



ETHANOL INDUSTRY

Garratt-Callahan Helps Ethanol Plant Control Biogrowth and Reduce Corrosion

Problem

Historically, an ethanol plant in the Midwest had used large volumes of gaseous chlorine for microbiological control in its two cooling towers, which had a combined volume of 70,000 gallons. While economical, the chlorine provided erratic control, with a variable contaminant load due to elevated system pH; ATP testing showed higher-than desired levels of bio-growth in the towers. In the meantime, the chlorine was driving up corrosion rates in the equipment. At risk were millions of dollars in assets and, if a failure were to occur, lost revenues of \$150,000 a day as long as the system was down.

Solution

Garratt-Callahan's audit revealed that organics being scrubbed from the air inside the plant were responsible for the constant bio-load on the cooling towers. In addition, the pH of the system was found to be too high for effective chlorine use. Based on these findings, Garratt-Callahan recommended the use of G-C Formula 318 in conjunction with gaseous chlorine to form hypobromous acid, plus a bio-dispersant to improve the biocide's efficacy. The plant managers agreed to implement the recommended treatment program – which also included new management protocols for monitoring both biogrowth and corrosion.

Results

In a matter of weeks, once the new program was approved and implemented, ATP tests showed an average 78% reduction in biofouling in the ethanol plant's cooling towers. Meanwhile, the plant was able to dramatically curtail its use of chlorine, and readings showed that system corrosion rates had decreased accordingly. The plant managers now have virtually no worries about an unexpected system failure due to biofouling related corrosion.

Conclusion

Solving your water treatment problems often involves a new approach to compliance as well as a new technical approach. Both can be challenging. But with a century of experience in treatment technology and government regulation, Garratt-Callahan will help you achieve the water treatment results you need.

Garratt-Callahan: Water treatment solutions for the ethanol industry.