

## Reference Description Fox River

Membrane filter presses “stress-less” design  
Wisconsin, USA



## **Successful project at Fox River, USA - cost-efficient regeneration of polluted waters**

An awareness of environmental protection and sustainability is not only firmly anchored in the minds of the population in the USA, but is also an important topic in American politics and administration. Here, considerable efforts are being made to eliminate existing environmental damage. ANDRITZ is supplying the necessary key technologies for this.

One example of these environmental protection measures in the USA is the project for restoration of the Fox River in Wisconsin, which was polluted in the past by various industries. The deposits on the river bed contaminated with PCB, for example, are to be eliminated by dredging out the sediment and washing out the pollutants. A consortium headed by Boskalis – Dolman bv of the Netherlands has been commissioned to collect the sediment in the river's course, treat it with chemicals, dispose of the contaminated solids on dumps, and return the water to the river. There are plans to dredge out some 700,000 m<sup>3</sup> of sediment a year, treat it with chemicals, concentrate the material in a static thickener and then dewater it in membrane filter presses, all over a period of approximately 10 years.

### **Key technologies by ANDRITZ**

ANDRITZ ENVIRONMENT & PROCESS is responsible for planning, design, manufacture, installation and start-up of the complete dewatering plant. After careful examination by the consortium and the customer, the ANDRITZ A4 2000 membrane filter press was selected as the ideal unit. Eight membrane filter presses of the so-called "stress-less" design, each containing 188 plates of 2 m x 2 m format, dewater around 22 t/h of filter cake per press, with a maximum residual moisture content of 45%. The filter cake is brought to a collection hall on conveyor belts. Two centrifugal pumps in "fail-safe" design are used for each filter press. An automatic water spraying system operating at 100 bar cleans the filter cloths in cycles. The wash water is collected by means of swing valves. A special feature is the patented cloth spreading device: This allows the filter press to be operated fully automatically without an operator in attendance because the filter cake is discharged automatically by tilting the filter cloths to an angle. An intelligent control system with a hierarchical structure allows the entire plant to be operated from a central control room.

### **Start-up ahead of schedule, target values surpassed**

The plant was able to start operations before May 1, 2009, the date agreed for start-up in the contract. After only a short period in operation, the planned throughput was surpassed substantially, with the ambitious targets set for the full year in 2009 being exceeded by around 10%.