CASE STUDY

AP Tech Solids Program Solves Scaling Issues & Helps to Reduce Energy Consumption

BACKGROUND

A county school system in the Midwest had been attempting to treat its cooling tower systems with traditional liquid water treatment chemicals for many years. Annual inspections produced sub-par results that included heavy calcium carbonate (limestone) scale build-up. Calcium carbonate scale prohibits efficient heat transfer, which increased the operation electrical demand for air conditioning at the school by 50%.

Each year, the school system maintenance team would spend many hours trying to remove the hard scale from inside of the cooling towers and fluid coolers. Sometimes the cleaning entailed acid cleaning. This process endangered the maintenance team, the cooling tower, fluid cooler equipment and the environment. All forms of cleaning were moderately successful despite the large investment in man hours and materials. However, the limestone would build up again during operation, with the same results each year.

K-12 Schools Study

SOLUTION

The AP Tech distributor in the region introduced solid chemistry water treatment products to the maintenance director and got the opportunity to install the proper water treatment at each school, including scale/corrosion inhibitors and biocide, for broad spectrum microbiological growth. They immediately liked the solid chemistry products and equipment because of the ease of delivery and set-up, as some systems were located inside areas of the campuses that were accessible to students. The solid products were able to be safely housed inside locked cabinets that removed the risk of student harm from caustic chemical exposure from previously used liquid chemicals.

RESULTS

After the first season of using solid chemistry products, the cooling towers and fluid coolers were taken down for their annual inspection and cleaning. The maintenance team was surprised and impressed that no new limestone scale had formed. Additionally, old scale that was not able to be removed by previous physical and acid cleaning was being removed. This was evidenced by old scale chips accumulating in the basins of the cooling towers and fluid coolers. The heat exchangers are being kept scale-free, and the cooling towers and fluid coolers are operating efficiently as designed, allowing more cooling with less energy consumption.

IMPROVED EEFFECIENCY AND SAFETY

REDUCED SCALE AND ENERGY

PRODUCTS USED

Cooling Towers

C20-C
Scale Reduction

C100-G
Non-Oxidizing, DBNPA
EPA Registered Biocide

866.489.9831

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