



Midwest Office Complex Sulfate Reducing Bacteria

The System: Two comfort cooling towers manufactured by Evapco and BAC located on an office building rooftop 5 floors above ground level. Both tower systems were operated on city make-up water at 2 to 2.5 cycles of concentrations. These systems were treated with C-740 for scale control, and AA-4015 and ABL-16 for biological control. Both towers sit stagnant before being drained for the winter months.

The Problem: Sulfate-reducing bacteria (SRB) were found in both tower basins at the end of the summer operating season. The visual confirmation of SRB was followed up by a positive test using the Sani-check SRB test method.

The Solution: The cooling tower basins were physically cleaned to remove mud and debris. SRB nodules were scraped to expose surfaces to biocides. Chemtex UKP-10 was added at the rate of 10 lbs. per tower directly to the tower basins and allowed to circulate for 24 hours. The systems were then drained for the season. Upon start up in the spring, the SRB nodules reappeared. The biocide program was switched to bromine tablets (AA-6070T) along with AA-4015. The AA-6070T was added on a continuous basis through a bromine feeder. Bromine residuals were very low to non-existent. The systems were again cleaned of all dirt and debris. Chemtex UKP-10 was again added to the system. After the use of UKP-10 the system was put on a program that included feeding AA-6070T on a continuous basis along with weekly additions of Chemtex C-366 biofilm cleaner and Chemtex AA-4015. After two weeks of this program, bromine residuals increased to the 5 ppm free bromine level without changing the feed rate of the AA-6070T through the bromine feeder.

The Benefits: This program has resulted in no new growth of SRB in the tower basins. Tests done using both the BART SRB test and Sani-check SRB test have shown no growth. General microbiological dip slides have been excellent. Both towers, which had experienced algae problems during summer months, have been completely free since being on the current program. Biocide consumption has been drastically reduced with the use of Chemtex C-366.