

CASE STUDY



Customer:

An engineered wood products manufacturing plant whose manufacturing processes require approximately 15,000 gallons per day of fresh water and introduce high TSS and organics (tannins and lignins) into their wastewater.

Project:

Provide a more effective (and cost effective) physical/chemical treatment program and reuse solution.

Highlights:

- Facility incurring high costs associated with downtime and parts replacement, due to the poor quality of their existing recycled influent
- ProChem provided improved physical/chemical treatment and a more effective reuse technology, producing higher influent quality
- Facility experiencing \$500K per year on parts replacement and 70 man hours per month on maintenance



High Quality Recycled Influent Extends Equipment Life

THE CLIENT'S CHALLENGE

The 15K gallons of wastewater per day was being treated and recycled back into their manufacturing process, but they were facing costly downtime and parts replacement due to the poor quality of the recycled water:

- The media in their Regenerative Thermal Oxidizing (RTO) units required replacing every two years, which is approximately a \$1 million investment per replacement.
- Once per month, production in the plant had to be shut down to clean their process equipment, consuming approximately 60-80 man hours to complete.

Additionally, the customer was experiencing environmental compliance violations.

THE PROCHEM SOLUTION

After completing the water analysis and assessing the facility's reuse potential and production goals, ProChem, Inc. offered an improved water reuse system and operational services. The water reuse system included a new physical/chemical treatment program and filtration media. This system operates 40 hours per week.

This water reuse system is equipped with local monitoring and automation controls and ProChem's web-based remote monitoring service, requiring minimal operator interaction.

A ProChem employee operates this system on-site daily. These responsibilities include testing equipment, calibrating instruments, and testing for water quality to ensure the system is meeting project goals.

With this water reuse system and operational services in place, the customer is experiencing a 100% wastewater reuse rate and a significant reduction to costly downtime and parts replacement, due to the higher quality of influent:

- The media in their RTO units was installed in 2009 and has not required replacement since (and shows no signs of wear). This is a cost savings of approximately \$500,000 per year on this task alone.
- The monthly process equipment cleaning process now requires less than 8 man hours to complete (compared to the previous 60-80 hours).

THE WIN

- 100% water reuse rate
- 100% environmental compliance related to wastewater
- Operational issues alleviated
- Eliminated media fouling in RTO units (saving approximately \$500K per year)
- Significantly reduced production downtime for routine process equipment cleaning (by over 70 hours)