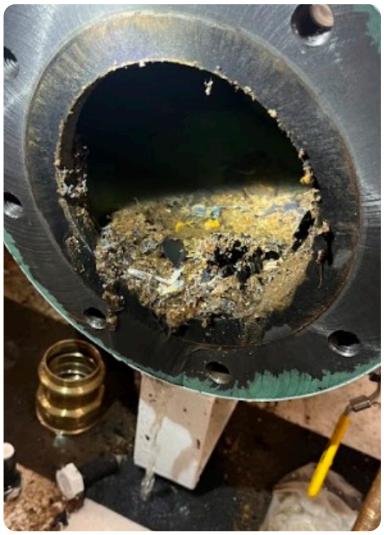
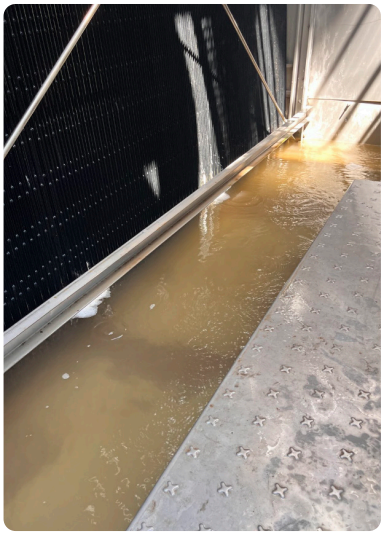
EASYWATER

CASE STUDY:

Children's Medical Center



Cooling tower debris being removed during startup



*Inside one of the cooling tower basins **before** the CTF System was turned on*

(See after photos on page 2)

PROTECTING COOLING TOWERS FROM DEBRIS, BACTERIA AND SCALE

Customer:	Children's Medical Center
EasyWater Rep:	Texas AirSystems
Location:	Plano, TX
Scope of Work:	(3) 890 Ton Cooling Towers
EasyWater Equipment:	Model CTF-500-S Skid Mounted Treatment System

The Children's Medical Center in Plano, Texas, recently undertook a comprehensive renovation of their Central Energy Plant (CEP) to enhance the efficiency and reliability of their cooling systems. A critical component of this upgrade was the installation of EasyWater's CTF-500-S cooling tower treatment system, designed to improve water quality in the cooling towers.

≈ PROBLEM

During the renovation of the CEP, the (3) 890 ton cooling towers at the Children's Medical Center accumulated significant debris, including dust, pollen, and construction materials. This led to several issues:

- **Reduced Heat Transfer Efficiency:** Deposits on heat exchange surfaces impeded heat transfer, reducing the overall efficiency of the cooling system.
- **Increased Maintenance Requirements:** The presence of debris necessitated frequent cleaning and maintenance, leading to increased operational costs and downtime.
- **Health and Safety Concerns:** Sediment and debris in cooling tower systems can harbor harmful bacteria, such as Legionella, posing serious health risks to patients and staff.

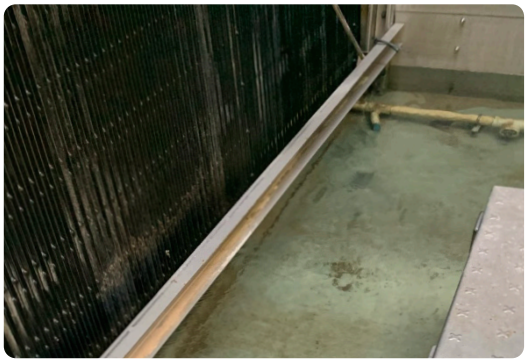
A separator had been used in the past for filtration, but it failed to maintain the required water clarity and system cleanliness.

≈ SOLUTION

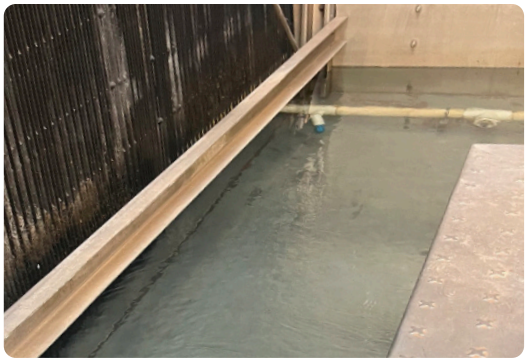
To address these challenges, the decision was made to install the CTF-500-S treatment system, a state-of-the-art solution specifically designed for cooling tower applications. The CTF-500-S treatment system incorporates several advanced features:

- **SedimentShield Sub-Micron Filtration:** Utilizes proprietary media capable of removing particles and bacteria down to sub-micron levels, significantly reducing turbidity and microbial presence in the water.
- **Ultraviolet (UV) Sanitization:** Employs UV light to effectively kill bacteria on contact, minimizing the need for chemical biocides and reducing corrosion rates.
- **No-Salt Conditioners:** Prevent and remove hard water scale deposits and biofilm, enhancing heat transfer efficiency and reducing the risk of bacterial growth.

EasyWater Cooling Tower Treatment System Model CTF-500-S installed



*Cooling tower basin **2 weeks after** CTF System was online*



*Cooling tower basin **1 year after** CTF System was online*

≈ RESULTS

Since the installation of the CTF-500-S treatment system, the Children's Medical Center has observed several notable improvements:

- **Enhanced Water Clarity:** The SedimentShield submicron filtration resulted in significantly clearer water, cleaner sumps and lower bacteria counts.
- **Reduced Maintenance Frequency:** CTF's filtration effectiveness has decreased the need for frequent cleaning and maintenance, leading to cost savings and reduced downtime.
- **Improved Energy Efficiency:** By preventing scale and biofilm formation, the system has enhanced heat transfer efficiency, contributing to lower energy consumption.
- **Health and Safety Compliance:** The significant reduction in bacterial counts, which saves chemical costs and reduces the risk of Legionella, has ensured compliance with health and safety standards, safeguarding the well-being of patients and staff.

The implementation of the CTF-500-S treatment system at the Children's Medical Center has successfully addressed the water quality challenges associated with cooling towers. The advanced features of the system have led to improved operational efficiency, reduced maintenance requirements, and enhanced health and safety compliance. This case study underscores the importance of selecting appropriate filtration solutions in medical facilities to maintain optimal cooling system performance and ensure a safe environment.

Bacteria dip slide test results <10 CFU/mL