

Five Years of Commercial Fly Ash Beneficiation by Separation Technologies, Inc.

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ABSTRACT

Separation Technologies, Inc. (STI) has been operating commercial fly ash beneficiation systems for over five years. STI's electrostatic beneficiation technology reduces the carbon content of coal fly ash, producing a consistent, low LOI ash for use as a substitute for cement in concrete applications. Fly ash with carbon levels up to 30% have been used to produce a concrete grade ash with a controlled carbon level of $2 \pm 0.5\%$, virtually eliminating fly ash related air entrainment problems for concrete producers. A carbon rich product is simultaneously produced, which can be introduced to the utility boiler to recover the fuel value of the carbon. The technical details of the process will be discussed, along with the operationing histories of STI's three commercial installations: U.S. Generating's Brayton Point Station, Carolina Power & Light's Roxboro Station, and Baltimore Gas & Electric's Brandon Shores Station.