

Region 7

Iowa, Kansas, Missouri, Nebraska

Small System Struggles with Upgrade Problems

City of Cumming WWTP, Iowa

Sometimes just a little problem can cause serious complications in a wastewater treatment plant. The broad experience of a 104(g)(1) trainer can be the difference in identifying and fixing the problem.

Officials in the City of Cumming, located just southwest of Des Moines in Iowa, were not sure what was causing their relatively new wastewater treatment system to discharge increasingly poor effluent. The sand filter system was installed in 1991, and two years later the system was discharging effluent that had some readings almost twice as high as its

legal limit. The community was facing a serious reprimand from the Iowa Department of Natural Resources and possibly a fine.

Fortunately, DNR officials referred the case to 104(g)(1) technical assistance providers at Kirkwood Community College. After only two months of assistance, the facility's effluent dropped from a carbonaceous biochemical oxygen demand level of 48 mg/L to 7.8 mg/L, and the total suspended solids level went from 49 mg/L to only 6.5 mg/L. Tim Robbins, the 104(g)(1) trainer on the Cumming project found that the treatment plant's operators had been misinformed about how to properly maintain their new system. During the assessment of process control a small broken part was discovered in one of the tanks. The broken dosing siphon bell, which cost only about \$270 to replace, was found to be the chief culprit in Cumming's poor performance.

"It is my opinion that the City of Cumming will be able to maintain an excellent rate of compliance in the years to come. With the understanding and knowledge that the operators gained from this experience, there should be very little that will come along that will change this. One of the biggest benefits from this was the added confidence that they gained by going through the trials of an incident like this," Robbins wrote in his description of the project.



Assistance Reduces Waste and Provides Savings

St. James WWTP, Missouri

Sometimes more efficient operation of a wastewater treatment plant can pay big dividends for a community. In St. James, Missouri, for instance, 104(g)(1) assistance resulted in significant financial savings.

The St. James WWTP, an activated sludge facility with two oxidation ditches, received assistance from the Environmental Resource Center at Missouri's Crowder College. St. James' operators received 104(g)(1) training in proper process control and wasting procedures.

“Many small communities feel more comfortable with the training center providing assistance rather than the regulatory agency.”

—Michael Jefferson, 104(g)(1) Outreach Coordinator, Missouri

The recommended alterations in operations reduced the facility's solid waste by an amazing 56 percent. Instead of having to haul about 400 loads of solids per year to disposal sites, St. James operators only had to deal with hauling approximately 175 loads per year. As a result, the plant is painlessly saving several thousand dollars per year in labor and equipment costs.

Common Struggles Lead to High Levels of Chlorine Additions

Mountain View WWTP, Missouri

The wastewater treatment plant in Mountain View, located in southern Missouri, had a long history of troubles—with operator turnover and non-compliance heading the list.

A four-year (1991–1994) study performed by Crowder College revealed that 2.7 dollars were saved for every one dollar spent on the 104(g)(1) assistance program in Missouri.

When 104(g)(1) assistance providers from Crowder College's Environmental Resource Center first began working with the Mountain View facility, the operators were using approximately 22 pounds of chlorine a day to adequately disinfect the plant's effluent. And even with all those chemicals thrown at the problem, the facility was struggling to meet its discharge permit.

The 104(g)(1) program helped a full-time operator acquire proper operational skills, to reduce the chlorine demand to only 2 pounds a day—*with a 90 percent reduction in chemical costs*. The suggested changes were also instrumental in bringing the troubled facility back into compliance with its discharge permit. To reduce their employee turnover problems, the 104(g)(1) program provided operator training and a renewed sense of professionalism to the facility's newly hired operator. This project won an EPA Region 7 award for Most Improved Plant in 1991.

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