Case Study

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Large Southern Electric Generating Plant, USA

Flue Gas Desulfurization Make-up Water Strainers

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Background

A filtration system was required to provide all service water for the FGD (flue-gas desulfurization) scrubber facility at the coal and natural gas-fired electrical generation facility in Bucks, Alabama, USA. Water use is primarily for the FGD system but other uses include seal water, wash-down water and emergency/ fire suppression water.

The second stage Amiad Super Galaxy system was installed after the customer realized that the existing first stage filtration system was not preventing an accumulation of several feet of mud in the storage tank, resulting in the need for periodic clean-out.

The goal of the added second stage was to reduce the amount of mud accumulation, thus extending the interval between manual clean-out while also providing better water quality to the facility.

The Challenge

The customer had 2 Amiad EBS-15K filters with 300 micron screens (sold in 2008), raw Mobile River water, traveling screen at intake, extremely muddy source, feed to tank (after filtration) and the tank was building up mud.

Mud accumulation

Extend cleaning interval

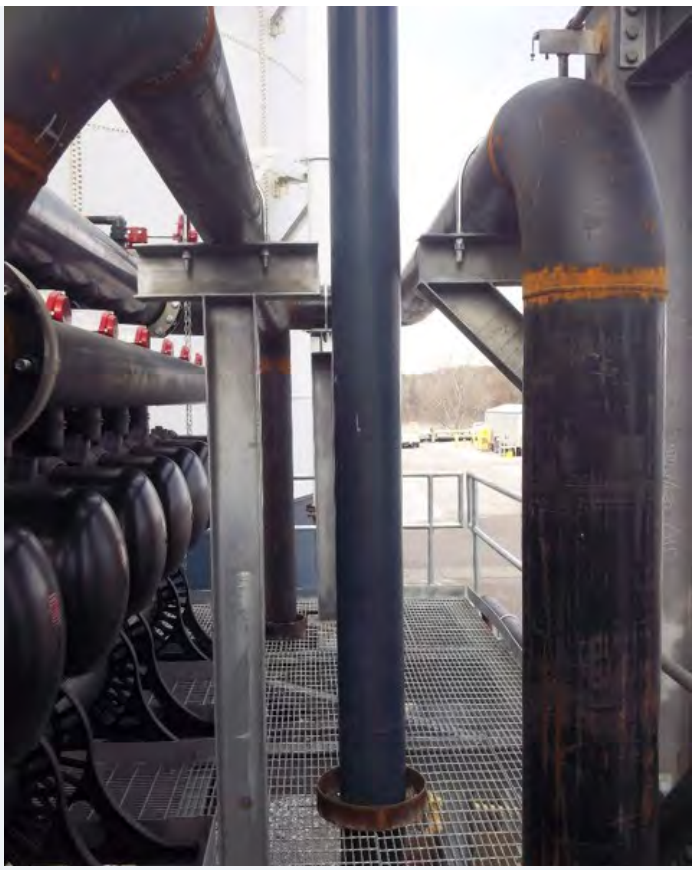
Low quality water

Stage 1: Two EBS -15K, 300 micron

The Solution

The existing EBS filter system with 300 micron filtration was not a fine enough system to remove the finer mud in the river water source, so it was clear that a second stage was needed to reach a finer degree of filtration (see below).

Stage One:
Two EBS-15K: 300 micron.
Stage Two:
Seven Pod 10" Super Galaxy: 100 micron, 3800 gpm (863 m^3/h), controller integrated into customer's control system.



Stage 2: Seven Pod Super Galaxy, 100 micron.

The Results

The Spin Klin™ system reduced the turbidity (NTU) by 50%. The filter is catching small silts and organics, thus reducing the need for flocculants and chemicals added before FGD use.

Emergency testing at another water treatment research site on the plant's grounds proved the ability of the Spin Klin™ technology to handle this poor quality raw river water.

In fact, testing results were so good that all future projects requiring water filtration at this plant now default to the use of the Spin Klin™ filters.

The success of this installation has led to 2 additional installations at this facility and the excellent performance from the first test site and from this project have led to Amiad being the sole source manufacturer (no open bid).

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