

Zentox Cooling Water Treatment Clean Streams™ Ozone Transfer Process

Case Study: Northern Virginia Community College Manassas



Situation

In May of 1997, Zentox Corporation replaced a traditional chemical treatment program at the Northern Virginia Community College Manassas campus with an ozone water treatment system centered on the Clean Streams™ Ozone Transfer Process. Two 220-ton BAC cooling towers were installed as part of a renovation of the chiller plant and condenser water system.

The campus has two 200-ton chillers for HVAC. Two BAC cross flow towers are piped separately with one Clean Streams™ process unit treating both towers.

Microbiological Control:

The Zentox ozone cooling water treatment system was powered up in May 1997. The on-site staff was immediately surprised by the clarity of the condenser water using the Clean Streams™ process. Biological tests have proven unparalleled control of bacteria in the condenser loop with biological counts of 10^2 or less in every test.

Water Conservation:

Building water usage was reduced over 30% after the installation of the Clean Streams™ process, and after cycles of concentration of the cooling tower were raised from 2 to 6, thus reducing blowdown and makeup water consumption.

Energy Savings:

The electric utility became very interested in the improved operation of the chillers during the hot months as the increased efficiency of the chillers during summer months means a substantial peak shaving of electrical load during the highest demand hours. A customer with demand charges set in the summer months will achieve savings of 4-10% from increased chiller efficiency as well as lower demand charges.

Service of the Cooling Water Treatment System:

As part of the service offered by Zentox Corporation, a full service contract has been in effect since the start up date. The full service contract includes monthly preventive maintenance, condenser water analysis, and any parts or equipment upgrades necessary to maintain optimum system operation.