

RECAUSTICIZING: REPLACE EXTERNAL MODULATION



SUMMARY

Goals:

- Eliminate hammering and scaling
- Achieve stable operation
- Reduce maintenance

Accomplishments:

- Eliminate hammering and scaling
- Achieve stable operation
- Reduce maintenance

A former Nekoosa Packaging Corporation in Valdosta, Georgia, USA, needed to eliminate hammering and scaling problems exhibited by the existing green liquor heater.

Nekoosa has been using an externally modulated direct contact steam heater. The mass steam flow rate was controlled by varying the steam pressure with an external control valve. The resulting pressure variations of the steam resulted in a reduced range of stable operation. When the heater was operating outside the limited stability scope, the heater exhibited severe hammering and vibration with consequent damage to internal components.

CONDITIONS

Fluid:	Green Liquor
Flow Rates:	300-800 GPM [82-218 m ³ /hr]
Inlet Temperatures:	140°F [60°C]
Discharge Temperature:	190°F [88°C]
Fluid Supply Pressure:	40 psig [3 barg]
Steam Supply Pressure:	150 psig [10 barg]

SOLUTION

Hydro-Thermal engineers installed the K414AN Hydroheater before the slaker to precisely control temperature and maximized the slaked lime's conversion efficiency.

Installed in 1989, the mill reported that all hammering and vibration had been eliminated. The green liquor temperature had been precisely maintained at 190°F [87.8°C], and the Hydroheater has operated without scaling or fouling.

Update: Regular maintenance can provide years of service even in a corrosive environment. The mill carries a spare heater for easy swap-out and uses a 2-3 year rebuild schedule to replace internal wear components. The current heater is on the fourth rebuild and has been in operation for 12 years.

Need more information about Hydro-Thermal products?

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400 Pilot Court | Waukesha, WI 53188
(262) 548-8900 | (800) 952-0121