



1985 **Title:** **The Use of Dry Sorbent Injection for SO₂ Emission Control of Coal-Fired Boilers and the Potential Reuse of the Waste Chemicals in the Kraft Recovery Cycle**

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Presented: 1985 TAPPI Engineering Conference, Atlanta, Georgia

Ref. No.: TP1985B

ABSTRACT:

A completely dry process for control of SO₂ emission using sodium based sorbents is under development by the U.S. utility industry. Dry sorbent materials are injected into the power boiler flue gases upstream of a fabric filter baghouse. SO₂ reacts with the sorbent particles in suspension and on the bag surface forming a solid product that is removed with the collected fly ash. The process has demonstrated 70% to 80% SO₂ control capability at full scale. The benefits of this process are its inherent simplicity, low capital and operating costs, and potential high reliability. Application of this technology provides both a potential economic and environmental benefit for kraft mills with coal-fired power boilers. Dry sorbent injection could be used to control SO₂ emission from the power boilers and the waste product used as sodium and sulfur make-up sources to the kraft liquor system. Chemicals make-up in this manner is well suited to mill systems with high liquor sulfidity and high sulfur losses, and in unbleached kraft mills or other systems where sulfur containing spent effluents are absent or low. This paper discusses the state-of-the-art dry sorbent injection. The economic and technical aspects of the application of this technology to kraft mills are presented.