CASE STUDY - North America

A PAPER MILL LOCATED IN THE SOUTHERN UNITED STATES SAVES $133K

ASSETS

CH-1807

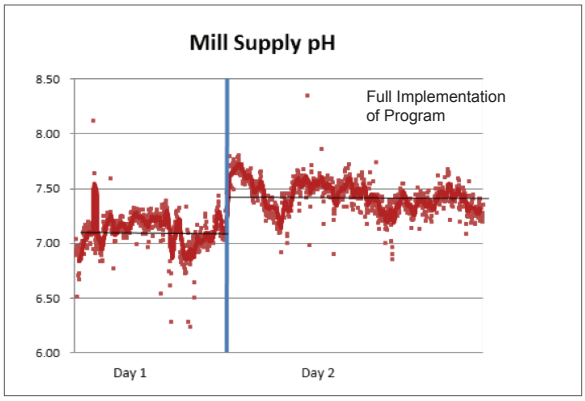
SITUATION

A paper mill was having an issue with cleaning manganese deposition out of the heat exchangers. This was a regular maintenance item that was adding over $1 million USD per year to the operating expenses for the mill. The NALCO Water Paper and Wastewater team traced the origin of this problem to the existing raw water treatment system.

The manganese originates in the river supply water for the paper mill. If manganese is partially or fully oxidized by any means like aeration or chlorination, the oxidized manganese will precipitate. The NALCO Water team devised a way to control this.

NALCO WATER SOLUTION

A chemical change was made from commodity alum to NALCO Water ULTRION™ program with PARETO™ mixing technology. This enabled the system to maintain a higher pH level in facilitating manganese precipitation in the clarifiers. A chlorine analyzer was also installed for better oxidant control in optimizing manganese removal, minimizing its carry-over into the downstream process.



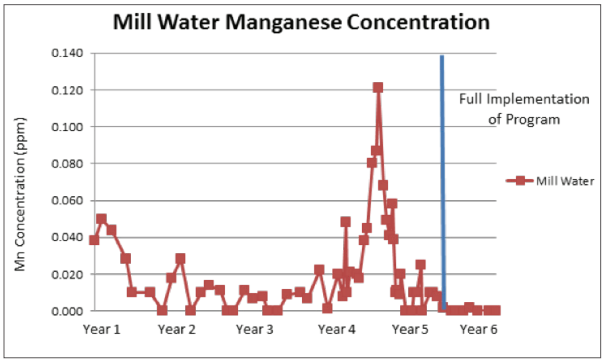
Higher pH with ULTRION program

CUSTOMER BENEFITS

The combination of the new NALCO Water ULTRION program, PARETO mixing technology, and the chlorine analyzer has resulted in a 40% reduction of manganese concentration in the treated raw water effluent. This has saved the mill almost 60 heat exchanger cleanings per year along with 3,000 pounds of annual demineralizer regenerate and future equipment upgrade avoidance, reducing the mill's total cost of operation by approximately $133k annually.

Total Customer Savings: $133k

eROI is our exponential value: the combined outcomes of improved performance, operational efficiency and sustainable impact delivered through our services and programs.



Mn concentration before and after implementing ULTRION program

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