

Online effluent monitoring helps automotive plant stay in compliance

Problem

An automotive plant in Ohio needed to treat wastewater for COD removal. Under new regulations, the sequential batch reactor system needed real-time performance data to comply with a new COD discharge limit.

Solution

AppliTek proposed an **AppliCOD online monitor**, using a titrimetric method for COD measurement. Three months of side-by-side comparison of data from the lab and AppliCOD system showed that the AppliCOD data was about 12 to 18 percent higher than the standard method. The AppliCOD system was mapped for 0 to 1,200 ppm COD with a 4-20mA scale. The high limit was set at 800 ppm and a second high limit was set at 1,000 ppm with alarm relay. The system can be retrofitted or work in tandem with an existing PLC system.



RESULT

The plant's average discharge limit of 1,500 ppm COD was met and the quarterly compliance samples were also within the discharge limit. After a year, the plant remains in compliance. 317/625-4216; www.applitek.com.

Time-released bacteria used to eliminate FOG buildup

Problem

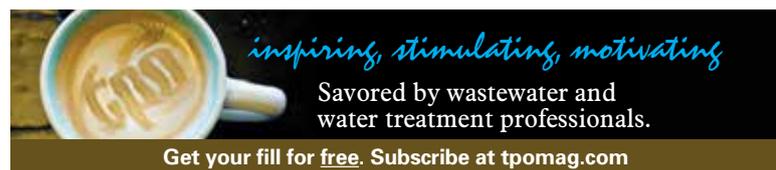
Elimination of FOG buildup in lift stations was time-consuming and costly for the utility in Spotsylvania, Virginia. The utility tested various products from lift station degreasers to enzyme formulations without success.

Solution

The utility installed **Biostim's BioPlugs**, made from multiple strains of bacteria embedded in a food-grade carrier. The material is simply floated in the lift station and takes two minutes to replace every 30 days. The time-release material dissolves over 30 days and converts FOG to carbon dioxide and water.

RESULT

The utility has used BioPlugs since 2011. "The BioPlugs have drastically reduced the amount of grease in our lift stations and have reduced or eliminated the routine cleaning for the stations," says William Bowers, utility foreman. "By reducing the frequency and amount of cleaning per station, the county has saved a significant amount of time and money." 800/338-8812; www.biostim.com.



Plant reduces recycled phosphorus levels with biostimulation

Problem

A Texas utility struggled with elevated levels of sidestream phosphorus recycled to the treatment plant headworks from the aerobic digesters. The plant had documented increased phosphorus from decant and from downstream centrate, elevating effluent phosphorus and potentially affecting permit compliance. Staff investigated using a biostimulant in the digesters to improve biological phosphorus uptake and remove excess through the centrifuged biosolids.

Solution

The plant team treated the aerobic digesters with **Byo-Gon PX-109 biostimulant** with an initial shock dose, then daily feed via metering pumps. The OMRI-certified organic product is designed to increase microbial respiration and improves biological performance.

RESULT

DNA sampling of the digester solids before and during addition showed a significant increase in phosphorus-accumulating organisms. Increasing ATP levels indicated higher biological activity, contributing to improved nutrient uptake. As decant clarity improved, sidestream and centrate phosphorus fell to less than 3 ppm, odors were greatly reduced in the centrifuge room, and biosolids production was reduced. An extended treatment evaluation was undertaken to evaluate continued use of the product in the digesters. 800/580-5509; www.byogon.com.

Aerators solve buildup and algae issues on lagoon

Problem

The City of Monroeville, Alabama, had aeration and mixing issues, a biosolids buildup and an algae problem in the sewage lagoon. This resulted from a 90 percent decrease in influent after closure of a garment manufacturing facility.



Solution

DO2E Waste Water Treatment provided two 5 hp floating aerators and two 3 hp floating mixers (suspended shearing digesters/aerators). The sludge buildup cleared almost immediately; in one week the algae had been removed from the treated part of the lagoon.

RESULT

From January 2010 through September 2015, no algae was present. The dissolved oxygen levels varied from 8.5 to 12 ppm over that period. The success is attributed to the increase in dissolved oxygen in the lagoon, destratification of the water column due to the draw from the aerators, shear forces from the aerators and floating mixers, and increased reactivity as solid particulates were reduced in size and therefore increased the surface area to interact with microbial enzymes present in the naturally occurring bioflora. 251/626-6550; www.do2e.com. tpo