

# Controlling Foam on Activated Sludge Tanks Saves Refinery US\$400,000

## Background

Foam was forming on activated sludge tanks at this French refinery's wastewater treatment plant, resulting in activated sludge mortality with excess chemical oxygen demand (COD) and biological oxygen demand (BOD), and suspended solids in the effluent. Environmental authorities were concerned about the upsets and asked that a sand filter be installed if effluent quality could not be improved.

## Solution

GE Water & Process Technologies sampled the wastewater whenever the foam occurred to identify the molecules causing the activated sludge mortality. Refinery sewers were also sampled. The tests showed that creosols were always present during mortality periods and that the most toxic sewer carried spent caustics. Changes were made in the operation of the process units that reduced the discharge of toxic effluent, while modifications to the biological treatment system eliminated the foaming and clarification problems.

## Results

The refinery was congratulated by the environmental authorities for the improved effluent quality. Because the company was now in compliance, it avoided the cost of installing a sand filter estimated at US\$400,000.



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