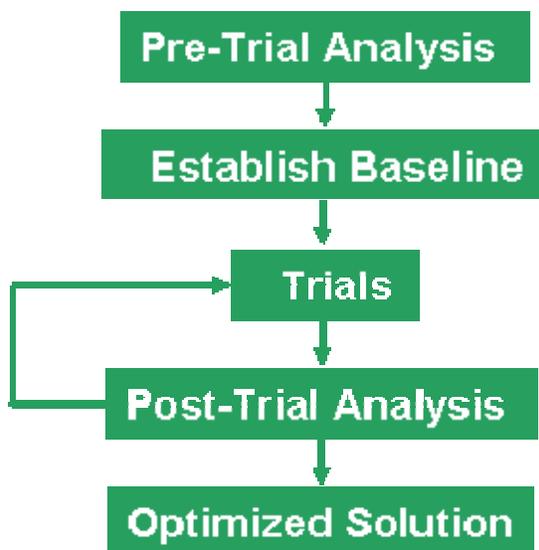


Fall 2004

Systematic Approach to High Consistency Refining

When addressing high consistency refining, mills need to use a systematic process to achieve the highest optimal outcome. The following steps will aid in achieving optimum process conditions, optimum refiner plate design, improved plate life, increased trial success and refiner optimization and efficiency.



J&L SmartPlates® is a key component within this process. SmartPlates uses temperature sensors embedded in refiner plates to provide information about the process. SmartPlates is an “Eye In the Refiner”. The SmartPlates concept is based on thermodynamic principles, mass and energy balances.

Within the high consistency refining process, SmartPlates establishes the baseline of a mill’s refining system and then is used to run controlled trials. The information collected by SmartPlates is analyzed to create an optimum plate pattern and define optimum process operating windows.

Once optimal conditions are created, the control feature of SmartPlates is implemented to control throughput, consistency, CSF and other factors thereby achieving energy savings without sacrificing pulp quality and reducing pulp quality variability.

J&L continues to add references to its SmartPlates list due to successful trials and proved performance. For example, one mill’s objectives were to increase plate life by 16% and decrease energy consumption by 5%. SmartPlates resulted in increasing plate life 120% and reducing energy by 6%! In addition, SmartPlates decreased motor load standard deviation by 79%. Based on the motor load variation reduction, this refiner has a potential of increasing the throughput by 10-15%, allowing the mill to replace market pulp with self-produced pulp.

SmartPlates success is due to everyone at J&L, from product development to manufacturing to sales and service. Our High Consistency Applications Managers instill confidence in our customers with their knowledge and extensive experience in high consistency refining. When asked, one Application Manager summed it up for them all, "We are employees of J&L, but we work for our customers." J&L would like to introduce you to our High Consistency Team:



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