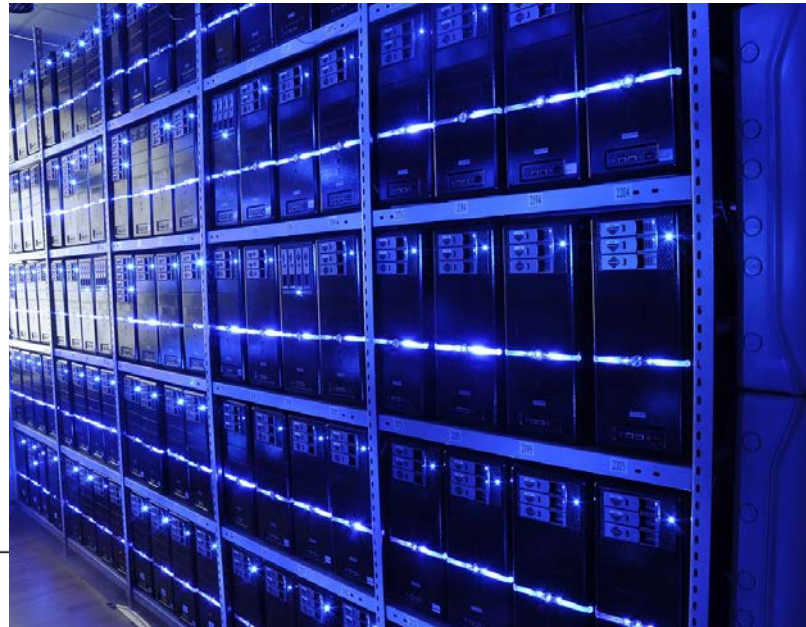


CASE STUDY: Data Center Complex

Under threat of shutdown for excessive sewer discharge and in need water and cost savings, a large data center complex turns to EAI for the solution



ANNUAL SAVINGS



WATER

Reduced water usage by

5.5 million gallons
per year



ASSET PROTECTION

No detectable change in system integrity in

11 years of operation

Maintaining corrosion risk levels at 95%
lower than industry-accepted levels

VALUE DELIVERED

100% Compliance

Has met and far exceeded any regulatory
limitations that would threaten operations

BACKGROUND

In 2009, a large Data Center Complex in the Inland Empire of Southern California approached EAI to solve two challenges with their industrial process water. The **first** challenge was to **conserve water**. The **second** was to achieve **regulatory compliance** in their industrial sewer discharge.

The local Sanitation District required the complex to reduce industrial sewer discharge from 30,000 gallons per day to less than 23,385 gallons per day, a 22% decrease.

Out of compliance for some time, the complex began receiving negative media attention for being non-compliant with their discharge permit and was labeled as a "Gross Polluter" and risked being shut down completely.

The evolution of information technology systems away from local area networks to cloud-based, web-connected, data storage, has required these data centers to operate perfectly, with 100% uptime, and entirely uninterrupted. A single downtime event could spell the end of the road for a critical data center.

EAI: LEADERS IN MANAGING WATER

The team at EAI, with 35+ years of operation across Southern California in some of the region's premier Hospitals, Universities, Airports, Data Centers, Manufacturing, and Government facilities was selected to implement a proven, novel water treatment program to bring the system into compliance and deliver water and cost savings while allowing the critical data center to continue operations.

Call us for any questions

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SOLUTION

EAI, working with the client, implemented an Engineered Resin Technology (ERT) system that prevents scale deposits while minimizing corrosion attack and microbiological activities in recirculated evaporative cooling water systems.

The system allows users to significantly increase cycles of concentration and lower bleed requirements to less than 10% of evaporative losses.

This site-specific, ion exchange process uniquely pre-treats and conditions facility make-up water prior to entering an industrial facility. The ion exchange tanks and resins are custom designed, engineered, configured, and installed to address and condition the complete spectrum and profile of constituents in the make-up water delivered to the facility.

Traditional sodium exchange water softeners increase pH, do not purify water, increase solids content in the water, add sodium contaminants and do not address the issues of regulatory discharge criteria.

CONCLUSION

By taking a site-specific, client-centric, scientific approach to identifying the best treatment regime to meet the goals of the client, EAI developed a project that brought this critical data storage facility into compliance with discharge limits, while also delivering water savings, chemical savings, and ensuring sustainable operational uptime all the while extending the asset life of the capital equipment.

RESULTS

Within two months of system start-up, compliance and regulatory results were realized.

Bleed, which was previously 24,000 to 30,000 gallons per day, was reduced to approximately 6,000 gallons per day, **an 80% reduction** in discharge which **more than quadrupled the performance required** by the local sanitation district to come into compliance

This resulted in an annual savings of over 5.5 million gallons of water every year. Sulfate concentrations were reduced such that the Client is now compliant 100% of the time.

Based on reduced incoming water usage and greatly reduced sewer discharge, treatment chemical use is now about one third of what it was (a **63% reduction**).

In addition, the Facility has been able to completely eliminate the use of Phosphate-based treatment products thus, greatly improving the "Green" profile of the discharge stream.

Learn more about how EAI can help you too become Leaders in Water Management at www.eaiwater.com

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