and drinking water systems. That doesn't keep her from pitching in with volunteer activities within and outside the water sector.

She is treasurer of the Southeastern FOG Alliance, which helps communities across the region comply with fats, oils and grease regulations. "Each community is different in what they require and why they require it," she says. "Our goal is to make programs more standardized, to give them a template to follow."

She is a member of the Water Environment Federation and its Young Professionals program. Closer to home, she's a member of the Georgia Association of Water Professionals and the Georgia Rural Water Association. She also uses her experience as a College Reading and Learning Association certified master tutor to help trainees and operators learn the skills they need to pass exams and perform effectively on the job.

During her years in Milledgeville she trained most of the city's operators: "They're all throughout the state now. You can go to almost any town in middle Georgia and find somebody who I taught."

Outside the industry, Martin Akins serves on the board of Shades of Green, an organization sponsored by Georgia College that promotes corporate and social responsibility to help create and maintain a sustainable world. Each year the group chooses a set of initiatives and works with companies from small businesses to large corporations to address them.

As a member of a military family, she helps retired and disabled veterans complete applications for benefits from the Department of Veterans Affairs. She also provides blind and low-vision people with visual assistance and supports various charitable organizations.

She finds spare time for archery: "My dad gave me my first bow when I was 13. I tend to like recurve and longbows the best." She and her husband Zachary enjoy geo-caching and video games — he works for a company in the video game industry.

ing and found that everything she said was true. I asked, 'What will it take to get you here?' She gave me a number. I said, 'That's a big number, but we're going to do it.'"

### WORK CUT OUT

She stepped into a challenging situation. In the aerated lagoon system (0.8 mgd design, 0.35-0.40 average), most of the aerators were down. In the more than 200 acres of spray fields, more than half the spray heads were inoperable, and those that worked barely did so.

She and Class III operator Ray Perritt, also newly hired, went right to work. "We spent months getting the fields back in order, replacing the lines, and getting the aerators working, trying to

## Amanda Martin Akins, Sparta, Georgia

POSITION:  
**Wastewater Treatment Plant Superintendent**

EXPERIENCE:  
**9 years in the industry**

EDUCATION:  
**Business management and marketing degrees, Georgia College & State University and Georgia Military College**

CERTIFICATIONS:  
**Class II Wastewater Operator (second highest), Wastewater Laboratory**

AWARDS:  
**2022 WEF Laboratory Analyst Excellence Award**

AFFILIATIONS:  
**WEF, Georgia Association of Water Professionals, Georgia Rural Water Association, others**

GOALS:  
**Complete treatment plant refurbishment, recruit a new generation of operators**



“We spent months getting the fields back in order, replacing the lines, and getting aerators working, trying to get the pond conditions back up.”

AMANDA MARTIN AKINS

get the pond conditions back up,” Martin Akins recalls. “We ended up seeding the ponds to get microorganisms back into them. They had gone almost anoxic because they had been starved for air for so long.”

A collection system with multiple lift stations feeds the facility. Influent passes through a bar screen (HUBER Technology) and into the first of two

---

Martin Akins has contributed to improvements in a variety of municipal service beyond the water and wastewater systems. (Screw screen manufactured by HUBER Technology.)



Martin Akins' future priorities include seeking a federal Community Development Block Grant for dredging one of the city's wastewater treatment ponds.

ponds, each with two cells. When Martin Akins arrived the first cell had eight feet of sludge with just a foot or two of water on top. Treatments with Sludge Rx bacterial formulation (AQUAFIX) reduced that to 4 to 6 feet; plans ultimately call for dredging funded by grants.

Each pond has six 7.5 hp surface aerators, a mix of Aqua-Lator (Evoqua Water Technologies) and Aqua-Jet (Aqua-Aerobic Systems) units. Aerator upgrades are in progress. Effluent from the second (polishing) pond enters two storage ponds (only one pond in service at present).

From there, two 75 hp and two U.S. Motors 100 hp pumps (Nidec Motor Corporation) in redundant configurations deliver effluent to the spray fields to irrigate hay, which farmers cut for livestock feed. Failure-prone plastic spray heads are being gradually replaced with more durable metal heads, using grant funds.

### EXPANDING ROLE

Tackling the treatment plant's challenges meant taking stock of the conditions and setting priorities. “It was sitting down and seeing what needed the most attention,” Martin Akins says. “Only half of our spray fields were operating, and so those fields were hydraulically overloaded. I had to shut them down and let the storage pond fill up.

“The first thing we did was get the other set of spray fields up and going. Once that was done we were able to start drawing the storage pond down. Then we moved on to the aerators. We tried to repair what was out here and then started ordering new aerators.”

Those measures helped improve effluent quality and keep it well within permit limits of 90 mg/L TSS and 50 mg/L BOD. “Typically our BOD is under 20, and often



From left, Ray Perritt, operator; Amanda Martin Akins, wastewater treatment plant superintendent; and Michael Heat, operator.

it will be closer to 10 or 15,” Martin Akins says. “TSS we’ve had as low as 3 and as high as 25. We are doing wonderfully in terms of our permit but still have a long way to go.”

Before long, Martin Akins was helping out in other areas: “I’ve been pulled into a little bit of everything. When you’re in a small town, that tends to happen. Everybody here works together. Public Works comes out and assists us. The water and sewer maintenance department helps us routinely.” She also collaborates with Timmy Griffin, utilities superintendent.

At the drinking water plant, which draws up to 2 mgd from Lake Sinclair, Martin Akins has helped Shane Harper, water superintendent, in seeking grants and getting his team trained up. "I'm writing up a course for them, to help them prepare for exams and navigate the new rules and regulations, such as the Lead and Copper Rule," she reports. She is also working with the drinking water side to set up a laboratory and get it state-certified, as she has already done on the wastewater side.

## LOOKING AHEAD

Working with Perritt and new Class III operator trainee Michael Graham, Martin Akins is setting priorities for the next few years. They include constructing a building to store equipment, writing a grant for a tractor with a tree cutter and grabber-loader for maintaining the spray fields, creating a spare parts inventory, and seeking a federal Community Development Block Grant for dredging of the first treatment pond, which could cost more than a million dollars.

She has strong support from the mayor and city council. Haywood observes, "She comes in saying, 'We need to do this. We need to do that. Can we afford to do it?' I'm making sure that we can." One of Haywood's tasks has been to get the utilities side of the city on a sound financial footing. That helps make money available for improvements.

“We’re trying to encourage employees to stay with Sparta. It’s small things that make it enjoyable to work here.”

**AMANDA MARTIN AKINS**

The improvements extend beyond the treatment plants. Martin Akins set up Sparta's first health and wellness program. It includes health fairs where staff members can get free wellness checkups, and visits from a doctor offering blood tests and blood pressure checks.

"We're trying to encourage employees to stay with Sparta," she says. "It's small things that make it enjoyable to work here. The whole point is to ensure that our employees are healthy. It helps us, and it helps them. In the long run, the small things add up and improve morale."

Community revitalization is high on Haywood's agenda, and Martin Akins is playing an important role. They see opportunities for heritage tourism. In the late 1800s, Sparta's agricultural county was among the wealthiest in Georgia.

Three major highways intersect in the downtown. "We're taking steps to acquire grants to get our downtown redone," Martin Akins says. "We're part of the historic south. The town is loaded with historical sites. There is no reason we shouldn't have a thriving tourism spot and a little shopping district. We're also looking at trying to get more industry back here."

Meanwhile, Martin Akins is an enthusiastic promoter of her profession. "I have been chatting off everybody's ear if I can. Hey, come work in this field. It's great. They pay well. They offer good benefits, You get retirement, you get insurance, you get to work for a municipality. I'm out there preaching about this field. If we could get people in young and maintain them, we'd have a really well-trained team in the end." **tpo**

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# Variety Drives Public Outreach

GEORGIA WATER & SEWER AUTHORITY RAMPS UP PUBLIC AWARENESS  
BY PROVIDING MULTIPLE EDUCATIONAL EVENTS FOR RESIDENTS

By Sandra Buettner



Kids in the Summer Thrive program search for macroinvertebrates in a stream sample.

The Cherokee County (Georgia) Water & Sewer Authority has been expanding and improving its public awareness and outreach initiatives for the past 20 years.

The offerings started as a requirement of the Little River Watershed Assessment and implementation plan. It grew over time with the influence of the North Metro Water Planning District, which has one of the most complete regional water management plans in the country, is staffed by the Atlanta Regional Commission, and includes 15 counties and 95 cities.

For its public outreach programs, the Cherokee County authority received the Georgia Association of Water Professionals Education Program of Excellence Award in 2022.

## LISTENING TO RESIDENTS

The authority, based about an hour north of Atlanta, has three wastewater treatment plants: Rose Creek, Fitzgerald Creek and Riverbend, collectively permitted to treat up to 10 mgd for nearly 200,000 residents.

Public feedback led the utility to expand its activities. “Our residents really liked the offerings, but they would give us feedback afterwards about how we could improve them, and even ideas for new events they would like to see,” says Lori Forrester, public information specialist.

“We are always looking to add more programs based on public requests. An example of this is our new fish program. We have fantastic fish around here, and the educators wanted us to teach their students about the various kinds.”

The Cherokee County Parks and Recreation Association has a fish camp every summer. Forrester visits the camp, and last year provided an activity in which the children learned to identify fish in the local waters.

## DIVERSE ACTIVITIES

Other outreach programs include:

- **Storm Drain Marking.** Community volunteers paint stencils on storm drains that remind residents that what goes down the drain goes directly to the streams. The stencils include a fish logo.
- **Fall Rivers Alive Cleanup.** The utility takes part in this statewide cleanup of waterways. Authority staffers and volunteers annually remove about two tons of trash.
- **Teaching and tours.** The authority works with educators and students on hands-on activities dealing with water and wastewater management, stormwater, water conservation, water quality, and wildlife. Staff members also give tours of water and wastewater facilities.
- **Sassafras Day Camp.** This event, for Girl Scout summer camps, teaches the older scouts about water testing (temperature, pH, conductivity, alkalinity), and younger kids about nonpoint and point-source pollution through Build-A-River and Adopt-a-Stream activities.
- **Summer Thrive.** Staff members work with rising freshmen from the county school district for three days, taking them to the waterways to learn about water quality. Students use supplies they made to aid in their studies.
- **Chamber Leadership.** Leaders from the Cherokee County Chamber of Commerce met Forrester and her colleagues at the Hollis Q. Latham Reservoir to learn about the history, function and overall importance of the services provided by the Cherokee County authority.

## GETTING THE WORD OUT

The events are promoted on the utility’s website and Facebook page, and by word of mouth. Staff members stay connected with community contacts such as educators and scout groups.

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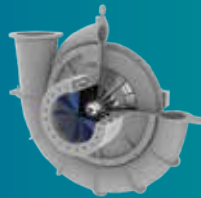
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“The programs have been growing in popularity. When we started them, we were reaching 3,000 to 5,000 adults and children per year. That number for 2021 was 21,345.”

LORI FORRESTER



The staff created a scarecrow with messaging about water quality and its programs; it is displayed at community events and outside the authority offices. Forrester has a booth at the Cherokee County Fair.

“Taking our message on the road to community events has really helped us to get more public attention and awareness,” she says. “The programs have been growing in popularity. When we started them, we were reaching 3,000 to 5,000 adults and children per year; that number for 2021 was 21,345.”

Forrester is a recognized face around town: “Students who have attended our programs call me The Bug Lady. They don’t remember my name, but they remember that I taught them about the bugs and living creatures in our waterways.” tpo

## What’s Your Story?

**TPO welcomes news** about your public education and community outreach efforts for future articles in the Hearts and Minds column. Send ideas to: [editor@tpo.mag.com](mailto:editor@tpo.mag.com) or call 877-953-3301

A scarecrow in front of the Cherokee County Water & Sewer Authority’s main office delivers educational messages to visitors.

top performer

wastewater:

PLANT

# Big Swings



## South Austin (Texas) Regional Wastewater Treatment Plant

[www.austintexas.gov/department/statistics-and-treatment-plants](http://www.austintexas.gov/department/statistics-and-treatment-plants)

**BUILT:**  
Three phases starting  
early 1980s

**FLOWS:**  
75 mgd design, 41 mgd avg.

**POPULATION SERVED:**  
986,000

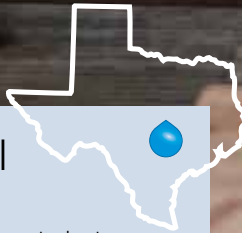
**TREATMENT PROCESS:**  
Activated sludge

**TREATMENT LEVEL:**  
Tertiary

**RECEIVING WATER:**  
Onion Creek to Colorado  
River; or reclamation/reuse

**BIOSOLIDS:**  
Sent to Hornsby Bend  
Biosolids Management Plant  
for composting

**ANNUAL BUDGET:**  
\$40.2 million (operations)



Ayman Benyamin, operations manager,  
South Austin Regional Wastewater Treatment Plant



## AUSTIN WATER HAS NO FEAR OF MAJOR INVESTMENTS IN ITS CLEAN-WATER PLANTS. THE SOUTH AUSTIN REGIONAL FACILITY IS A CLEAR CASE IN POINT.

STORY: **Ted J. Rulseh** | PHOTOGRAPHY: **Ethan Rocke**

**G**rowing cities have to pay big to sustain wastewater treatment capacity and meet permit limits. Austin Water does so with conviction.

For illustration, look no farther than the 75 mgd (design) South Austin Regional Wastewater Treatment Plant, one of two major clean-water facilities in the capital city of Texas. Several years ago the city invested \$20 million to upgrade the plant's aeration system.

At present, the operations team is investing \$120 million to completely refurbish the electrical system of old older treatment trains that date back to the 1980s. Meanwhile, the 75 mgd (design) Walnut Creek Wastewater Treatment Plant is seeing the deployment of artificial intelligence visual management tools, through predictive maintenance and machinery learning to increase maintenance productivity, improve reliability and reduce long-term operating costs.

Ayman Benyamin, P.E., Austin Water operations manager, sees such investments as essential to delivering high-quality, cost-effective service to the community and for protecting the environment in a city with a reputation for being green. They're also economically sound, as shown by the aeration upgrade. "The return on investment in that project was six years," Benyamin says.

Recognizing these and other accomplishments, the Water Environment Association of Texas recognized South Austin as the 2022 Municipal Wastewater Treatment Plant of the Year. The plant has also received several Gold and Silver Peak Performance Awards from the National Association of Clean Water Agencies.

### THREE TRAINS

The Austin Water wastewater system consists of the two major plants, the Hornsby Bend central biosolids composting facility, and nine smaller remote wastewater treatment facilities located around the city, with capacities from 0.3 to 2.25 mgd.

The South Austin plant (average flow 41 mgd) was built in three phases starting in the early 1980s. It consists of Plant A, the original treatment train; Plant B added soon afterward to accommodate exponential growth in the city; and Plant C, built in the 1990s. All three 25 mgd (design) plants use the conventional activated sludge process.

Influent arrives via two lift stations, one receiving flow from the Onion Creek Tunnel flow and the other from the Downtown and Govalle tunnels, which in addition to conveyance can provide storage during 100- and 500-



From left, Matthew Barber, operations and maintenance associate; Filiberto Castilleja, operations and maintenance supervisor; and Efrain Lopez, operations, conduct planned maintenance on equipment.

“We produce the highest effluent quality with the lowest *E. coli* level, so we can use it anywhere, with or without people's presence.”

**AYMAN BENYAMIN**

year wet-weather events. The pumps in both stations (Flowserve and Pentair Fairbanks Nijhuis) deliver wastewater to an influent splitter that divides the flow to the three treatment trains.

Each train includes Infilco Degremont bar screens (Veolia Water Technologies & Solutions) and grit removal basins. After primary clarification, the flow enters the aeration basins, followed by secondary clarifiers, disinfection with sodium hypochlorite and tertiary treatment with 24 units of cloth-media rotary disc filter assemblies (Aqua-Aerobic Systems). About 95% of the final effluent discharges to Onion Creek, a Colorado River tributary.

“We produce the highest effluent quality with the lowest *E. coli* level, so we can use it anywhere, with or without people's presence,” Benyamin says. “We reuse about 5% of what we produce.”

### BENEFICIAL USE

Primary and waste activated sludges pass through a gravity thickener (Ovivo) before being pumped via pipeline to the Hornsby Bend site at 2% solids to be converted to Class A composts.

The primary Class A product, branded Dillo Dirt, is one of the nation's oldest biosolids formulations, suitable for unrestricted use, including for

vegetable gardens. “We also provide a multitude of Class A composts for agriculture,” Benyamin says. “We’re trying to expand the market so we can sell 100% of our compost, not just for gardens but also for agriculture. Right now, we’re in the sixth year of a contract with Synagro and have eliminated Class B land application, except in emergencies, none of which have occurred in the last six years.”

The biosolids program has been streamlined to the tune of \$2 million in annual savings by turning all Hornsby Bend operations over to Synagro. In the process seven Austin Water team members were assigned to new roles in the wastewater organization. “With Synagro, we really bought their marketing ability,” says Benyamin. “We created an incentive for them to take the product off the site.”

### BOOSTING PERFORMANCE

At South Austin, Benyamin and his team are proud of two major projects, one completed and the other just beginning. Six years ago a \$20 million project centralized the air supply for the plant’s three treatment trains, providing savings of \$2.5 million per year in power costs alone.

Previously, each train had its own blowers, and those in Plants A and B were old and inefficient. The entire plant has been revamped to connect with three Turblex single-stage centrifugal blowers (Howden) (combined capac-

ity of 13,500 scfm) with the air systems in Plant A and Plant B. “Now we have better control over air distribution and almost zero leakage,” Benyamin notes. The project included replacement of the aeration basin diffusers with a ceramic-disk fine-bubble diffused aeration system (Sanitaire, a Xylem brand).

At present, the entire electrical systems in Plants A and B are being refurbished: “We’re basically replacing all the old conduits, manholes and motor control centers in both plants. It is costing us about \$2 per gallon of treatment capacity.” Completion is expected in 2024.

The key challenge in that project is the need to take one train out of service at a time to complete the work, substantially reducing the facility’s surplus capacity. Says Benyamin, “For the next four and a half years we’ll be running with about 50 mgd capacity available, while treating about 41 mgd average flow. The saving grace is our tunnels, which each can store one day’s worth of flow.”

### BROADER INITIATIVES

Across Austin’s wastewater system, Benyamin and his team are focused on safety. “My job is to make sure that our team members go home at the end of the day with ten fingers, ten toes and a head,” says Benyamin. “That is my top priority.”

Toward that end, standard operating guidelines have been developed for multiple work processes, which include dealing with emergencies. SOGs differ from standard operating procedures in being more flexible. “For example, in preparation for a storm, we have SOGs with work orders that need to be followed. They include measures to mitigate any risk we can foresee. We review the SOGs every year and update them as we find weaknesses and improvement opportunities.”

Another point of emphasis is predictive maintenance, which includes applying artificial intelligence and machine learning at the Walnut Creek treatment plant and the 2.25 mgd Wild Horse Wastewater Treatment Plant. (The South Austin plant will become part of that initiative when it is expanded starting in 2034).

#### South Austin (Texas) Regional Wastewater Treatment Plant PERMIT AND PERFORMANCE

	INFLUENT	EFFLUENT	PERMIT DAILY AVERAGE	PERMIT ANNUAL AVERAGE
<b>BOD</b>	200 mg/L	N/A	N/A	N/A
<b>CBOD</b>	N/A	2 mg/L	10 mg/L	5 mg/L
<b>TSS</b>	280 mg/L	0.95 mg/L	15 mg/L	5 mg/L
<b>Ammonia</b>	37 mg/L	0.24 mg/L	2 mg/L	2 mg/L



The team at the South Austin Regional Wastewater Treatment Plant includes, front row, from left, Tony Luna, operations and maintenance supervisor; Enrique Zepeda, O&M associate; Juan Maldonado, equipment operator; Adam Rodriguez, O&M senior; Efrain Lopez, O&M associate; Filiberto Castilleja, O&M senior; Mark Reeh, O&M superintendent; Ayman Benyamin, operations manager; second row, Richard O’Donnell and Chris Mancuso, O&M supervisors; Ysidro Lucio and Lee Montoya, O&M seniors; Shea Quinn, treatment plant worker; David Juarez, utility logistics planner coordinator; Matthew Barber, O&M associate; third row, Mark Prochnow, O&M senior; Antonio Jumper, O&M associate; and Brandon Hill, O&M assistant.



Mark Prochnow, a senior operations maintenance specialist, checks on operation of aeration blowers.

“We’re trying to expand the market so we can sell 100% of our compost, not just for gardens but also for agriculture.”

**AYMAN BENYAMIN**

early on the most critical failures to prevent.

“Basically, we’ll be enabling the machines to talk to us. A sensor on the motor, for example, will tell us if a bearing is off center or there is some extra heat. In one situation with a pump, because of the machine talking to us, we were able to fix the problem for \$400, instead of \$25,000.

“We studied what technologies are available in the market. We brought in experts from Emerson, Rockwell and Honeywell to tell us what is the latest in AI. Our goal is to know very early on if there is an issue with our expensive equipment. AI will tell us if there are parts that need to be replaced in X number of months based on machine learning.”

The technology is to be deployed on large equipment such as pumps, motors and blowers, essentially all items 50 hp and above. “We expect to reduce our preventive maintenance hours and increase our equipment availability and resilience,” Benyamin says. “We’ll be better able to focus our workforce on areas that have problems, while also making more informed decisions on our capital improvement program spending.”

In addition, an enterprise asset management program will create an extensive database on the equipment in the field and the condition of each item. It’s a way of more reliably retaining institutional knowledge: “We’re making it so the database is the knowledge.”

### SUSTAINING THE TEAM

Key members of the South Austin plant team are Agmed Weber, division manager; Mark Reeh, treatment superintendent; Richard O’Donnell, chief operator; and Tony Luna and Chris Mancuso, operation and maintenance supervisors. All told, the plant has 27 licensed wastewater operators, including two Class A (highest), 19 Class B, and six Class C.

Staffing is a continual challenge for Austin Water because the utility needs to compete with smaller surrounding cities that offer fewer services, have less overhead, and so have more money available for salaries.

“Austin is a very environmentally conscious city, and we have certain sunk costs that other utilities don’t have,” Benyamin says. “On the other hand, our

Walnut Creek has two conventional activated sludge treatment trains with redundant aeration basins. It has an average flow of 60 mgd and an expansion of design capacity to 100 mgd by 2028 is in the design stage.

“We are implementing AI in the Walnut Creek expansion,” Benyamin says. “Instead of running like chickens with our heads cut off, we want to increase visual management and red-flag trouble so we can focus

## FIGHTING THE ICE

Winter storm Uri hit Texas in February 2021 with freezing rain and record snowfall that affected all 254 counties and caused widespread power outages that in some places lasted several days.

The South Austin Regional Wastewater Treatment plant came through mostly unscathed, thanks to good fortune and some creativity on the part of the operations team. “We were blessed in that we didn’t lose power,” notes Ayman Benyamin, Austin Water operations manager. “The impact we had from Uri was mostly external, not internal.”

The key difficulty was delivery of treatment chemicals, notably sodium hypochlorite for disinfection. “Because the roads were not drivable, the vendors couldn’t come to us,” Benyamin says. On top of that the vendors, based in Dallas and nearly four hours away if the roads are dry, were dealing with power outages that halted production.

Operations management contacted alternative chemical suppliers, and Mark Reeh, plant superintendent, worked for five days to procure enough sodium hypochlorite to prevent any interruptions to plant processes.

“We had to go to smaller companies nearby and basically pay a premium so that we could get the chemicals here,” Benyamin says. “Those vendors have smaller trucks, and they were much closer, about 15 to 20 miles. So that’s what helped us.”

Benyamin notes that after the storm plant policies were changed to require storage of 10 to 15 days’ supplies of chemicals on site as insurance against future emergencies.

staff gets the benefit of a large organization with a lot of support functions that make their jobs easier.” Among perks for team members are stipends for earning licenses at levels above the minimum required for their roles.

A high-quality team is essential to meeting the daily challenge of operating a 75 mgd facility. Says Benyamin, “In wastewater, we have no way to divert. The influent is coming, and we have to be ready. There is no waiting for tomorrow.” **tpo**

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Birgitte Ahring, Ph.D., with the biodigesters used in her pilot project for pretreating wastewater treatment solids with steam and pressure.



# Getting More From Digestion

PRETREATMENT OF BIOSOLIDS WITH STEAM AND PRESSURE SHOWS PROMISE FOR BOOSTING BIOGAS PRODUCTION AND CUTTING SOLIDS VOLUME AT CLEAN-WATER PLANTS

By Steve Lund

**A** pilot project significantly boosted biogas yield by pretreating biosolids with steam, pressure and oxygen before anaerobic digestion.

The process converted 80-85% of the organic material to biogas, versus the typical 50% without pretreatment, says Birgitte Ahring, Ph.D., a professor and biofuels researcher in the Gene and Linda Voiland School of Chemical Engineering and Bioengineering at Washington State University – Tri Cities.

“What is new in this study is that we took the biosolids and exposed it to high temperature and pressure,” Ahring says. “By doing that we made it far more available for digestion. This is a short process that happens in a pressure vessel.”

In the pretreatment, the material is heated with steam to 165-190 degrees C (329-374 degrees F) in a pressure vessel that reaches 10-13 bar (145-188 psi) for 10 to 30 minutes.

## MORE GAS, LESS VOLUME

The steam and pressure break down cell walls and large molecules. “Sludge under these conditions starts reacting,” Ahring says. “Some of the reactions are by hydrolysis. It breaks up the material into smaller pieces, and parts of it react with the oxygen to hydrolyze even more. You open the materials that are recalcitrant, meaning difficult to digest.”

The pretreatment has two key benefits. It produces more biogas for use as fuel. It also reduces the volume of undigested biosolids, which could minimize resources needed for dewatering, transportation and beneficial use or landfilling.

Ahring has conducted the project in a former auto repair facility. Sludge is delivered in buckets from the Walla Walla wastewater treatment facility. Pretreatment occurs in a steel vessel that is built into one of the pits originally used for oil changes. After pretreatment, the material is pumped to a storage tank and then to two 400-liter digesters.

Although pretreatment kills the bacteria in the material, Ahring says that is not a problem because the digesters are fed continuously with small portions, ensuring an overall retention time of days where the active microbes can break down the organics and produce biogas. “It’s like when you have a

sourdough starter,” she says. “Something is in the bioreactor, so the sludge doesn’t need to have microbes in it. There are plenty of microbes in the bioreactor to do the work.”

## FOOD WASTE, TOO

Wastewater treatment plants that take in food waste to boost methane production might also benefit from the pretreatment process.

“It depends on the food waste,” Ahring says. “If you’re dealing with the peels from potatoes or with all the residues from cut veggies, then it is very, very good to pretreat. If you’re dealing with materials from meals, you don’t need to pretreat it. But one thing we know from this process is that it improves all the polymers in the sludge, and that includes lipids and proteins.”

Based on good results from the pilot project, Ahring began working with Clean Vantage, a company looking to develop the commercial potential of

“What is new in this study is that we took the biosolids and we exposed it to high temperature and pressure.

By doing that we made it far ore available for digestion.”

**BIRGITTE AHRING, PH.D.**

the process, and with the city of Walla Walla, which wants to put the technology to work in an operating wastewater treatment plant: “We are working with them on getting the design ready for implementation.”

## ROOTED IN RENEWABLES

The pretreatment process is rooted in biofuels research that has been conducted at Washington State for many years. The process was found to be helpful in converting materials such as straw and wood chips to aviation fuels and cellulosic ethanol.

“That’s what we started on,” Ahring says. “I came in 2008, and we worked a lot on these types of materials. That’s actually what showed this pretreatment technology was successful. But we were making liquid transportation fuel. When we went to sewage sludge, we were surprised to see that it also works very well on that.”



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An insulated steel vessel is built into a pit. Inside, biosolids are exposed to steam and pressure for 10 to 30 minutes, increasing the yield of biogas and reducing the volume of leftover biosolids when the material goes through the anaerobic digesters.

Although the pretreatment uses energy and adds an extra biosolids treatment step, Ahring thinks the cost of pretreatment will be more than offset by more methane production and lower biosolids volume: "The technoeconomics show that it's really beneficial. Those two things make up a really good business case."

The next phase of the research is to install pretreatment equipment at an operating plant. If that goes as planned, Ahring sees big potential for the widespread use of the technology: "What I see is there's a huge market here." **tpo**



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**Dan Langguth**  
Division Superintendent  
Crystal Lake (Illinois) Wastewater Treatment Division

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# Built for All Seasons

AMPLE STORAGE AND TREATMENT REDUNDANCY HELP FLORIDA'S PEACE RIVER WATER AUTHORITY MAINTAIN CONSISTENT QUALITY AND RELIABLE SUPPLY

STORY: **Jim Force** | PHOTOGRAPHY: **Chris Tilley**

Austin Kortzendorf, utility specialist, washes down a clarifier at the Peace River Manasota Regional Water Supply Authority.



“We’re not changing chemical dosages every day because our supply water quality is consistent. We’re not chasing our tail in response to changing conditions.” **MIKE CHELL**

If you were to describe the Peace River Manasota Regional Water Supply Authority in one word, it would be “resilience.”

Whether it’s Florida’s wet-dry seasonal cycle, its location in the path of damaging hurricanes or the need to keep up with rapidly changing technology, Peace River does what it takes to deliver high-quality water to its customers, around the clock, every day of the year.

That consistency has been recognized with significant awards from the Florida Department of Environmental Protection, the Florida Section AWWA and the Association of Metropolitan Water Agencies.

## SEASONAL CYCLES

The authority is a regional water wholesaler. Since 1991, it has supplied drinking water to more than 1 million residents in Charlotte, DeSoto, Manatee and Sarasota counties and the community of North Port. Average daily production from its four-train water treatment facility in Arcadia is 29 mgd.

The authority draws up to 120 mgd from the Peace River. Four vertical turbine pumps (Flowserve) move the raw water through a pipeline to two off-stream surface water storage reservoirs and a special aquifer storage and recovery system.

Together, these can hold up to 13 billion gallons of water. “That’s enough to meet our customers’ needs, even during the drier winter months when we can’t withdraw any water from the river,” says Richard Anderson, director of operations.

Reservoir No. 1 covers 85 acres and was built in the 1980s as part of the original water treatment plant



George Pennel, lead instrumentation and control technician, at the SCADA workstation (Emerson Rx3i).

construction. It is essentially a large, 30-foot deep lake that can store up to 500 million gallons. The second 640-acre reservoir was built in 2009 as part of the authority's most recent expansion, and can store 6 billion gallons.

"Florida river flows, including the Peace River, are highly dependent on rainfall," says Anderson. "The availability of high-quality water supply varies dramatically between our summer wet season and spring dry season, so it's not feasible to withdraw the amounts we need from the Peace River year-round."

### RELIABLE SUPPLY

The reservoirs and ASR system are the keys to reliability. During the dry season when the river quantity and quality are at their lowest, the authority relies on stored water. "Conversely, to replenish, we withdraw more than we use during the wet season when the Peace River flow is high and water quality is the best," says Anderson. "The water we withdraw in excess of our demand is then stored for use in the dry months."

The ASR system provides additional supply. It employs 21 wells across two fields. When the Peace River flow is high, surplus water is treated to drinking water standards and injected into the limestone aquifer for recovery later. Injection rates typically range from 5 to 15 mgd. The design storage capacity of the ASR system is 6.3 billion gallons.

During dry periods, up to 20 mgd can be recovered through the ASR system, leaving the Peace River undisturbed. The 2020 Sustainable Water Utility Management Award from the AMWA recognized the authority's commitment to creating a sustainable water environment.

### CONSISTENT QUALITY

From the storage facilities, water is pumped to the Peace River Water Treatment Plant. This facility, named the Most Outstanding Water Plant four

## Peace River Manasota Regional Water Supply Authority, Lakewood Ranch, Florida

[www.regionalwater.org](http://www.regionalwater.org)

FOUNDED:  
**1991**

POPULATION SERVED:  
**~1 million**

SERVICE AREA:  
**Charlotte, DeSoto, Manatee and Sarasota counties; community of North Port**

SOURCE WATER:  
**Peace River**

FLOWS:  
**51 mgd design, 29 mgd average**

TREATMENT PROCESS:  
**Conventional**

DISTRIBUTION:  
**80 miles of regional pipelines**

SYSTEM STORAGE:  
**13 billion gallons (two reservoirs, aquifer storage and recovery)**

EMPLOYEES:  
**16 licensed staff at water treatment plant**

ANNUAL BUDGET:  
**\$47 million (operations)**

times in the last seven years by the AWWA Florida Section, contains four independent conventional treatment trains. It has a total permitted capacity of 51 mgd.

The consistent quality of water coming from the storage facilities is a key to success. "Because of our storage component, we don't see water quality changes that may be happening in the river due to rainfall, flow changes or runoff," says Mike Chell, operations manager. "We're not changing chemical dosages every day because our supply water quality is consistent. Operations are flat, not bumpy. We're not chasing our tail in response to changing conditions."

The facility has expanded over the past 30 years, and treatment trains have been added as the population has increased. "Four separate, parallel treatment trains that can be operated as needed give the Peace River staff



Biosolids are dewatered on belt presses (Alfa Laval) before landfilling. Jonathan Rivera, dewatering press operator, checks equipment operations.



Controls for the Caterpillar and Cummins diesel generators that supply plant backup power.



Richard Anderson, director of operations



Mike Chell, operations manager

redundancy that's nice to have," says Chell. "We can run two or three, and have one on standby. We don't miss a beat."

The treatment processes in the trains are identical. It includes the addition of powdered activated carbon for taste and odor control, and a coagulation/clarification process using aluminum sulfate and anionic polymer with sodium hydroxide for pH adjustment.

A 12% solution of sodium hypochlorite is used for primary disinfection, and aqueous ammonia at 19% is added (ProMinent chemical pumps) to form chloramines for disinfection before filtration. There are 26 multimedia bed filters (Ovivo) of anthracite, sand and gravel. The finished water is delivered to six on-site ground storage tanks with a capacity of 12 million gallons. From there it is pumped to wholesale customers.

Treatment residuals are sent to sludge thickeners and then to belt presses (Alfa Laval) for dewatering. The dewatered solids are landfilled. A SCADA system (Emerson Rx3i) controls plant operations.

### HARD-WORKING STAFF

Staffing is straightforward, with 12 licensed operators covering three eight-hour shifts, supported by a maintenance team, a compliance team and the laboratory. All told, the authority has 16 licensed staff members. "We need to have that," says Anderson. "It helped us fill in during COVID and at other times such as during hurricanes and tropical storms."

“Four separate, parallel treatment trains that can be operated as needed give the Peace River staff redundancy that’s nice to have.”

**MIKE CHELL**

"They are our eyes and ears at the plant," says Chell. "They're really good about providing feedback and addressing problems. Chell oversees the water plant operators and two utility workers who perform light maintenance activities around the facility. He also supervises John Ramsey, operations specialist, who is responsible for all compliance sampling.

Doug Leath, maintenance manager, leads a team of three mechanics, three instrumentation and control technicians, two dewatering press operators and one transmission operator. Tim Grannell, maintenance specialist, provides administrative support through management of annual contracts, procurement and inventory.

Doug Morton, laboratory manager, and Aswathy Warriar, chemist, are responsible for sample analysis, document control and compliance reporting. Kelly Borra, administrative assistant, handles multiple tasks including invoice processing, chemical ordering, scheduling of meetings, and generally responding to requests.

## PLANNING FOR THE FUTURE

While well prepared to meet the needs of current customers, the Peace River Water Authority is carefully planning for the future.

The authority maintains an 80-mile piping loop to supply its customers, the member governments who depend on it for clean water. It also maintains pipelines to other communities not part of the member governments, as a way to ensure clean water for the entire region in the case of emergencies.

The authority has just completed a Phase 1 Interconnect Project, a 6.3-mile pipeline directly to the Shell Creek Water Treatment Plant in Punta Gorda, so that water can be pumped between the two plants as needed. In another expansion, new lines are being built, along with

pumping and storage facilities, to transport water into Sarasota and Manatee counties.

A third project is analyzing the feasibility of adding a third storage reservoir and increasing the capacity of the river intake. The project is in line with the authority's updated water use permit, authorizing an increased daily withdrawal from the Peace River.

Richard Anderson, director of operations, compliments his management team for foresight and keeping the big picture in view: "They're very helpful, and their support keeps the Peace River authority ahead of the curve on operations and maintenance."





The Peace River team includes, front row, from left, John Ramsey, operations specialist; and Antonio Amalfitano, drinking water shift lead operator. Back row, Mike Chell, operations manager; Tim Grannell, maintenance specialist; Doug Leath, maintenance manager; and Richard Florit, drinking water operator.

“We’re very proactive on maintenance and in deploying new technology as it becomes available.”

**RICHARD ANDERSON**



Chemist Aswathy Warriar runs water tests in the laboratory.

Automation is another key to success at Peace River, “With each expansion, we have taken the opportunity to increase our level of automation,” says Chell. “Because of the highly automated system, the operations staff can run the entire facility with only two team members per shift. Although the facility has expanded over the years, we have not needed to add operators because we are more efficient today.”

### WEATHERING A STORM

Teamwork was never more important than in September 2022 when Hurricane Ian, one of Florida’s most damaging storms, tore across the center of the state. The Peace River facility was directly in its path. “The storm was super slow,” says Anderson. “The eye-wall was over us for six hours. We suffered several million dollars in damage — lost roofs and fences, water getting into motors.”

Chell recalls, “Miraculously, the treatment plant components experienced relatively minor problems, so we maintained system pressure and continued to treat and pump clean water. Staff stayed on site for days, some for weeks. We banded together and got water out the door. That’s not uncommon for us.

“Our demand actually went up, from about 30 mgd to 45 to 50 mgd, because of broken pipes in our customers’ distribution systems and water running on the ground. It was touch and go for six to eight hours.”

Wind damage was one thing. Delivery of essentials was another. “Our vendors had trouble getting here,” says Chell. “We needed chemicals — no chemicals, no water. And we needed diesel fuel, too.” Some truckers who normally drive an hour or two to get to the plant had to travel 10 to 11 hours out of their way to make their deliveries.

Anderson gives maintenance manager Leath credit for being proactive, getting on the phone and securing diesel deliveries in the first two days after the hurricane. “We’re still suffering from some of the aftereffects,” he says.

### ALWAYS IMPROVING

Things just keep getting better at Peace River, storms or not. Over the

years, the plant has expanded in modules, from the first 12 mgd treatment train to four times that today.

Besides the increases in capacity and service area, the team has kept pace with improvements in technology and equipment. Recent projects include covers over the gravity media filters and improved radio communications.

All the PC interfaces using iFix software (GE Digital) have been upgraded to modern standards. The power feed (Eaton and Allen Bradley (Rockwell Automation) motor control centers) has been hardened. Caterpillar and Cummins diesel generators supply backup power to withstand storms. Large sections of the facility, including the administrative offices, have been rehabilitated.

Says Anderson, “Unit by unit, we’re recoating, replacing filter media, rehabbing or replacing valves. We’re very proactive on maintenance and in deploying new technology as it becomes available.”

Chell adds, “We’re built to run. I call it our water factory.” **tpo**

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# Homing in on Energy

IN A TIME OF PRICE INFLATION FOR FUELS AND ELECTRICITY, UTILITIES CAN FIND AN APPEALING APPROACH TO SAVINGS IN PERFORMANCE CONTRACTING

By Ted J. Rulseh

**I**n recent years inflation has driven up the cost of almost everything. Energy costs have seen some of the most extreme increases.

Since energy is a major expense for drinking water and clean-water utilities, the time is right to look for ways to cut down on consumption of fuels and electricity. Possibilities range from big-ticket projects like investing in biogas-to-energy projects, to retrofitting high-efficiency pumps, blowers, motors and lighting.

Boyd Gregg, P.E., specializes in energy efficiency as a senior business development manager with ENGIE, a company that offers a broad spectrum of energy-related services to utilities and enterprises in multiple other business sectors. That work includes helping organizations develop efficient carbon-free energy solutions.

Among its specialties, ENGIE offers performance contracting, a way for utilities to implement energy-efficiency projects and attain long-term savings guaranteed by contract. Gregg talked about the current energy picture and sound energy strategies for utilities in an interview with *Treatment Plant Operator*.

**tpo:** Where do you see the greatest room for improvement in energy usage for drinking water and clean-water utilities?

**Gregg:** There is room for improvement particularly with older equipment. A great example is older blower technology in wastewater treatment plants compared to newer high-speed turbo blowers. We can also look at different ways to capture energy, such as anaerobic digesters that create biogas that can be used productively. We still see a lot of treatment plants flaring biogas.

**tpo:** What role can technology and instrumentation play in energy saving?

**Gregg:** If you look back 50 years or so, energy was relatively inexpensive. Wastewater treatment plants could afford to over-aerate. They could afford to put in bigger pumps and motors than they needed. On the flip side, automation was just becoming commercialized. Control systems were pretty expensive.

**tpo:** How has the picture changed since then?

**Gregg:** The equation has essentially flipped. Energy has become much more expensive, while controls that can help save energy have become much less expensive. We have technologies that can automate many processes. A great deal of energy can be saved just by modulating blowers or valves to turn down DO levels. That kind of control wasn't available even 30 years ago. Technology continues to advance. It's quite remarkable how far we've come with automation and instrumentation in just the last 10 years.

**tpo:** Would you say the user-friendly nature of instrumentation has been a factor in its adoption?

**Gregg:** Yes. Different probes can be set up, and they can all talk to one another. There are common protocols that enable transfer of information back and forth. That's certainly a huge improvement versus two or three decades ago. The newer HMI displays look almost like an iPhone and are nearly as easy to use.

**tpo:** In general, how would you assess the size of increases in energy prices?

**Gregg:** For long-term planning, we are using a 5% per year escalation in costs for natural gas and electricity. The amount of increase varies with the market. California, for example, will have a much higher price escalation than we would expect in South Carolina where I live. I would expect increases of 2% to 5%, depending on where you are in the country.



Boyd Gregg

**tpo:** If utilities are creating greenhouse gas-reduction and climate action plans, does that make them less concerned about payback time on energy-saving investments?

**Gregg:** In some cases, yes. Again, it depends on where you are, but certainly it's a consideration. It also depends on what value they place on a climate action plan and GHG reduction. In general, we focus on creating projects that will pay for themselves, where the revenue and the savings from the project pay for the debt service and any related increase in operating cost. Certainly, to the extent that they associate a value with greenhouse gas emission reduction, that helps.

**tpo:** Once a utility decides to take action, what is the best way to get started?

**Gregg:** Performance contracting is an excellent approach. In that world, a utility would issue a request for qualification for a performance contract, which usually includes an initial evaluation provided at no upfront cost. That yields a basic evaluation of whether and how soon the project will pay for itself.

**tpo:** How would you describe performance contracting?

**Gregg:** Under a performance contract, a utility works with an energy service company to implement a package of energy improvements that will deliver guaranteed savings. No upfront investment is required. The facility upgrades are paid for with future energy savings. If the energy savings fall short of the amount promised, the energy service company has to make up the difference. If the energy savings turn out to be more than the guarantee, the utility keeps the surplus.

**tpo:** What provides confidence that the project will deliver as promised?

**Gregg:** An investment-grade energy audit is an excellent takeoff point for a performance contract. After the initial evaluation to determine whether a project makes financial sense, the investment-grade audit clearly defines the design, the guaranteed maximum price for construction and the expected energy and operational savings and revenue. It's a full pro forma showing all the cash flows associated with the project. On that basis the utility is in a sound position to decide whether to go forward.

**tpo:** How does the utility finance the capital and other costs of the energy upgrades?

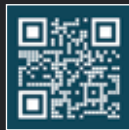
**Gregg:** There are multiple ways they can borrow money. They can opt

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“Right now one of the best opportunities is contained in the federal Inflation Reduction Act. Tax credits of 30% to 50% are available for biogas-to-energy projects.”

BOYD GREGG

for traditional bond financing, or go to a private bank. Right now the bond market is probably the most attractive option in most cases.

**tpo:** Is it possible to finance the projects so that the annual savings are greater than the annual debt service and the utility gets positive cash flow from the start?

**Gregg:** Yes. That is fairly common.

**tpo:** In today's world, what kinds of federal, state or other funding are available to offset the cost of energy improvements?

**Gregg:** Right now one of the best opportunities is contained in the federal Inflation Reduction Act. Tax credits of 30% to 50% are available for biogas-to-energy projects. The actual amount depends on factors such as Buy-American and prevailing wage requirements. Even though public utilities don't pay federal income tax, they are still able to receive equivalent direct payments from the Department of the Treasury.

**tpo:** Is it still common for electric and gas utilities to offer rebates for certain energy-saving projects?

**Gregg:** Yes. Again, it depends on the utility, but usually there are some rebates available. Another thing for utilities to look at is peak demand reduction, for which utilities provide incentives. That's a gift that keeps on giving.

**tpo:** Can greater energy efficiency bring associated benefits such as reduced equipment maintenance and longer service life?

**Gregg:** Typically, yes. If, for example, a pump or blower is operating at

peak efficiency, it is going to last much longer. A pump or blower that is operating off the curve will vibrate and shake and make noise, and all of that is wasted energy. Variable-frequency drives help a lot, and that is another technology that has come way down in price. With VFDs, a pump can be operated much closer to its best efficiency point than if it were just being turned on and off.

**tpo:** What do you observe in terms of utilities pursuing net-zero energy?

**Gregg:** For wastewater utilities, the best opportunity for net-zero, or even for the ability to be a net energy producer, is through anaerobic digestion and co-digestion. Utilities that have excess digester capacity can bring in food-production waste and other high-strength organic wastes. Usually that waste can produce significantly more methane than primary and waste activated sludge. That gas can be cleaned up and converted to renewable natural gas. It can also fuel a combined heat and power system, or a thermal dryer that can turn biosolids into a Class A product.

**tpo:** How good is the opportunity for water and wastewater utilities to add renewables such as solar and wind to their operations?

**Gregg:** Depending on where they are, many utilities have land available for solar energy projects with battery storage. When battery storage can be implemented at cost-effective prices, solar becomes an excellent option because it can be used to offset peak demand. **tpo**

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# Algae Control: Affordable and Effective

A FLEXIBLE COVER PREVENTS GREEN BUILDUP ON CLARIFIER WEIRS AND LAUNDERS, SAVING SIGNIFICANT TIME AND MONEY AND KEEPING THE FACILITY LOOKING CLEAN

By Tim Dobbins

Every kid wants a pet fish in the bedroom — until it's time to scrub off the algae that grows on the tank where sunlight meets the nutrient-rich water.

A 120-foot-diameter clarifier at the Rochester (Minnesota) Water Reclamation Plant had a similar (though much larger) problem of its own, in the launder and weir area of a final clarifier.

Since the facility's construction, the fifth and final clarifier had algae cultivation issues, and not for lack of effort and maintenance. "We were cleaning the weir on a weekly basis, and it took multiple people about half a day or more each time," says Corey Bjornberg, process control engineer.

The battle was constant. "If we let the algae grow, we get long strands that eventually slough off and can potentially clog our sampling equipment," says Bjornberg. "It can even be sampled, resulting in an effluent TSS or total phosphorus level that is artificially high due to a single strand of algae."

There was another reason to keep the clarifier algae-free: the plant hosts numerous public tours, and so sustaining a spotless launder area was critical to keeping the plant showroom ready. "Rochester has always taken pride in a well-maintained and clean facility," Bjornberg says. "This is important not only for our public tours, but also our own staff to have a clean facility they can be proud of."

Fortunately, the plant team found a launder cover that fit the budget while providing effective algae control.

## NEIGHBORLY SOLUTION

It took a trip from Rochester to a trade show in New Orleans for Bjornberg to find Industrial & Environmental Concepts, a company that had just come out with the Flexible Launder Cover. Says Dave Anderson, technical sales representative for IEC, "Corey told us they had algae issues and needed covers. We found out where he was located, and our facility in Lakewood is only about an hour and a half from their plant."

IEC received specifications for the plant's clarifier and entered them into a computer program to digitally design the cover before going on site. Once the design was complete, the IEC team got to work setting the mounting brackets.

Brian Cain, project manager for IEC, handled most of the installation, but since this was the first install and close to home, he had a lot of help. "We had a handful of our experienced fieldworkers there and both owners of the company," Cain says. "I think just about everyone from the company stopped out there at some point to see the install."



ABOVE: The newly installed Flexible Launder Cover system in place (Industrial & Environmental Concepts).

LEFT: The entire clarifier with cover presents a neat, clean appearance.

“During the summer months it would take three to four staff members half a day to clean every week. ... Considering those labor costs, we save over \$10,000 per year.”

**COREY BJORNBERG**

Now for installations, IEC provides an adviser, and customers are required to provide the rest of the workforce, whether their own technicians or contractors. "With an IEC adviser and about three good workers with mechanical skills, we can get most projects done in about two days," Cain says.

Rochester was a good test for the launder cover material, as the plant experiences wind, snow and other adverse weather. "The material is an XR-5 geomembrane from Seaman Corporation," Cain says. "It's designed for exposure to wastewater and to the elements like UV light and cold weather."

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Along with the industrial membrane, the launder covers use stainless steel hardware and reinforced high-density polyethylene to provide a framework and support. They can be made to fit both rectangular and round clarifiers.

Mike Lever, business development, technical sales and marketing specialist for IEC, says those materials are nothing new for the company, which has confidence in their integrity. “Most launder covers are fiberglass or aluminum and are quite effective,” Lever says. “But the XR-5 geomembrane material gives municipalities that may be on more of a budget a comparable and effective solution.”

### ALGAE-FREE

The cover was installed in 2019, and the plant operators did not open or remove it for one year. During that time, they had no issues with algae causing clogging or creating downstream maintenance.

In August 2020, they took a closer look at what was happening underneath. The cover took about four hours to fully remove; they found no algae was growing under it. The only growth they observed was a thin layer of biofilm on the launder floor and walls, which they expected.

After reinstallation, they decided to leave the cover in place for at least two years before removing it to clean again. When they did so in summer of 2022, they observed the same conditions as in 2020. The Flexible Launder Cover reduced cleaning of the clarifier launder and weirs from once per week to once per two years.

“During the summer months it would take three to four staff members half a day to clean every week, so it was labor intensive,” Bjornberg says. “It



The launder and weir area before the cover installation with algae growth typical of conditions before the weekly cleanings.

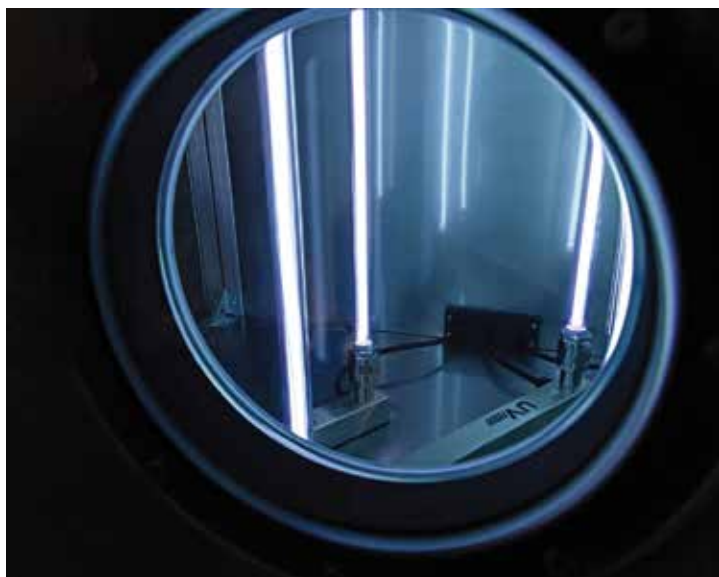


The launder area one year after the cover was installed, showing no algae and only a thin layer of biofilm.

wasn't as bad in winter, but it still took quite a few labor hours to keep it clean. Considering those labor costs, we save over \$10,000 per year.”

Besides saving time and money, the cover keeps out dust, dirt and debris, improving the overall aesthetics of the plant. “It helps maintain the clean look we desire,” says Bjornberg.

After almost four years of experience with the cover, Bjornberg has no qualms with the product. “The cover has held up extremely well to date,” he says. “We have not replaced any components since installation.” **tpo**



1



2

- 1) Nuvonic technologies include UVpro KMD modules installed in supply air ducts to disinfect air entering production facilities.
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# Full-Spectrum UV

A WIDE SELECTION OF UV TECHNOLOGIES FROM FOUR COMPANIES HELPS NUVONIC RECOMMEND THE BEST DISINFECTION SOLUTION FOR CUSTOMERS' APPLICATIONS

By Ted J. Rulseh

UV light is a proven disinfection agent for drinking water and wastewater treatment. A variety of technologies are available. The key challenge is to deploy the one that best meets a facility's disinfection requirements at an affordable cost.

Nuvonic now offers a comprehensive suite of chemical-free disinfection solutions for entire municipal and industrial facilities, covering water, surfaces and air if necessary, through advanced UV technologies. The company, a part of Halma Group, combines the UV technologies of Aquionics, Berson, Hanovia and Orca.

The company says the combined solutions help organizations meet the challenge of managing multiple disinfection providers and scale disinfection as their needs grow. It's a different approach to selecting technology for pathogen elimination.

Ken Kershner, global commercial director with Nuvonic, talked about the offering in an interview with *Treatment Plant Operator*.

**tpo:** What is the market need Nuvonic is looking to meet?

**Kershner:** We saw that there was no global provider offering a full suite of technologies able to cover a full range of UV disinfection applications. Bringing these four companies together under one roof allows us to provide a global technology suite and support network to handle all the disinfection needs of a facility.

**tpo:** Why do facilities need this capability versus choosing UV methods on their own?

“Our platform enables customers to make one phone call to get everything they need, from upfront application science to aftermarket parts and service.”

**KEN KERSHNER**

**Kershner:** A company can call one manufacturer and get a disinfection system for drinking water, another for air, another for surfaces. Then when they need parts or service they would have to call each of those companies. Our platform enables customers to make one phone call to get everything they need, from upfront application science to aftermarket parts and service, no matter where they are in the world.

**tpo:** How does Nuvonic support customers in choosing the most appropriate technology for their applications?

**Kershner:** When an end user or a consultant calls, we're able to give them what we consider to be the best solution. They are able to see our full suite of solutions all at once. Through one organization they're able to see all the UV technologies, platforms and configurations, from which they can select what is the most appropriate to the site-specific needs.

**tpo:** Briefly, what technologies do each of these companies offer?

**Kershner:** Hanovia works mostly in the food and beverage market and



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the industrial sector and offers medium-pressure lamp systems. Berson focuses on municipal drinking water and wastewater and so all the traditional uses for UV, such as helping a reuse plant meet fecal coliform permit levels. They offer medium- and low-pressure high-output amalgam lamps. Orca treats air and surfaces using low-pressure high-output amalgam lamps. Aquionics offers technologies across all these applications.

**tpo:** Under what circumstances would a wastewater or drinking water treatment plant need air or surface disinfection?

**Kershner:** They would not typically need to disinfect surfaces, but for air, UV disinfection is a common need for those facilities, and in fact for municipal buildings of all kinds. These customers want to install UV in their air-handling units to protect customers and employees from airborne pathogens.

**tpo:** What would a UV application for air treatment look like?

**Kershner:** A UV system would be placed right at the central part of an HVAC system, or near the return of every segment of ductwork. The air would flow across the UV lamps, which would inactivate the airborne pathogens before they reach the building occupants. It's all tied into the building control system. It's simple to install in existing HVAC systems and easily adapted to new construction.

**tpo:** Did you see an increase in demand for air disinfection with the COVID pandemic?

**Kershner:** Yes. It started with wastewater and drinking water plants calling because people needed to work there every day during the pandemic. As UV became recognized as a solution, we saw an exponential increase in inquiries for municipal applications that continue today.

**tpo:** What are some factors a water or wastewater facility would need to consider when looking at UV technologies?



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**Kershner:** Footprint is a big one. At an existing plant where someone is trying to add a UV system, medium-pressure technology tends to be a good fit, since it's a more compact system. Another consideration is whether the system is gravity flow, where open-channel is typically used, or pressurized, which normally calls for a closed-vessel medium- or low-pressure systems. Water quality can play a factor. If there is iron or manganese in the water that can cause fouling, systems with chemical wiping tend to be selected.

**tpo:** Is energy consumption a significant consideration?

**Kershner:** Sustainability, and so energy consumption and carbon footprint, is becoming more of an issue. Users want to know how the equipment conforms to sustainability metrics. Different units consume different amounts of energy.

**tpo:** How do you walk prospective customers through the process of selecting the technology that is best for them?

**Kershner:** We want the customer to tell us what kinds of problems they are experiencing. For example, are they trying to eliminate some kind of biofouling? Or they might not have a problem and they just need to meet a permit. Once we establish why they are calling, we try to understand the upstream and downstream processes. While UV does a certain thing, it has to interact with everything else in the plant. We work with clients to understand how their plant works. Is it a sequencing batch reactor that has a lot of on-off cycles? What else could affect the UV system? Once we know all that, we can make recommendations on which products will be the best fit for them. **tpo**



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# Conveyance and Distribution Systems

By Craig Mandli

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## Motor and Pump Controls

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Pulsafeeder's XAE Stroke Length Controller provides fast and accurate response when there are changes to chemical dosing demands of diaphragm metering pumps. With microprocessor-based digital logic and a brushless stepper motor, pump chemical delivery response is nearly instantaneous. Onboard push-button self-calibration means that startup and commissioning is finished in a matter of minutes. It is fault-tolerant and self-correcting after power loss or system fault, with settings automatically maintained and monitored even without power. A full array of dry contacts and 4-20mA inputs/outputs allows it to communicate and integrate seamlessly with system controls to monitor pump ready-to-run or fault conditions status and shut down in the event of system alarm or diaphragm failure. Fast operation and service means operators can spend less time troubleshooting pumps and more time monitoring system efficiency and know the status of key aspects of pump performance and health easily and remotely. **585-292-8000; www.pulsafeeder.com**



XAE Stroke Length Controller from Pulsafeeder

## Pipe/Parts/Components

### ASAHI/AMERICA HDPE DISTRIBUTION HEADERS



HDPE distribution headers from Asahi/America

Asahi/America offers HDPE manifolds that can be prefabricated to maximize quality control, system accuracy and speed-of-installation. From water distribution to chemical dosing, custom HDPE manifolds have been installed as an alternative to stainless steel or PVC, given the robust material benefits HDPE can provide. HDPE material costs, including pipe and molded fittings, are less expensive than stainless steel, lightweight and corrosion resistant.

HDPE is thermally fused providing leak-free joints that are as strong or stronger than the pipe itself. In addition, HDPE is NSF-61 certified, making it safe for potable drinking water applications and resistant to microbial contamination. HDPE offers similar or better chemical compatibility to stainless steel or PVC. Ideal applications include water filtration, water distribution, wastewater treatment, waste treatment, potable water, and chemical dosing. Asahi/America offers main pipe sizes 4 to 12 inches and outlets 1 to 4 inches IPS. Custom sizing is also available. **800-343-3618; www.asahi-america.com**

## Pumps

### ASHLAND PUMP EFFLUENT PUMPS

Heavy-duty effluent pumps from Ashland Pump are available in multiple horsepower sizes for various performance requirements, and feature efficient permanent split capacitor motors. The oil filled pumps have an upper and lower ball bearing design and handle solids up to 3/4-inch. They are made of heavy-duty cast iron, with cast iron impellers and equipped with a piggyback switch (20-foot standard cord) or in manual



Effluent pumps from Ashland Pump



configurations. They are offered in 3/10, 4/10, 1/2, 3/4, 1 and 1 1/2 HP models. Ashland Pump is located in Ashland, Ohio and manufactures a complete line of pump products for the residential wholesale market. **855-281-6830; [www.ashlandpump.com](http://www.ashlandpump.com)**

### BLUE-WHITE INDUSTRIES FLEXFLO M4

The low-shearing pumping action of FLEXFLO M4 peristaltic dosing pump from Blue-White Industries allows it to gently and precisely pump chemicals that off-gas, including peracetic acid and sodium hypochlorite, with no vapor lock and no lost prime. Advanced features include a highly responsive and intuitive 5-inch display, firmware that can be field updated, and easy-to-attach M12 watertight connectors. **714-893-8529; [www.blue-white.com](http://www.blue-white.com)**



**FLEXFLO M4 pump from Blue-White Industries**

### BOERGER BLUELINE ROTARY LOBE PUMPS

Boerger BLUEline rotary lobe pumps are a self-priming, valveless, positive displacement pump used for conveying viscous and abrasive materials. They are resistant to wear and provide pulsation-free operation. Operation is fully reversible, with dry run capability and flow rates up to 7,000 gpm. They are constructed with maintenance-in-place design, allowing for all wetted parts to be easily replaced through the front cover without removing pipe or drive systems. The pump conveys biosolids (primary, waste activated sludge, return activated sludge, digested, thickened, etc.), grease, sewage, scum, lime slurry, alum sludge, permeate and polymers. **612-435-7300; [www.boerger.com](http://www.boerger.com)**



**BLUEline rotary lobe pumps from Boerger**

### CRANE PUMPS & SYSTEMS BARNES RAZOR

The 2 hp Barnes RAZOR grinder pump from Crane Pumps & Systems is suitable for light commercial and residential solids-handling applications. It is designed with axial cutting technology to reduce solids like flushable wipes, diapers and other nonbiodegradable items. Maintenance is convenient with only a single tool needed for disassembly. The plug-and-play cord also provides easy servicing without requiring removal of epoxy in the conduit. Its 1.25-inch discharge is suitable for preconfigured packaged systems and turnkey solutions. It is available in the Barnes EcoTRAN Pressure Sewer System for grinding in tough terrain. It provides a practical and environmentally safe alternative to traditional gravity systems. Numerous configuration options are available. **937-778-8947; [www.cranepumps.com](http://www.cranepumps.com)**



**Barnes RAZOR grinder pump from Crane Pumps & Systems**

### GORMAN-RUPP SUPER T SERIES

Super T Series self-priming centrifugal trash pumps from Gorman-Rupp are available with Eradicator Plus solids-reduction technology for 3-, 4- and 6-inch sizes. The product was designed for extreme-duty applications in municipal, industrial and agricultural markets. For liquids containing trash bags, wipes, mop heads, hair, industrial byproducts and agricultural wastes, it cuts and tears organic solids entering the pump. Pumps include an easily removable lightweight inspection cover, a back cover plate incorporating an obstruction-free flow path, a heavy-duty hard iron continuous vane impeller with



**Super T Series pumps from Gorman-Rupp**

thick back shroud to prevent debris buildup, an extra-thick hard iron wear plate with notches, grooves and oversized lacerating teeth to cut and shred organic solids, and an upgraded stainless steel, load-bearing shaft. Complete units are available in cast iron construction. Upgrade kits are available for pumps currently in use. **419-755-1011; [www.grpumps.com](http://www.grpumps.com)**

### GRACO QUANTM

As energy costs continue to rise, Graco's QUANTM electric double diaphragm pump offers a solution that can help manufacturers save up to 80% on energy costs while maintaining optimal performance. The pump eliminates the need for compressed air, and with no gearbox it offers a quieter, more cost-effective and energy-efficient option in the same compact size of pneumatic pumps. It is designed to be easy to operate and maintain; with built-in controls for flow and pressure at the pump and the same fluid contact components as an AODD. It offers all the same benefits of air-operated pumps; including self-priming, stalling and a seal-less design with smooth, steady flow. **866-348-3188; [www.graco.com](http://www.graco.com)**



**QUANTM pump from Graco**

### INDUSTRIAL FLOW SOLUTIONS OVERWATCH



**OverWatch pump system from Industrial Flow Solutions**

Industrial Flow Solutions' OverWatch pump system lifts influent at the point of entry, eliminating the wet well. Effluent is contained, eliminating odors and reducing maintenance. The stainless steel body is designed to withstand the effects of corrosion from harsh materials and solutions, making OverWatch an ideal solution for the municipal, industrial and commercial industries. In addition, the system has HMI touchscreen controls to further simplify operations. **860-631-3618; [www.flowsolutions.com](http://www.flowsolutions.com)**

### JAECO FLUID SYSTEMS FRAM PUMPS

FRAM pumps from JAECO Fluid Systems are hydraulically actuated and designed for accurate, completely leakproof metering of difficult-to-handle liquids. The durable cast iron pumps are available in simplex or duplex with capacities ranging from 0.86 to 56 gph at operating pressures up to 1,200 psi. Liquid end options include 316 stainless steel, PVC or Alloy 20 and include single- or double-ball or poppet spring-loaded check valves. The pumps are customized to each customer's specific needs and are designed for continuous use with minimal downtime. **877-778-3456; [www.jaecofs.com](http://www.jaecofs.com)**



**FRAM pumps from JAECO Fluid Systems**

### PIONEER PUMP DIESEL-DRIVEN PUMP PACKAGES

Pioneer Pump, a brand of Franklin Electric, offers a comprehensive range of diesel-driven pump packages including options for fixed and portable installations. These packages are built for tough environments and are available with vacuum-assisted priming, self-priming and standard centrifugal pump ends. Available in sizes up to 18 inches, the centrifugal pumps are designed to provide better flow, higher head and greater efficiency to meet unique challenges. Sound-attenuated enclosures are available for select models. Enclo-

sures are manufactured from heavy-duty sound-deadening material to meet industry standards for noise reduction. All enclosures offer lockable door panels that can be removed in minutes without tools for easy and direct access to the pump. 503-266-4115; [www.pioneerpump.com](http://www.pioneerpump.com)



**Diesel-driven pump packages from Pioneer Pump**

### POLYLOK PL-CPE4A

The Polylok PL-CPE4A is a submersible, 4/10 hp, 115-volt, single-phase effluent pump with a 2-inch NPT vertical discharge.



**Polylok PL-CPE4A effluent pump**

It has a maximum head of 38 feet and a maximum flow of 56 gpm. The pump is designed with a 3,450 rpm oil-filled permanent split-capacitor motor and has an amp rating of 6.6 for 115 volts, a rugged cast iron housing and volute equipped with a cast iron vortex impeller capable of passing 3/4-inch-diameter solids. The stainless steel shaft is supported by two single-row, oil-lubricated ball bearings. The shaft seal is an inboard design with a secondary Exclusion V seal. It has a 20-foot UL/CSA-listed power cable suitable for submersible service and fitted with a three-prong plug. The unit is supplied with an integrated clip for the included piggyback mechanical float switch and used for automatic operation. 888-765-9565; [www.polylok.com](http://www.polylok.com)

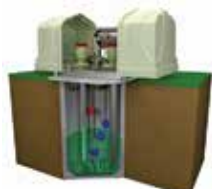
The shaft seal is an inboard design with a secondary Exclusion V seal. It has a 20-foot UL/CSA-listed power cable suitable for submersible service and fitted with a three-prong plug. The unit is supplied with an integrated clip for the included piggyback mechanical float switch and used for automatic operation. 888-765-9565; [www.polylok.com](http://www.polylok.com)

### SANIFLO SANICUBIC 2 VX

The Sanicubic 2 VX lift station from Saniflo provides above-floor drainage for multiple plumbing fixtures for a commercial structure, eliminating the need for costlier and less convenient pit installations. It is an ideal solution for projects where conventional, below-floor drainage is impossible or too costly to install. Equipped with two 1.5 hp motors, the lift station is capable of discharging effluent through either 2- or 4-inch rigid pipe and offers a shut-off head of 43 feet. It employs an internal air pressure switch for automatically cycling the unit on and off. The unit also comes equipped with a wired control panel, as well as an external audible and visual LED indicator alarm in the event that a pump experiences overload or ceases to operate. Featuring easily removable circular panels on top, the IP68 enclosure permits ready access to every major component inside. 800-363-5874; [www.saniflo.com](http://www.saniflo.com)



**Sanicubic 2 VX lift station from Saniflo**



**EVERLAST Pump Stations from Smith & Loveless**

### SMITH & LOVELESS EVERLAST PUMP STATIONS

Smith & Loveless EVERLAST Pump Stations offer higher ease of operation and maintenance, higher level of operator safety, longer lasting service life, pump technology that eliminates clogging from flushables and lower life cycle costs than conventional pump stations. All pumping, mechanical and electrical components

are above the wet well with immediate access at ground level. This means that the STAR ONE Non-Clog Pumps reside at ground level out of the sewage and always dry. Likewise, all the valves, piping and controls reside also above the wet well, meaning that inspection of the entire pump station can be accomplished in seconds by simply opening the hooded enclosure. 800-898-9122; [www.smithandloveless.com](http://www.smithandloveless.com)

### THOMPSON PUMP AND MANUFACTURING 4JSC

Thompson Pump and Manufacturing's 4JSC series pumps provide a method for backing up wastewater lift stations. These high-efficiency, solids-handling bypass pumps are customized to provide automatic bypass pumping during any emergency event. They can be permanently installed at municipal lift stations, in lieu of a diesel generator, to provide 100% redundancy to the primary, electric-powered pumps. With a wide range of flow and pressure capabilities, it can be a solution for lift stations that experience inflow and infiltration or need maintenance. These pumps incorporate the Enviroprime System, allowing them to prime automatically from a dry state and do so by evacuating only air from the suction piping. This priming system prevents any wastewater from exiting the pump while operating. In addition, it will operate intermittently, allowing the pump to start only when needed, resulting in lower fuel consumption, less onsite fuel storage required, and reduced operating costs. 800-767-7310; [www.thompsonpump.com](http://www.thompsonpump.com)



**4JSC series pumps from Thompson Pump and Manufacturing**

### VAUGHAN CHOPPER PUMP

Self-priming Chopper Pumps from Vaughan are designed to be easily accessed outside of the wet well while pumping waste solids at heavy consistencies, without plugging or dewatering of the solids. They eliminate the loss in production and mess, along with making it easy to service the pump to get it back in operation. 888-249-2467; [www.chopperpumps.com](http://www.chopperpumps.com)

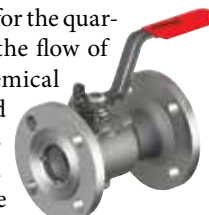


**Chopper Pumps from Vaughan**

## Valves

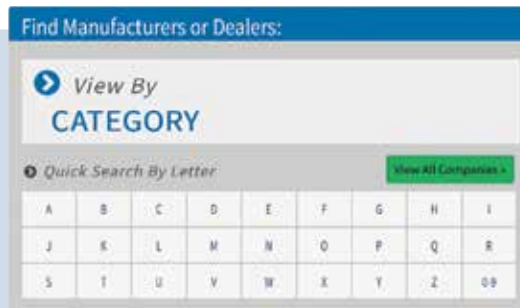
### FLOWSERVE WORCESTER 51/52 SERIES

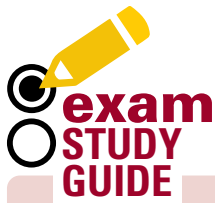
Flowserve's Worcester 51/52 Series reduced-port flanged ball valves have been reengineered by standardizing design, materials, construction and product certifications. Target applications for the quarter-turn, floating ball valves include controlling the flow of liquids or gasses in the following industries: chemical processing, petrochemicals, energy, defense, food and beverage, industrial gasses, pharmaceuticals and water. The bubble-tight shut-off design and robust, live-loading packing in the valves minimize fugitive emissions, enhance safety and maximize regulatory and standards compliance. Featuring a redesigned end plug, the valves ensure positive retention and greatly reduce blowout risk. 972-443-6500; [www.flowserve.com](http://www.flowserve.com) tpo



**Worcester 51/52 Series Ball valves from Flowserve**

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## WASTEWATER

By Rick Lallish

**Oxidation-reduction probes read changes in potential when dissolved oxygen is present and not present. ORP readings of -200 mV typically indicate what condition?**

- A. Anoxic conditions
- B. Aerobic conditions
- C. Anaerobic conditions
- D. Fouled probe tip/sensor

**ANSWER:** C. Oxidation-reduction probes are very useful in reading conditions of aerobic, anaerobic and anoxic processes. ORPs are vital for proper operation of many biological nutrient removal processes. They can indicate nitrification or denitrification conditions. Nitrification readings are typically in the +150 to +350 mV range, and denitrification usually -50 to +50 mV. Anaerobic conditions vital for biological phosphate removal or anaerobic digestion readings are typically -200 to -400 mV. More information may be found in the WEF textbook: *Wastewater Treatment Fundamentals I: Liquid Treatment*, Chapter 9.

## DRINKING WATER

By Drew Hoelscher

**What contaminants does the UCMR 5 focus on, and when is the sampling period?**

- A. Nanomaterials, 2023-25
- B. PFAS and lithium, 2023-25
- C. *Legionella* bacteria, 2024-25
- D. Nitrosamines, 2025-26

**ANSWER:** B. The SDWA requires the EPA to issue a UCMR every five years. This allows the EPA to collect data on certain contaminants throughout the nation. UCMR 5 was published on Dec. 27, 2021, and lists 29 PFAS and lithium as the contaminants to monitor. Every public water system serving more than 3,300 people, and some small systems serving fewer people, will collect samples between 2023 and 2025. The EPA will release all of the UCMR 5 data in 2026.

### ABOUT THE AUTHORS

*Rick Lallish is water pollution control program director and Drew Hoelscher is program director of drinking water operations at the Environmental Resources Training Center of Southern Illinois University Edwardsville. tpo*

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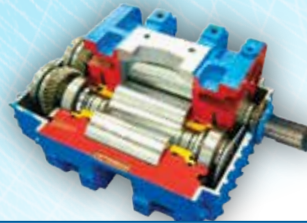


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## Industrial dairy turns to chopper pump system to recirculate foul air

### Problem

Hollandia Dairy, one of California's oldest independent dairies had a buildup of odorous septic sludge in a 35,000-gallon bolted steel equalization tank. Several times, the tank had to be drained, a time-consuming process. The side-entry mixer could not mix the tank sufficiently.

### Solution

A **Landia AirJet** including the chopper pump was installed to recirculate the foul air from the top of the tank down through the wastewater, scrubbing out the sulfur to eliminate odor issues. The AirJet is a compact, self-priming propeller aerator. The air, and thus oxygen, is automatically sucked down through a hose; a rotating propeller releases it as bubbles. It combines mixing and aeration to keep effluent fresh, providing additional aeration at peak loads.



#### RESULT:

There are no more foul odors. The operators do not have to add chemicals to the tank, and there is also no need for energy-intensive blowers. With reduced pH, the tank contents no longer go septic. 919-466-0603; [www.landiainc.com](http://www.landiainc.com)

## Chopper pumps specified to solve clogging issue at casino

### Problem

When the wastewater treatment plant for a casino resort started having escalating clogging issues with their influent pumps, they reached out to PumpMan SoCal for a solution.

### Solution

A pair of **Barnes Sithe chopper pumps** with Envie3 premium efficient IE3 submersible dry pit motors were selected. The heat-treated 440C stainless steel slicing blade and striker plate reduce solid size and pass even the toughest solids in the waste stream. The submersible dry pit motor with closed loop glycol cooling system allows pumping levels to be lowered since the motor no longer needs to be submerged for cooling. This minimizes scum and debris matting at the surface and even simplifies tank cleaning operations. The large stainless steel lifting handle eases pump removal and eliminates the risk of the pump falling from handle failure. A single plug-and-play cord simplifies wiring and eliminates small sensor cables. The slotted horizontal discharge easily adapts to ANSI and ISO/Metric quick removal systems. The striker plate clearance is adjustable with simple shims, allowing periodic adjustment to extend the life of the cutting components and clog-free operation. All seals, O-rings and bearings are standard, which simplifies sourcing and keeps parts costs down.



#### RESULT:

The pumps solved the clogging issues and continue to perform as advertised. 201-214-2259; [www.pumpman.com](http://www.pumpman.com)

## Raw water pumping station increases drinking water production

### Problem

The National Aqueducts and Sewerage Institute in Panama decided to build a new raw water pumping station to increase production at the drinking water treatment plant that serves about 60,000 people.

### Solution

Reliability was important. The new pumping station extracts water from the Changuinola River and filters out the high sediment content. The water is then pumped to the treatment plant about 1.25 miles away. The project included large **PRIMEX** panels that control four 350 hp water pumps and seven 5 hp sand pumps. PRIMEX also provided variable-frequency drives with line reactors, a 1,600 amp main switch, a PRIMEX pump controller and extensive remote monitoring via Pump Watch system.



#### RESULT:

The new pumping station increased production, ensuring a reliable supply of sediment-free drinking water. 888-342-5753; [www.primexcontrols.com](http://www.primexcontrols.com) tpo

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CHIEF OPERATOR  
Salt Creek Sanitary District Wastewater  
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 figuring out what’s wrong and  
 coming up with creative solutions.  
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 and I never knew it existed when I  
 graduated from college. It makes me  
 happy to see how we are protecting  
 our community in a tangible way.”

Christen Wood  
 Operations Administrator  
 Upper Tuscarawas Wastewater Treatment Plant, Akron, Ohio



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**WEBINAR**

**DISINFECTION BYPRODUCTS:  
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**July 19 at 10:00 AM CDT**

Contact [ann.richmond@colepublishing.com](mailto:ann.richmond@colepublishing.com) with any questions

**DESCRIPTION**

Learn about the definition, formation, and mitigation of Disinfection Byproducts (DBPs). In this webinar, Eric Dibble with HF scientific will explain the chemistry behind DBP formation in drinking water systems. He will also cover different methods of mitigating DBPs in your system including filtration methods and alternative treatment methods.

**PRESENTER:**

**Eric Dibble**

Biomedical Engineer, Subject Matter Expert  
 HF scientific, a WATTS brand



**Eric Dibble** is a Biomedical Engineer with experience in both the sales and operational sides of water treatment. A graduate of Miami University (OH), Eric has worked with FCA, Alpha Refrigeration, WestRock and now HF scientific. Eric is based out of northwest Florida and is passionate about helping people solve their water treatment problems.



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### Patterson Manufacturing davit cranes give operations a lift

Designed from the ground up for ease of use, durability and reliability, Patterson Manufacturing's davit cranes incorporate the highest quality components and finishes. The low maintenance, easy-to-assemble design is portable so you can service multiple locations with a single piece of equipment, minimizing upfront investment. Additionally, the crane is designed with adequate reach to accommodate lifting large loads within tight spaces, and a boom that can be adjusted to nearly 45 degrees to allow for clearance over obstructions such as handrails. It also comes standard with a hot-dipped galvanized finish, stainless steel hardware and steel sheaves, making it ideal for wet work environments. Patterson davit cranes are made in the U.S. and are available in ½- and 1-ton capacities. Help improve employee safety and positively impact your bottom line.

800-322-2018;

[www.pattersonmfg.com/davit-cranes](http://www.pattersonmfg.com/davit-cranes)



### HEMCO Polypro trace metal fume hoods

HEMCO's UniFlow Polypro trace metal fume hoods are specifically designed for applications where for accurate testing results, it is imperative that the fume hood be constructed of nonmetallic materials. Trace metal fume hoods are ideal for water treatment, marine and soil sciences, environmental toxic analysis and toxicology. The fume chamber and integral work surface are a

## product spotlight wastewater

### Mass spectrometer offers accuracy in tight footprint

By Craig Mandli

Laboratory drinking water and wastewater analysis demands an accurate solution like mass spectrometry to help environmental testing labs monitor the water that flows through our taps for safety and compliance with regulatory standards. **Shimadzu Scientific Instruments** recently introduced the **LCMS-2050 liquid chromatograph quadrupole mass spectrometer** that features a significantly reduced size, while providing high-speed and high-sensitivity analysis. Designed for effortless operation, the LCMS-2050 combines ease of use as an LC detector with other ideal capabilities.

The LCMS-2050 is designed with technology that enables superior detection in a short period of time. The ionization source combines heated electrospray and atmospheric pressure chemical ionization. This combined dual ion source can analyze a wide range of compounds from multiple chemical classes. Ultrafast technology, including a 15,000 u/sec scan speed and polarity switching time of 10 msec, maintains high data quality while improving overall throughput.

The mass detector can be incorporated as one component in an LC system. It can be integrated with Shimadzu's Nexera series, i-Series and other existing (U)HPLC systems, as well as with the Nexera Prep fractionation system. The system can be used like an LC that operators simply turn on and use, enabling everything from MS data acquisition to data analysis. The vacuum system starts up in only six minutes for MS data acquisition. The LCMS-2050



LCMS-2050 from Shimadzu Scientific Instruments

provides easy access to users because analysis can be performed with only simple parameter settings similar to a PDA detector.

Additional features lead to streamlined operations and greater uptime. The System Check function injects a standard sample automatically and checks the mass accuracy, resolution, spectral intensity and instrument status. It also automatically performs calibration, which users can schedule outside of working hours. Furthermore, easy system maintenance maximizes instrument uptime.

The LCMS-2050 is approximately the same size as a standard LC component, so it can be added without needing additional space. Because of its small size, it achieves a 43% energy savings compared to the previous model, according to Shimadzu. The Ecology Mode function checks the usage of the system and automatically shuts it down if it has not been used for a set time.

The LabSolutions LCMS workstation for the LCMS-2050 can control the LC and MS instruments simultaneously. MS data and data obtained from other LC detectors can be analyzed on the same data review platform. 800-477-1227; [www.ssi.shimadzu.com](http://www.ssi.shimadzu.com)

welded one-piece seamless white polypropylene. The baffle is also fabricated of white polypropylene and the exterior is constructed of chemical- and flame-resistant white composite resin. The hood is equipped with front horizontal sliding sashes that are either tempered glass or polycarbonate with four sash panels on two tracks, vapor-proof lighting, switches and exhaust collar. A wide selection of accessories and services are offered including polypropylene cabinets to maintain the nonmetallic requirement. The fume hoods are offered in 48-, 60-, 72- and 96-inch wide models in either 30- or 36-inch depths.

816-796-2900;

[www.polyprofumehoods.com](http://www.polyprofumehoods.com)



### Emerson Rosemount 319 flushing rings

Emerson's Rosemount 319 flushing rings have a valve-integrated design, ensuring accurate differential pressure measurement and lower maintenance suitable for a wide range of differential pressure applications. Available in traditional and compact options, the new flushing rings provide a process-to-seal connection and allow for faster diaphragm seal maintenance without

disconnecting them from process flanges. Both versions of the flushing rings come preassembled including the flushing ring, matching valves and connections, allowing technicians to commission devices faster by eliminating the need to procure and assemble components onsite. When installed, diaphragm seal maintenance is significantly faster without compromising safety while reducing stocked inventory and management of multiple vendor parts. 800-972-2726; [www.emerson.com](http://www.emerson.com)

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**Watson-Marlow Qdos 60 PU pump**

The Qdos 60 PU pump from Watson-Marlow offers precise and repeatable flows for many hard-to-handle fluids, including viscous flows and aliphatic hydrocarbons, at linear flow rates of up to 15.85 gph and pressures of up to 72.5 psi. The pump provides excellent compatibility for complex polymers such as polyacrylamide and other flocculants and coagulants used in wastewater treatment. The Qdos 60 PU is optimized for low-shear, gentle pumping to protect polymer chains and maintain product integrity. As with the Qdos 20 PU, it uses an aliphatic hydrocarbon-resistant tubing material, enhancing chemical compatibility in peristaltic pumps. The easy-to-replace ReNu pumphead offers repeatable, accurate flow rates, and lasts longer for tough applications in the field.

800-282-8823;  
www.wmfts.com/en-us



**OZ Lifting XR Series davit cranes**

OZ Lifting Products has launched its XR Series of davit cranes for wastewater and water operators. The Winona, Minnesota-based manufacturer has released the model in 500- and 1,000-pound capacities, but the long reach of the range is a standout benefit for operators. Where other davit cranes typically have reduced capacity when it is in the longest reaching position, this series maintains its maximum capacity rating in all configurations. This means wastewater and water professionals can lift more weight, further out, which presents many benefits for numerous lifting and material handling applications. The smaller crane weighs only 57 pounds and the larger crane weighs 95 pounds. Both have a maximum 62-inch reach and maximum hook height of 87 inches.

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product spotlight *water*

**Valve indication unit raises the bar on process control**

By Craig Mandli

With the processes that treat water and wastewater becoming increasingly automated, accurate control of valves is an important component. The **Alfa Laval ThinkTop V20 hygienic valve indication unit** pushes the boundaries of valve position indication to the Industry 4.0 era.

The ThinkTop V20 is designed to drive digital transformation within the process industries, as moving valve position monitoring into the popular Industry 4.0 era delivers competitive advantage. According to Ebbe Bundesen, Portfolio Manager, Valves and Automation for Alfa Laval, automation, digitalization and real-time communication allows the ThinkTop V20 to raise the process control bar, making it more reliable and accurate while saving time and money on installation, commissioning, operation and maintenance.

“The intuitive ThinkTop V20 is a faster, more intelligent valve indication unit than what is available today,” says Bundesen. “It brings reliable process control to a higher level with fast, accurate, intuitive live setup, the convenience of real-time valve position monitoring, and access to real-time and historical data from the control room.”

The ThinkTop V20 is maintenance-free and does not require manual adjustment or programming. It enables 360-degree LED visual status indication from all directions. It also provides convenient control-room monitoring of the real-time status of Alfa Laval hygienic valves. Pur-

pose-designed to digitize essential on-off valve monitoring, the sensing unit provides a pragmatic approach to enhancing the reliability of valve status and position.

A few seconds is all it takes to commission the ThinkTop V20 by simply installing, activating and deactivating the unit. Live setup is fast and intuitive. Sensors automatically recognize the valve type and size, calibrate and record valve opening and closing distances, and complete setup without requiring manual interaction. Moreover, replacing or hot swapping the valve top is easy without disrupting production. No expertise, training, adapters or special tools are required. Anyone can correctly install a new ThinkTop V20 or replace an older valve indication unit while safeguarding hygiene, productivity, and uptime while saving time and money. Its compact, robust design makes it suitable for tight installations. Manufacturers select the communication protocol — digital, AS-Interface or IO-Link — that best suits their processing needs.

“Overall, it is an invaluable time- and money-saver considering the efficiency demand facilities are facing,” says Bundesen.  
866-253-2528; www.alfalaval.com



ThinkTop V20 from Alfa Laval

### PWTech welcomes Vincent Rada to leadership team

Process Wastewater Technologies welcomed Vincent Rada as sales manager for the western U.S. and Canada. Rada brings more than six years of water industry experience and will provide support for municipal and industrial treatment facilities across the region. Rada, who holds a bachelor's degree in mechanical engineering from the University of Missouri, will be largely focused on the Volute product line in his territory, introducing its capabilities to new utilities and supporting existing clients.



Vincent Rada

### Ecoremedy hires new field team members

Ecoremedy announced the addition of two members to its wastewater treatment plant commissioning team. Robert Thigpen is a field engineer on the commissioning team that oversees new customer operations and training for Ecoremedy Fluid Lift Gasification wastewater treatment plant projects. And Chad Knoll is a field operator on the commissioning team that provides operations expertise and training to new customers at wastewater treatment plant projects where Ecoremedy Fluid Lift Gasification technology is installed.



Robert Thigpen



Chad Knoll

### In-Situ rebrands with new tagline

In-Situ has been rebranded to reflect the company's current status as a leader in both environmental and process water monitoring solutions. The company's new tagline, "water simplified," speaks to its groundwater, surface water, coastal, drinking water and wastewater audiences and captures the essence of the In-Situ brand: to simplify and improve water monitoring to help protect the world's water resources.

### Victaulic promotes Gary Moore

Victaulic has promoted Gary Moore to executive vice president and chief revenue officer. Moore began his Victaulic career 35 years ago in sales for Canada and progressed to the role of president of Victaulic Co. of Canada, Limited. Later he joined the executive team at Victaulic's U.S. corporate headquarters and served as the executive vice president responsible for building and driving the global sales team.



Gary Moore

### Franklin Electric launches new employee resource group

Franklin Electric formed a new employee resource group dedicated to providing an avenue for women to grow both professionally and personally through education, networking and advocacy. Known as Franklin Women's Network, the group's goal, according to a release, is to "build a welcoming, inclusive community, provide professional alliances, equip Franklin women with relevant development tools and resources, and guide Franklin women to identify and achieve career milestones."

### Pierre plant wins engineering project of the year

Pierre, South Dakota's new drinking water treatment plant was awarded the Central South Dakota Engineering Project of the Year, presented by the South Dakota Engineering Society. The facility's design was led by JLG Architects and the engineering consultant AE2S. The project is now the largest in Pierre city government's history, a \$37.5 million investment approved by the public to improve the City's drinking water and combat the water's high mineral content.

### Centrisys/CNP awarded Houston plant upgrade project

Centrisys/CNP was awarded the project to upgrade equipment for the City of Houston, Texas' largest wastewater treatment facility, the 69th Street wastewater treatment plant. The upgrade will include 14 CS21-4HC 2ph decanter centrifuges with two spares. The new equipment will replace aging dewatering and solids handling equipment and will support the facility's management of up to 200 million gpd and daily average flow of 400 mgd 2-hour peak flow. Centrisys/CNP's manufacturing representative, Global WET based in Austin, Texas, assisted with the project in the technology planning.

### Asahi/America introduces new team manager

Asahi/America has added Robert Cloutier as valve and actuation team manager. He will be responsible for developing and managing the company's portfolio of manual and actuated valves, and accessory offerings in alignment with evolving market, industry and related regulations. He will be working closely with the sales team to support customers' industrial valve applications. Cloutier holds a bachelor's degree in business management from Plymouth State University. He is also a certified Massachusetts Class II physical/chemical industrial waste operator.



Robert Cloutier

### Xylem appoints Earl Ellis to Board of Directors

Xylem has appointed Earl Ellis to the company's board of directors. Ellis currently serves as executive vice president and chief financial officer of ABM Industries. Ellis brings 25 years' experience and he most recently spent four years at Best Buy, initially as CFO of Best Buy Canada and later as senior vice president of finance in the U.S., overseeing all revenue-generating channels.



Earl Ellis

### Cemen Tech signs C.N. Wood as authorized dealer

Cemen Tech announces a signed agreement with C.N. Wood as the exclusive dealer for Cemen Tech volumetric concrete mixers in Massachusetts, Connecticut, Rhode Island, New York and Maine. C.N. Wood, with almost 60 years' experience and nine locations, has expanded its services by offering volumetric concrete mixers for contractors in New England to broaden their capabilities and have more control over projects.

### Hamid Sarshar named president of TESCO Controls

TESCO Controls, a United Flow Technologies company, has named Hamid Sarshar as president of the organization. Sarshar will lead the 50-year-old company into the next strategic phase of growth and innovation within the UFT platform. Hamid Sarshar joined UFT in October 2022 as executive vice president of operations focused on operational optimization efforts at TESCO.



Hamid Sarshar

### Aqua-Aerobic Systems promotes Tatiana Mazzei

Aqua-Aerobic Systems promoted Tatiana Mazzei to the position of regional manager – Latin America. She began her career at Aqua-Aerobic as an application engineer in 2013, was promoted to project application engineer in 2015, and in November of 2022 Mazzei was promoted to senior project application engineer. In her new position as regional manager, Mazzei will be responsible for developing business in Latin America.



Tatiana Mazzei



## Axius Water acquires Napier-Reed

Axius Water has acquired Napier-Reid, a supplier of custom-engineered water and wastewater treatment systems located in Ontario, Canada. Axius Water is a portfolio of businesses focused on improving the effectiveness of wastewater treatment in industrial and municipal applications. Frank Li will continue to hold the role of vice president and general manager at Napier-Reid and will be responsible for the day-to-day operations.

## Stantec expands growth and innovation team

Stantec has welcomed Peter Bokor to the company's growth and innovation office as a senior vice president. Based in the firm's Irvine, California, office, Bokor will support the development and execution of strategic plans and help oversee key accounts and corporate growth campaigns. With over 30 years' experience, he will also help develop and deploy strategic growth initiatives across the Stantec enterprise.

## Hydraulic Institute appoints new board of directors

The Hydraulic Institute installed new leadership during its 2023 annual conference in Tucson, Arizona. Brian Sweeney, president, Crane Pumps and Systems, transitioned from board president into the chairman role. Scott King, president and CEO, The Gorman-Rupp Company, was appointed as the board president. John Donatiello, senior vice president strategy and business development, Hydro, assumed the role of treasurer and Charles Pope, president and general manager, Patterson Pump, transitioned into the role of secretary. Each officer serves a one-year term that ends in Feb. 2024.

In addition to the officers, four new members joined the HI board. David Flinton, senior vice president, chief innovation, technology and product management officer, Xylem; Troy Pickering, CEO, Simflo and Albert Pouria, CEO, Sun Star Electric began three-year terms which will end in 2026. Mike Mancuso, vice president of marketing and technology, Flowserve Corp., began a two-year term, which will end in 2025. **tpo**



**Melissa Kahoun**  
Aqua Illinois Area Manager  
Kankakee and Will Counties  
Joseph Donovan Regional Water Treatment Plant, Kankakee, Ill.

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## people/awards

**John Rellick** retired as superintendent of the Indiana Borough (Pennsylvania) Wastewater Treatment Plant after 34 years of service. He started his career as an operator at the plant.

The **Tomahawk Creek Wastewater Treatment Facility** project in Johnson County, Kansas, was named a 2023 Capstone Award winner by the *Kansas City Business Journal*.

The **Siloam Springs Water Treatment Plant** received an Honor Award in the Water and Wastewater Category at the 2023 Engineering Excellence Awards presented by the American Council of Engineering Companies of Arkansas.

**Brian Miller** retired after 35 years in the lab and maintenance department at the Marseilles (Illinois) Wastewater Treatment Plant.

The City of Denison, Texas, named its water treatment plant for **Dean Rylant**, who retired after 43 years with the city, much of that time as plant superintendent.

**Clay Rural Water System** was named 2022 System of the Year by the South Dakota Association of Rural Water Systems.

**Evanston** won the best-tasting tap water award at the Illinois Section AWWA annual conference.

**Strand Associates** received a National Recognition Award for engineering achievement in the American Council of Engineering Companies' 56th Annual Engineering Excellence Awards for designing major upgrades to the Star City Wastewater Treatment Plant in Morgantown, West Virginia.

The **Mount Laurel Municipal Utilities Authority** received the WAVE Award for Best Management Practices from the Association of Environmental Authorities of New Jersey.

**Mike Maples**, Choteau public works director, was named 2022 Manager of the Year by the Montana Rural Water Systems.



# COMING IN AUGUST

## 2023 HEADWORKS & BIOSOLIDS MANAGEMENT DIRECTORY

The August issue of *TPO* will feature a comprehensive list of headworks/biosolids manufacturers and distributors in a special directory.

**Brad Jones** was hired as director of operations with Operators Unlimited. He has more than 10 years' experience in operational management and extensive knowledge of strategic planning, system building and leadership.

*TPO welcomes your contributions to Worth Noting. To recognize members of your team, please send notices of new hires, promotions, certifications, service milestones or achievements as well as event notices to editor@tpomag.com. tpo*

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## events

### June 27-30

WEF Collection Systems Conference 2023, Kansas City (Missouri) Convention Center. Visit [www.wef.org](http://www.wef.org).

### July 12

AWWA Designing and Evaluating Effective and Ongoing Drought Communications webinar. Visit [www.awwa.org](http://www.awwa.org).

### July 16-19

Georgia AWWA Section Annual Conference, Savannah. Visit [www.gawp.org](http://www.gawp.org).

### July 16-21

Louisiana Rural Water Association 2023 Annual Conference, L'Auberge Casino Resort, Lake Charles. Visit [www.lrwa.org](http://www.lrwa.org).

### July 17-Aug. 18

AWWA Water Treatment Operator Level 1 webinar. Visit [www.awwa.org](http://www.awwa.org).

### July 18-20

WEF Circular Water Economy Summit, Renaissance Nashville. Visit [www.wef.org](http://www.wef.org).

### July 19-21

2023 Nebraska Wastewater Operators Division Heartland Conference, Holiday Inn Kearney. Visit [www.nebwea.org](http://www.nebwea.org).

### July 24-26

AWWA Potable Reuse & Biological Treatment Symposium, Sheraton Salt Lake City Hotel, Utah. Visit [www.awwa.org](http://www.awwa.org).

### July 26

Arkansas Water & Wastewater Managers Association 2023 Summer Conference, Best Western Inn of the Ozarks, Eureka Springs. Visit [www.arkwwma.org](http://www.arkwwma.org).

### July 26-28

2023 Minnesota Wastewater Operators Association Annual Conference, Timberlake Lodge, Grand Rapids. Visit [www.mwoa.net](http://www.mwoa.net).

### July 30 - Aug. 2

Kentucky-Tennessee AWWA Water Professionals Conference 2023, Renasant Convention Center, Memphis. Visit [www.kytnawwa.org](http://www.kytnawwa.org).

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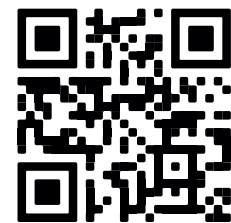
The background of the top half of the page is a photograph of a wastewater treatment plant. It shows several large, circular aeration tanks with metal walkways and railings. The water is a deep blue, and the sky is clear and bright. The sun is visible in the upper left corner, creating a lens flare effect.

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