MAINTENANCE/EMERGENCY DOSAGE USING BAE[™]

OPERATIONAL EFFICIENCY CASE STUDY

FACTS

- Average daily flow of 12 MGD
- Secondary treatment process
- Two Digesters
- Recirculation pump mixers



Belt Filter Press





From the Earth...for the Earth[•] A JSH international[™] Company

TREATMENT OVERVIEW

This specific WWTP is well operated and well maintained. The authority management and operators are always looking for ways to increase efficiency and reduce operating costs. The facility treats both industrial and residential flows. The loadings to the plant vary based upon the industrial influent loadings.

Besides meeting plant discharge limits, the plant also sells part of their treated effluent for cooling water to an electric generating utility. The facility treats solids using anaerobic digesters. The loadings that affected the solids in the Aeration Basins would also affect the solids handling section of the facility. The biogas that is produced in the anaerobic digesters is used to heat the digesters and the buildings in the facility.

The facility uses a Belt Filter Press to thicken the digested solids. The thickened solids are then pumped to a barge which transports the thickened solids to a larger facility for final disposal.

PROJECT INTRODUCTION

In keeping with these goals, the authority stores **BAE**^m at the facility. The purpose of storing BAE^m at the facility was to have a product that would protect and maintain the stability of the aeration basins when the wastewater treatment plant experiences dramatic changes in the plant influent that would affect the normal treatment process.

The plant experienced changes in the influent loadings due to a high amount of organic acids and sulfides which can be toxic to the aeration basins. This can lead to a significant amount of the sludge inventory in the foam, compromising process control. Nitrification and denitrification often occur together within the floc, with no findings of free nitrate when examined. This caused the plant gray water that is sold to the neighboring electric utility to be affected.

RESULTS SUMMARY

The plant had several months of substandard performance prior to the feeding of BAE^{M} . The plant started to recover in early May of 2018 but still had high BODs affecting the aeration basins which in turn affected the quality of the effluent that they sold to the utility.

To counter this problem the plant applied BAE[™] at a rate of 10 gallons a day during this challenging time period. After feeding the BAE[™] in May, the plant had extended periods of superior plant performance.

The use of BAE^{M} in the aeration basins:

- CREATED A STRONG MICROBIOLOGY
- RESULTED IN QUICK RESPONSE & RECOVERY
- PROVIDED STABALIZATION FOR SMOOTH PLANT OPERATION
- CLEANED UP GRAY WATER

All of this enabled the facility to meet the contractual obligations of the utility to who they sold the gray water to.

