



Client: Carrier Neutral Data Center
Location: Ashburn, VA
Data Center Cooling Towers



TREATING WATER. BETTER.™

Case Study No.201701



Background

The growing population of data centers in Ashburn, Virginia has led to tougher restrictions for discharging traditional chemicals used to treat data center cooling towers. With over 70 data centers operating with 10 million square feet in Ashburn's Data Center Alley, the Loudoun County government increased water restrictions. County regulatory changes included adding sewer fees for traditional cooling towers. Facing \$25,000+ discharge fees, the data center operator participating in this case study looked to Silver Bullet Water Treatment for cooling tower water treatment solutions that would breakup scale, inhibit biofilm, and increase system and resource efficiency.

Problem

In order to conform to new Loudoun County water regulations, this data center operator wanted to begin using reclaimed water, and avoid \$25,000+ annual fees for cooling tower discharges, a product of traditional cooling water chemistry. While saving water was a concern, it could not come at the cost of a reduction in the quality of water treatment. The facility also required a water treatment protocol to match their 24-hour mission critical operation.

The Silver Bullet Solution

The data center installed a Silver Bullet CT230 on its evaporative condensing systems. The tower bleed off was adjusted according to the higher limits of the Silver Bullet technology, which saved water. As scale and biofilm slowly began to break up, system efficiency increased and electricity demand was significantly reduced. Results were seen within the first two months of installation. Over the next three years, the data center operator installed Silver Bullet water treatment systems on its other sites across the United States.





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Benefits and Results

- Cooling tower bleed off was adjusted from 66% down to 25%, producing savings of more than 15,000 gallons per day or 5.4MM gallons.
- The data center operator was able to reduce sewage discharge costs by over \$25,000 per year.
- The efficiency of the chiller and the heat exchange on the condenser improved, allowing for a reduction of electrical usage and total operational time on the system.
- All existing algae on distribution decks, fill and basin was eliminated.
- After 60 days, biofilm was eliminated from the distribution decks, fill and basin.
- Total aerobic counts went from 10^5 CFU/ml to less than 10^3 CFU/ml (two log reduction), without non-oxidizing biocides or bio-dispersants.

Silver Bullet is the Water Treatment for Your Cooling Tower

These results in the Ashburn data center perfectly depict the benefits of Silver Bullet technology over traditional chemical water treatment. This install provided a market advantage, increased revenues, and increased operational efficiency in this facility. Silver Bullet provided the Ashburn data center operators a water regimen that had less microbiological growth, decreased scale, less corrosion and more efficient use of energy and water.

Silver Bullet is the premier, “Green Chemistry” water treatment solution for today’s environmentally conscious, labor/time sensitive data center operator. Let our Silver Bullet Service Team experts work with you to provide you solutions for all your water treatment needs.