MBR for Major Cereal Manufacturer

Dynatec provides a turnkey wastewater solution to a food manufacturing wastewater process for a major cereal manufacturer.

The problem

A major cereal manufacturing plant manufacturer needed to upgrade their treatment process. MBR was selected, and the company was about one month away from entering into a contract with a major MBR supplier of submerged hollow fiber membrane bioreactors. The cereal manufacturer has had chronic problems in procuring wastewater treatment systems that were able to meet required treatment levels.

Dynatec was invited to offer a proposal based upon our previous experience and successful implementation of membrane bioreactor systems in the food industry. Specifically, Dynatec had previously installed a HiRate™ MBR system at another cereal manufacturing plant, which was operating without problems.

The Solution

When the two MBR systems were evaluated, Dynatec was selected. Reasons for selection were Dynatec’s experience with industrial wastewater, Dynatec’s record of success with other industrial MBR projects in the industry, lower cost and simpler operation.

Implementation

The system had one major requirement. It had to provide reliable operation without a long process of evaluating problems and making changes to the system. For this reason, the HiRate™ MBR process was used for its very reliable simple operation. A DAF was also provided by Dynatec ahead of the MBR system to remove solids and some BOD.

DAF effluent enters the MBR system for biological treatment and removal of solids. Some of the MBR effluent is reused on site for irrigation and other non-process uses. The other portion of MBR effluent is sent to a reverse osmosis system also provided by Dynatec. The RO effluent is used for cooling towers and other non-food reuse applications within the plant.

Dynatec was also engaged to install the system at the customer’s facility.
Conclusion

The plant was started up in May of 2009. It was a success. Dynatec provided and installed a complete integrated system including a DAF, MBR, Reverse Osmosis filtration, and a filter press for dewatering solids. Since the startup, the system has operated as designed with no major problems. It is the best operating wastewater facility within the manufacturer’s organization, and produces reuse water for beneficial use in the facility. Since startup, it was learned that the DAF was not required for successful operation of the plant due to lower than expected influent solids, which saves on chemical use and the processing of chemical sludge.

The key to success on this project was selecting Dynatec to provide a turnkey system. The single source of responsibility for the success of the plant was placed upon Dynatec, which resulted in a wastewater facility that exceeded expectations. Experience and the ability to provide a complete solution including process design, equipment design, manufacturing, installation, and startup made Dynatec the right choice to provide this successful solution.