

SUCCESS STORY

Processing contaminated sediment with filter presses at Lower Fox River, USA



SEPARATION

COST-EFFICIENT RIVER CLEANUP

MEMBRANE FILTER PRESSES
FOR A SUSTAINABLE REMEDIATION

ANDRITZ

ENGINEERED SUCCESS

The challenge

Process 375,000 m³ of contaminated sediment per year

Environmental remediation is always an ambitious task. And the case of the Lower Fox River remediation project in Wisconsin is no exception. To reduce risk to both human health and the environment, the project aims to remediate PCB-impacted sediments from a 21.4 km stretch of river through dredging, capping, sand separation, sediment dewatering, water treatment, and disposal. This project remains one of the largest environmental remediations of its kind in the world. The dewatering phase alone would require a completely new system capable of:

- Reliable, cost-efficient treatment of the riverbed's contaminated sediments

- High-capacity dewatering with minimal human intervention
- Achieving a dry solids content in the filter cake optimized for volume reduction
- Excellent quality of the filtrate for further treatment in the water treatment plant

After careful consideration and comparison of several solutions, the customer's bid evaluation selected ANDRITZ for planning, design, manufacturing, installation, and start-up of the membrane filter presses. Together with the customer, Boskalis Environmental, eight ANDRITZ membrane filter presses A4 2000 were chosen as the ideal set-up.



10%

IMPROVEMENT OVER
AMBITIOUS TARGET
THROUGHPUT
RATE

>55%

DRY SOLIDS
IN FILTER CAKE

**FULLY
AUTOMATED
OPERATION WITH
HIGH DRAINAGE
PERFORMANCE**

Filter press equipment consisting of 8 x A4 2000 membrane presses



Our solution

Eight fully automated, cost-efficient membrane filter presses

Each of the eight presses dewater approximately 18 t/h of filter cake, with more than 55% dry solids content. The filter cake is conveyed to a temporary storage building. The presses are equipped with an automatic cloth washing system that cleans the filter cloths using 100 bar pressure. The wash water is collected by means of drip trays.

Two centrifugal pumps in fail-safe design are used for each membrane filter press. In combination with an intelligent, hierarchically structured control system, this allows all eight presses to be operated from a central control room as each press is fully automated.

Results

Easy operation with throughput rate targets exceeded by 10%

By all measures, the collaboration was a complete success. After starting up the plant ahead of schedule in early 2009, it was soon proven that all customer requirements would be met thanks to the plant's reliable, automated, and cost-efficient operations.

Even these initial results were quickly surpassed before the end of the first year. After only a short period in

operation, the planned first year throughput targets were exceeded by approximately 10%.

Throughout the ongoing multi-year project, the system has been operated with complete customer satisfaction.

"We chose ANDRITZ because of their technology and customer service. It only took a few months with easy operation and higher-than-expected throughput to know that we had definitely made the right choice."

JOHAN DOLMAN

Retired General Manager Boskalis Environmental Netherlands



WHAT'S YOUR SEPARATION CHALLENGE?

ANDRITZ Separation is the world's leading separation specialist with the broadest technology portfolio and more than 2,000 specialists in 40 countries. For more than 150 years, we have been a driving force in the evolution of separation solutions and services for industries ranging from environment to food, chemicals, and mining & minerals. As the OEM for many of the world's leading brands, we have the solutions and services to transform your business to meet tomorrow's changing demands – wherever you are and whatever your separation challenge. **Ask your separation specialist!**

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