

Increased Environmental Performance at Large U.S. Refinery

Background

A large U.S. oil refinery committed to safety, the environment, and continuously improving supplier performance standards was faced with the challenge of increasing environmental performance and cutting costs for coagulant use in their wastewater processing units. This refinery has five different coagulant applications as part of its wastewater processing.

In 2013, the refinery was challenged with the following: loss of a process water tank, a drive to improve environmental results at the wastewater treatment plant, and better cost control for the coagulant application throughout the refinery. The coagulant used at the PSO and IGF units was identified as an application where improvements in cost and performance could be made. To achieve this goal, a unique natural coagulant chemistry supplied by ChemTreat was chosen for the treatment of the PSO and IGF units.



Solution

ChemTreat's PureFloc™ product line includes sustainable, effective, and innovative natural coagulants for use across a wide variety of industrial applications. ChemTreat was challenged to innovate a replacement coagulant for the traditional polyDADMAC/PAC blend that was being used.

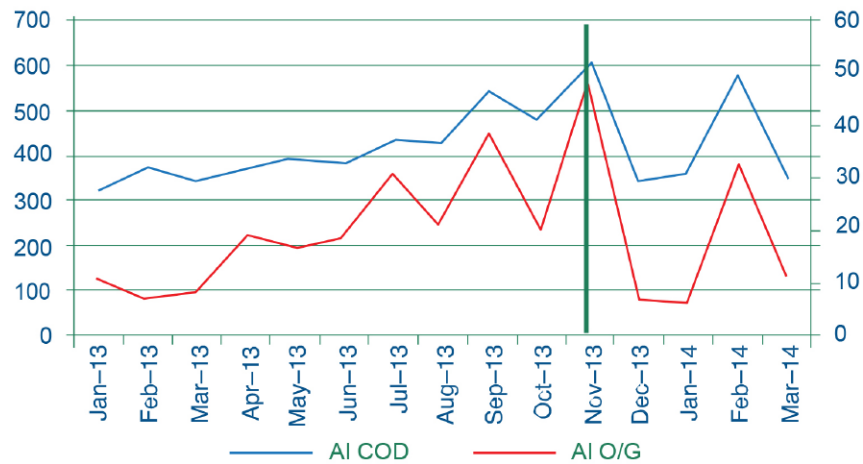
ChemTreat's new PureFloc™ coagulant, S108, is a result of months of product research and on-site testing and validation with the customer. The newly-formulated product was put to test with a full-scale trial at the refinery.

Results

ChemTreat successfully implemented a new environmentally-friendly and cost-competitive natural coagulant for use at this refinery's PSO and IGF units. During the trial, S108 successfully exceeded all refinery standards of excellence. S108 successfully reduced aeration inlet COD by 20 percent, aeration inlet oil/grease by 44 percent, and quarterly chemical spend by 18 percent. These results allowed the new natural coagulant to be put into service full-time and has continued the same great sustainable performance day-in and day-out.

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Aeration Inlet COD and O/G



Test Parameter	Results with Existing 08/2013–11/2013	Results after Switching 12/2013–03/2014
Aeration inlet COD (average ppm)	511	407
Aeration inlet oil/grease (ppm)	32	14

Increased Savings

