

## CASE STUDY

# Industrial Complex Saves Over \$7M with ChemTreat Treatment Program and Intelligent Water Management

### Background

In 2013, ChemTreat initiated a water quality evaluation for a 22,000-gpm river water clarification system supplying water to an industrial complex in the Southern U.S.

The following challenges were identified during the evaluation:

- The existing inorganic coagulant/caustic program did not provide optimal total suspended solids/total dissolved solids (TSS/TDS) control for the influent river water.
- Historical effluent quality issues caused by ineffective clarification resulted in high TSS, aluminum post precipitation, and high colloidal silica in the treated water. This then created performance and reliability issues throughout the facility.

These issues caused plant management to consider capital replacement of the water plant at an estimated cost of \$30M.

### Solution

After a thorough system survey, ChemTreat developed and implemented an action plan to address water quality issues in a cost-effective manner with a focus on continuous improvement, innovative automation, training, and data analysis.

Highlights of the improvement plan and treatment program included:

- Coagulant chemistry upgraded and caustic usage eliminated, lowering chemical costs and improving color and turbidity removal, and overall quality to record levels.
- Sludge generation reduced by 90%.
- Regular operator trainings implemented to empower operators to identify and mitigate water quality issues.
- Special projects completed, including a demineralizer optimization study, chemical feed automation, water balance, distribution system corrosion control, and power condenser efficiency modeling.
- ChemTreat's CTVista®+ intelligent water management platform integrated into the plant's water system to collect and analyze water plant data, allowing for data dissemination to plant management via daily scorecards.
- Standard operating procedures, control ranges, and testing procedures updated with plant management.
- Weekly project meetings with plant management adopted to identify and implement key projects for improving operations and reducing total costs.

### Results

The extensive water management program was developed, implemented, and continues to be overseen by the local ChemTreat team and Polymer Technical Staff, with a combined 220 years of water treatment experience.



**ChemTreat's customized and innovative approach to the facility's water treatment program achieved substantial savings for the customer:**

**\$30M**

capital savings  
(estimated cost of  
replacing the water plant)

**\$1.3M**

annual savings

**\$7.2M**

total savings  
from 2017 to  
2023

Results are examples only. They are not guaranteed. Actual results may vary.