

Wastewater Case History

pH Adjustments and Post Treatment Solutions

Challenge

A manufacturer of air-conditioning line connectors for automobiles was required by the city to meet new sewer discharge standards. They had been using a system of gravity separation that did not address suspended solids or soluble metals. The wastewater generated approximately 6,000 gpd from three sources: mop water, parts deburring and polishing, and floor scrubber water. CETCO Energy Services was contacted to develop a system to meet their needs and discharge standards.

CETCO Solution

After reviewing the city sewer discharge standards, limitations for space in the plant and flow through requirements, CETCO determined that a CE-200GA unit would handle the manufacturer's current needs as well as their future expansion.

After extensive analysis of representative wastewater from their facility at CETCO's Wastewater Evaluation Laboratory, a recommendation was made to include pH adjustment on the CE-200GA unit along with post treatment through PM-100™ and activated carbon. This total program guaranteed the removal of suspended solids, oil and grease, and soluble metals from the wastewater.

The system that was ultimately installed included a 2,500 gallon equalization tank equipped with an oil skimmer and mixer. Water from the equalization tank is pumped in 200 gallon batches to the CE-200GA unit. The CE-200GA unit automatically adjusts pH and mixes RM-10®, a proprietary dry clay-based flocculant, with the wastewater. Within two minutes of mixing, a large floc develops in the water, removing all contaminants. When mixing stops the heavy floc falls to the bottom of the tank allowing for automatic decanting of clear water and subsequent dewatering of the resulting sludge over an indexing gravity bed filter. The treated water is collected in a bottom tank and then pumped through a bag filter, PM-100 vessel, and dual-activated carbon vessels.

The RM-10 chemical is used as a primary treatment to remove gross contamination. The PM-100 media is an organophilic clay granular media that is used as a pre-treatment to remove any trace oils that are left after RM-10 and before carbon. The activated carbon is used as a final polish to remove any trace metals that are left in the water. This unit has many fail safes to guarantee the quality of the final water going into the sewer.

Outcome

The pH treatment was successful in reducing the contaminants analyzed and the automotive manufacturer has been using CETCO's system since installation with total confidence in its ability to comply with discharge regulations and keep up with generated wastewater.