Case History

Pulp Industry

Pulp Mill Eliminates Scale in Critical Process Heat Exchangers

Performax™ Cooling Water Treatment and OnGuard™ 3H Analyzer

Customer Challenge

A European pulp mill was experiencing severe cooling water scaling in its process condensate heat exchangers (outlet water: 80 °C). Over the years, varying attempts were made to eliminate scale in this critical area. During each annual inspection, CaCO₃ scale was detected on the tubes requiring acid cleaning to remove it.

Recommended Solution

Solenis recommended a Performax cooling water treatment to improve scale control. Additionally, the latest innovation in online scale detection, the OnGuard 3H analyzer, was installed to provide microscopic levels of continuous scale measurement. The use of the OnGuard 3H analyzer allowed the mill to make performance based adjustments to the chemical feed rates. The OnGuard 3H analyzer also allowed for changes in the addition points of the Performax chemistry.

Results Achieved

Excellent scale control and clean surfaces were confirmed with the OnGuard 3H analyzer. During a potential upset period, scale deposition was detected by the OnGuard 3H analyzer, the system responded to the change in conditions making adjustments to prevent scale buildup. After 13 months with Solenis’ program, scale and the need for annual acid cleanings were eliminated, improving reliability and production efficiency for the mill.

Recorded Benefits

- Elimination and prevention of scale
- Improved heat transfer and pulp production efficiency
- Reduced usage and costs of chemical antiscalant
- Eliminated annual acid cleaning, improving safety and saving €20,000 per annum