

Case Study

Coal ash pond polishing filter system, coal fired power plant, North Carolina, USA

Polishing filtration of coal ash pond water after sedimentation ponds, pre-treatment to river discharge

Background

The power plant's wastewater is contaminated by coal ash generated from power plant operations and removed in the scrubber system. The wastewater is sent to a settling pond after polymer injection to allow for sedimentation. The wastewater then travels to a second, third and fourth pond for additional settling. The water is pumped at a maximum flow rate of 10,000 GPM.

The Challenge

Plant land restrictions required the elimination of the last settling pond. This initiated the search for a treatment/polishing system to maintain a TSS of less than 25 PPM to meet discharge requirements.

The Solution

After running a pilot with both screen and disc filter systems at various micron ratings, it was determined that the most effective solution was a 25 micron screen system. 12 x 12" EBS 10000 with 25 micron weave-wire screens were supplied.

Due to redundancy and future expansion, the customer preferred to install the system in 4 rows of 3 units each.



The Results

TSS at the discharge point is low most of the time. During storm events, the TSS rises and the filters flush more frequently. The filter system consistently keeps the effluent TSS at the level of 5 to 10 PPM with rare spikes to 18 PPM.