

Rose Creek Tackles Odor and Corrosion

Aerisa's Unique Technology Creates an Odor-Free Environment in Wastewater Treatment Plant, Keeping the Community and Employees Safe, While Also Inhibiting Corrosion and Providing Significant Savings.

The Situation

The Rose Creek Wastewater Treatment Plant in Woodstock, Georgia has always sought to be a good neighbor, but that's no small challenge — the plant is located 100 yards from a tree-lined subdivision and golf course.

"The way the wind blows — north to south, west to east — it always blows to the neighbors," says Jamie Veley, Rose Creek's plant maintenance supervisor.

"Residents would call the plant and say, 'We smell rotten eggs.'" Of course, that's the telltale odor of hydrogen sulfide, the toxic, corrosive gas formed when raw sewage is pumped through a wastewater treatment plant. As unsettling as the stench was for the neighbors, it was even more unpleasant for Rose Creek employees. "The maintenance guys' clothes would stink," says Veley. "As soon as they walked into the building, their clothes were ruined for the day."

To keep the odor at bay, employees had to leave the maintenance shop door rolled up day and night, with an exhaust fan running and the heat running at 100%. The stench was so nauseating that employees resisted entering the shop to check on equipment. "Getting them to do the housekeeping was like pulling teeth," Veley recalls. Hydrogen sulfide doesn't just smell bad; it also degrades metal, concrete and electronic equipment. At Rose Creek, the toxic gas was corroding the metal rafters and other parts of the maintenance shop. "Anything that wasn't stainless steel was rusting away," Veley says.

Between the stench and the corrosion, Rose Creek had to act. So, a few years back, the company installed a system designed to neutralize odors by pulling the offending gases out of the plant and treating them in a separate vessel. The cumbersome system involves pumps, a fan, and two 10,000 gallon chemical tanks, one for sodium hydroxide and one for bleach. "It works well," recalls Veley, "but it takes up as much room as a football field, and you have to pay for chemicals every month." What's more, sodium hydroxide poses safety risks. Notes Veley: "It's dangerous stuff."

A New Approach

These days, Rose Creek has resolved its odor, corrosion, and safety problems all at once — with the Aerisa bipolar ionization system. Rose Creek invested in the technology after Veley and others toured a New Jersey beef slaughterhouse that had used bipolar ionization to eradicate its own odor problems. Impressed, they installed the Aerisa system at Rose Creek in 2017 and have never looked back.

"It's a whole lot safer, a whole lot quieter, and a whole lot less maintenance," says Veley. "And the footprint is small."

The system works by drawing in fresh outside air into an air handler and passing it over the ion generators. The generators transform the oxygen molecules in the ambient air to oxygen ions, creating an atmosphere rich with oxygen ion clusters. These clusters travel through the duct system and into the building, where they neutralize the offending pollutants on a molecular level while inhibiting corrosion.

The Results

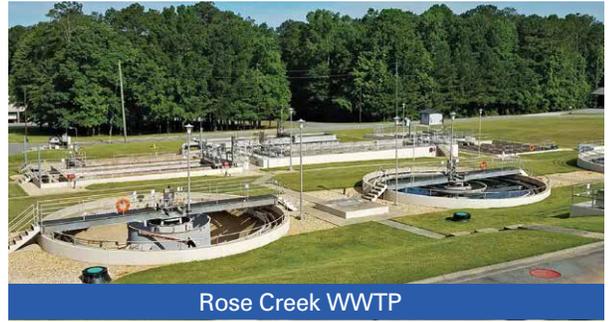
At Rose Creek, the gas detector that measures hydrogen sulfide now sits at 0.0. And from a maintenance standpoint, the company has nothing to do other than change the filters. The Aerisa system has been cost effective on multiple fronts. Rose Creek no longer has to purchase chemicals or foot the cost of repairing prematurely corroded building materials.

"No doubt about it, the rafters would have had to be replaced at some point in the next 5 years," says Veley. But upon installing the Aerisa system, Rose Creek simply cleaned and recoated the rafters. They still look new.

Rose Creek still uses the old system in one part of the facility, due to the company's large initial investment, but annual maintenance of the old system runs about five times the cost of maintaining the Aerisa system. "I knew it would be a pretty big difference," Veley says, "but I didn't think it would be that big."

For the Rose Creek employees, Aerisa has been a breath of fresh air. "The maintenance guys don't mind going into the building at all," Veley says, "and they can keep the door rolled down saving energy costs."

What about the neighbors 100 yards downwind of the plant? "No complaints," says Veley.



Rose Creek WWTP

Challenges

- Ongoing odor complaints from community
- Nauseating stench inhibiting employees from working
- Hydrogen sulfide causing corrosion on metal rafters, equipment, and parts of the maintenance shop
- Current odor treatment system requiring dangerous chemical handling and costly upkeep



AerSupply with Ionizer Section

Aerisa Solution

- Rose Creek resolved its odor, corrosion, and safety problems all at once — with the Aerisa bipolar ionization system.
- Eliminates odors within hours of installation
- Treats odors at their source
- Creates healthier work environment
- Provides significant capital, installation and operational savings
- Straightforward retrofit for most municipal wastewater facilities



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