KlarAid* Polymer reduces silt carryover at a northeastern chemical plant, resulting in reduced process-side chemical treatment

background

A chemical plant used alum to treat 2,100 gpm (477 m³/h) of Hudson River water. The water was processed through two horizontal clarifiers followed by six sand filters. Influent turbidity varied from 1 NTU to 70 NTU.

problem

Silt carryover in the influent clarifier resulted in a need to use further chemical treatment on the process side of the plant. In addition, aluminum deposition caused severe fouling in the cooling system.

solution

Jar tests revealed that a KlarAid polymer provided better turbidity removal than the alum treatment program. A trial was conducted to evaluate the technology.

results

Effluent turbidity was reduced from >10 NTU to <5 NTU. This occurred despite the fact that incoming turbidity varied from 5 NTU to over 50 NTU during the trial (see Figure 1).

Other benefits include:

- Reduced effluent turbidity
- Reduced silt carryover
- Reduced sludge
- Reduced chemical consumption on the process side
- Reduced treatment program cost
- Reduced costs associated with sludge handling and disposal

Figure 1: KlarAid Polymer improved clarifier effluent quality.