Many recycle paper mills in China trust Xylem for wastewater treatment

Client
China is home to many recycle paper mills that provide the world with a wide variety of everyday products. Foshan Huafeng Paper Co., Zaozhuang Huarun Paper Co., and Anhui Shanying Paper are just three examples of paper mill companies that operate out of China.

Challenge
Because of thermomechanical and chemi-thermomechanical processes used in the pulp and paper industry, the resulting wastewater at recycle paper mills often contains compounds that make it difficult to treat. Zaozhuang Huarun Paper Co., Anhui Shanying Paper, and two of Foshan Huafeng Paper Co.'s paper mills required reliable wastewater treatment systems to overcome wastewater challenges.

Solution
Xylem's Sequencing Batch Reactor (SBR)

Sector
Pulp & paper

Location
China



Solution

The right wastewater treatment solution for all of the aforementioned recycle paper mills in China was Xylem's Sequencing Batch Reactor (SBR). The SBR is an activated sludge type treatment system that can carry out various wastewater treatment operations in one vessel. This is in contrast to conventional activated sludge systems where wastewater flows from one vessel to another, with each vessel performing a specific treatment operation. The process events are separated by time, rather than space.

The possible variations and combinations of events within the single tank allow for the removal of organic carbon, suspended solids, ammonia, total nitrogen, and total phosphorus. Depending on the influent wastewater characteristics and treatment objectives, there are typically four cycle events: fill, react, settle, and decant. The SBR can be used to polish anaerobic effluent or treat as a stand-alone process.

Results

The SBRs installed in China by Xylem provide the recycle paper mills with flexible wastewater treatment. In minutes, an operator can effectively add, lengthen, shorten, or alter the sequence of different cycle events to achieve a



desired process modification. By linking a Programmable Logic Controller (PLC) to the system, the process is easily monitored and controlled on-site by plant personnel.

Since solids separation and clarification occur in the same vessel as other treatment operations, the need for external clarifiers has been eliminated. Foshan Huafeng Paper Co., Zaozhuang Huarun Paper Co., and Anhui Shanying Paper have lower capital and operating costs associated with the SBRs than if the recycle paper mills had selected a conventional activated sludge treatment process. The SBRs also have less processing equipment to maintain than other activated sludge systems.

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