

Bleach Plant Pumping System Optimization Case Study

~ *Mike Kozlowski (ABB)*

~ *William C Livoti (KCF Technology)*

~ *Warren S Hopper (Weyerhaeuser-retired)*

This paper will present a method which was used to estimate energy savings by optimizing targeted pumping systems in a Kraft pulp mill bleaching plant. The concept for the study arose due to the pulp mill's need to explore energy cost reduction while maintaining bleached pulp production rates. The study was performed to show potential savings by reducing speed of the existing pumping systems and un-throttling control valves or by application of an optimized (smaller) pump system, which could turn into a mill capital project. The authors will present the case study from an actual analysis, which includes: the pre-optimization screening process, the pumping system optimization analysis, and the final comparison between pre and post operating costs. Results of this study indicated potential energy savings ranging from 20% to 60% depending on the pumping application and type of optimization method employed.