



## FOSSIL FUELED POWERED PLANT, NEW YORK

### THE CHALLENGE

A utility company on the east coast, operates a fossil fuel boiler to generate steam for electric power production. Wastewater at the power plant is a mix of spent cleaners and rinses from cleaning operations, scrubber effluent, boiler blowdown and cooling water. The primary metals in the waste stream are those of boiler construction material and condenser. Such metals form stable complexes with chelating agents present in cleaners used in cleaning operations for removal of metal oxide scale from heat transfer surfaces and boiler water treatment systems.

The plant employs ammoniated citric acid in the cleaning operation. The facility anticipated that the existing treatment would not meet future guidelines with much lower discharge limits and was searching for a new technique.

### THE SOLUTION

The AQUASIL® product selected for this application is added directly (batch) to the waste stream where a large floc forms and settles efficiently once mixing has stopped. This treatment generates clear effluent and meets local discharge requirements as shown in the Table below.

<i>Parameter</i>	<i>Discharge Limits (mg/L)</i>	<i>Before (mg/L)</i>	<i>After (mg/L)</i>
Chromium	0.5	2.95	0.269
Copper	0.5	20.5	0.167
Iron	4.0	1390	2.22
Lead	0.4	0.57	ND
Nickel	2.0	5.48	1.35
Zinc.	1.0	3.39	0.056

AQUASIL® treatment was able to lower the concentrations of copper, iron and nickel. A single-product treatment eliminates the need of all treatment chemicals and reduced the amount of sulfuric acid needed for final pH adjustment.

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