



Spring 2008

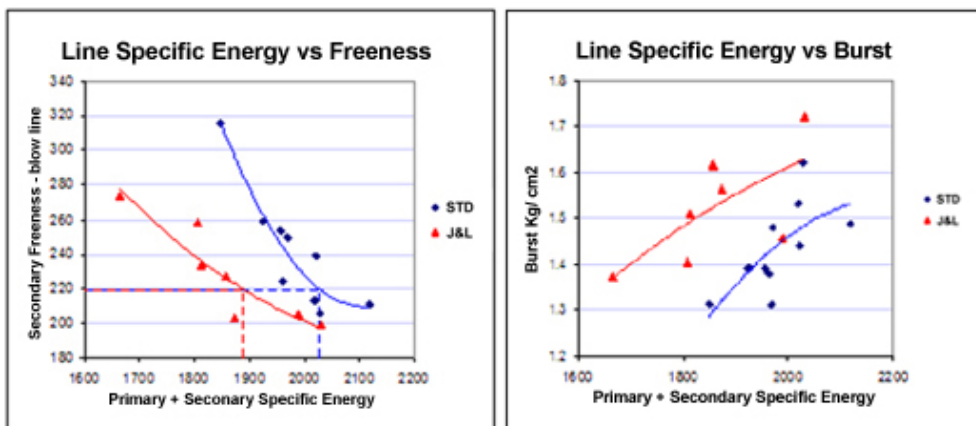
How Much of Your CD Refiner is Working for You?

When we surveyed many TMP and CTMP Managers, we discovered mills with CD refiners were generally focused on two areas, higher production and optimization opportunities. These objectives were generally the reasons for buying a CD refiner in the first place. CD refiners have two refining zones instead of one so it was a natural assumption to think their objectives would be met.

Unfortunately, when J&L started their work on process optimization of CD refiners, we found some surprising results. Even with higher production and optimization being the main reasons for buying CD refiners, once the CD refiners were installed, most mills had performed only limited optimizations based on rules of thumb (for example: run CD gap at 0.3 mm less than FZ gap, etc.) Very few mills had taken time to truly optimize their refining operations. Because of this, most of the CD refiners were only working at a fraction of their capacities.

In many cases, we found that the work done by the individual zones (FZ or CD) was not equally distributed. Most mills assumed that the CD zone puts about 50%-60% of the energy and rest is done by the Flat zone while in actuality, this range varied from 0% to 100%! This means that on one extreme, there were refiners where ONLY the CD zone contributed to the refining and on the other extreme, it was ONLY the FZ zone. To understand the significance of this finding, imagine that you have a Primary refiner in which 100% of the work is done by the FZ and a Secondary refiner in which 100% of the work is done by the CD. **Your line would be working similar to a SINGLE stage line and you are losing all the benefits of the multiple stage refining.**

When you distribute the work to both zones, there is a gain in the overall refining efficiency. This gain in efficiency can be translated into either quality improvement, energy savings or both. Following shows the effect of such optimization. The blue line shows the baseline (standard) and red line shows the trial (J&L).



In the case shown above, by distributing the work correctly between the FZ and the CD zone, more than 100 KWh/ T energy savings were realized and the burst improved for a given energy by 20% (at the same freeness, the burst improvement was 5%).

If you would like to get more information about optimizing your CD refiners, please feel free to call Arvind Singhal direct at 414-303-4594 or send him an [email](#).