1988 **Title:** **Increase of Recovery Boiler Burning Capacity Through Installation of an Improved Overbed Air System**

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## ABSTRACT:

Processing black liquor in the recovery boiler often presents a kraft mill with a bottleneck. This is especially the case when an increase in pulp production is desirable or when another unit is out of service. Operating other recovery boilers at sustained overload conditions without compromising safety and reliability may present a realistic alternative to purchasing a new recovery boiler.

The paper discusses procedures to evaluate the potential for capacity upgrade. Critical parameters that could define overload conditions, such as: heat release rates, flue gas temperatures, steam/water circulation, TRS generation, delayed combustion, solids carryover, and pluggage rates are identified. An evaluation of these parameters provides a means of determining the maximum burning capability of the unit.

Undesirable lower furnace combustion conditions (i.e., bed instability, low reduction, high TRS, suspension burning, carryover or high furnace outlet temperature) are frequently the limiting factors. These conditions can be alleviated by the installation of a new or improved overbed air system.