

Case Study

Chemical Cleaning of Pressure Filters

Mendota, CA

The Challenge

Visual inspection of filters at the Mendota Water Treatment Plant indicated heavy mineral accumulations on the media surface resembling iron and/or manganese. Extreme hydrogen sulfide odors were also detected in multiple filters, indicating a strong biological population. WTP (Water Treatment Plant) operators were unable to use the filters prior to cleaning due to the advanced fouling present within the system (increased turbidity and ineffective backwash cycles).

The Solution

Cleaning procedures called for reducing water levels within the units to 4-6 inches above the media surface, followed by introduction of the biodispersant, followed by application of phosphoric acid. The system size required 55 gallons of phosphoric acid and 28 gallons of biodispersant per filter.

All four filters were isolated, depressurized, opened, and visually inspected. Water levels were lowered to begin the cleaning process. The required quantities of chemicals were blended into a single cleaning solution and pumped into each filter vessel. Proper safety precautions were used for the mixing and application of these chemicals, which were applied to each filter unit with transfer pumps and allowed up to 19 hours of contact time. The cleaning solution was thoroughly mixed throughout the filter via air lancing. Regular agitation and mixing was conducted during the required contact time.

The Results

Following the required contact time, multiple backwash to waste cycles were conducted until filter effluent returned to normal pH and turbidity levels in each of the cleaned filters. The customer then proceeded to return the filters to service, following required protocol.

Post-cleaning inspection showed excellent removal of unwanted mineral and biological deposits on the media surface. Testing of filter effluent also recorded low turbidity levels. The customer was very pleased with the results of the cleaning process that allowed their WTP to return to normal treatment capacity and capabilities.



Media before chemical cleaning



Media after chemical cleaning