

## B. W. SINCLAIR INFORMATION UPDATE

### AUTOMATED SYSTEM DISCHARGES COAL ADDITIVE AT POWER PLANT



SINCLAIR has recently completed the design and manufacture of a material handling system for a coal beneficiation project at a Midwest utility.

Superfine powdered product is stored in a BWSI Payloader Dump Hopper fitted with an inclined Twin-Screw Feeder. The customer was concerned about the cohesive material discharging from the hopper, so the sloped walls are fitted with Cyclonaire Vibra-Pad™ aeration devices, powered by an air receiver tank and controls



To overcome the potentially sluggish and cohesive nature of this particular product, we designed a Twin Screw Feeder with counter-rotating variable pitch flights driven through interlocking spur pinion gears by a single drive module. The flight tips, carrying face, and the oversize center pipes are all hard-faced with Ranomatic-D™ hard alloy flux-core weld metal to combat the severe abrasion anticipated for this application.



The Twin Screw Feeder discharges a variable amount of the powder into the flared inlet spout of a BWSI 6x4 Centrifugal Discharge Bucket Elevator that elevates the material approx. 60 ft. The Boot section with manual screw-adjustment take-ups and CamLock™ Quick Access Inspection and Cleanout Doors forms the foundation for the elevator and provides the transition from the screw feeder,



The Bucket Elevator discharges the product into a BWSI Model 0106 x 6" Transfer Screw Conveyor to deliver the material to the customer's process line. The discharge spout of this conveyor is fitted with an extension chute and a Thermo-Ramsey Granuflow™ Flow Monitor (not shown). The elevator Intermediate casings are shown in the background.



The entire process is monitored and controlled by a BWSI Local Control Panel including a Reliance SP-500™ Variable Frequency Inverter to modulate the speed of the Twin Screw Feeder. The controls monitor flow, speed, loss-of-motion, and customer permissive signals, and communicate with the Cyclonaire Vibra-Pad™ system.

**B. W. SINCLAIR, INC.**

P. O. Box 1111 Wichita Falls TX 76307-1111 USA

[www.bwsinclair.com](http://www.bwsinclair.com) 940-766-2556 voice 940-766-0430 fax sales@bwsinclair.com