

DATA CENTER SUSTAINABILITY PROJECT

Data Centers and Water

Data Centers use millions of gallons of water a year to cool equipment. One of the largest facilities in Illinois turned to Earthwise for expert advice on a wide range of technologies available to help meet their sustainability goals and reduce operating costs with minimal capital investment.

Project Consulting

Our Certified Water Technologists surveyed and identified Water Conservation Management opportunities throughout the facility, with the goal of reducing the water footprint, minimizing risk and cutting recurring costs. Earthwise considered ways to improve efficiency, extend equipment life, reduce chemical consumption and provide remote system performance monitoring.



Earthwise Applied Solutions

With a Water Treatment Program customized to the client and designed with total program costs in mind, we determined that a small capital investment would increase the longevity and performance of existing systems and reduce water consumption.

Humidification

Designed reverse osmosis (RO) system (WCM).
Increased heat transfer efficiencies.
Reduced maintenance labor hours.

Condenser Water System

Implemented custom pre-treatment program using ion-exchange technology.
Installed a 24-hour remote monitoring system to ensure real-time reaction to system performance changes.

Immediate Benefits

Increased cooling tower cycles of concentration to 6.9.
Increased cooling tower efficiency by 5 million gallons of water per year.
Reduced hazardous chemical consumption by 50%.
Reduced employee risk associated with chemical handling.
Provided an immediate reduction in operation costs from day one of implementation.

	BEFORE EARTHWISE	WITH EARTHWISE
ANNUAL WATER USAGE	25 Million Gallons	20 Million Gallons
TOTAL ANNUAL WATER COSTS	\$300,000	\$240,000
WATER TREATMENT PROGRAM	\$50,000	\$25,000
SYSTEM MAINTENANCE LABOR	\$20,000	\$14,000
ANNUAL WATER SPEND	\$370,000	\$279,000
YEAR ONE WATER SAVINGS		(\$91,000)
CAPITAL INVESTMENT PAYBACK		1.3 years