

Case Study 35

Proper Operation and Maintenance of Bag Filters

Background

A coal fired power plant reached out to Northeast Filter to help address issues they were having with a filter bag housing. The filter was being used on a kidney loop to improve the water quality of a retention pond to meet EPA standards prior to discharge into a local creek. The pond collected local storm runoff as well as coal dust runoff from the plant. The plant was not able to meet the turbidity standard required for safe discharge to the creek, requiring the plant to recirculate the filtered water back to the pond. It was also learned that the filter housing was secondhand equipment which had been relocated from another part of the plant.

Solution

When Northeast Filter arrived at the plant to review the filter equipment and operation of the system. It was noted that the filter housing was not in the best condition due to its age. The retaining baskets that were meant to position and seal the bags were in poor condition leading the customer to attempt to seal the bags with an RTV Sealant and rely on expensive multilayer bags to affect a seal between the baskets and top plate of the vessel. Additionally, it was pointed out by NFC that the housing lid was improperly indexed leading to a misalignment of the bag filters and the housing lid causing flow restrictions and a by-pass condition. NFC helped the customer properly index the housing lid onto the housing and assisted in replacing new bag filters to create an adequate seal. Upon testing of the filter system and sampling of the filtered effluent, turbidity measurement requirements were surpassed for safe discharge. NFC also recommended the replacement of the filter baskets with new ones which would provide for a positive seal with standard filter bag tops. The customer has made these upgrades and has been able to save money on replacement bag filters while meeting cleanliness standards while safely discharging the filtered pond water.

