

## Coal reclaim aided by 12 ft. Bin Activator

### Customer

Allied Chemical Corp., Capels, West Virginia,  
(Semet-Solvay Division).

### Problem

In their Capels, West Virginia coal preparation plant, Allied Chemical Company processes metallurgical grade coal which is washed and prepared in various sizes according to customer requirements. Along with processing raw coal, Allied also reclaims coal from wet refuse material consisting of rock, slag and clay. Reclaim is achieved by separating the coal by a flotation process. The refuse material is first brought into the plant from a pile by conveyor and stored in a large skirted silo having a 1,500 ton capacity. The silo is 32-ft. in diameter and 82-ft. high. Because the material has a high moisture content, discharge to a pan feeder below became difficult, interrupting the entire coal reclaim process. Clogging of material at the discharge outlet slowed production and prevented the uniform flow of material needed for an efficient separation process.

### Solution

A 12-ft. diameter Vibra Screw Bin Activator

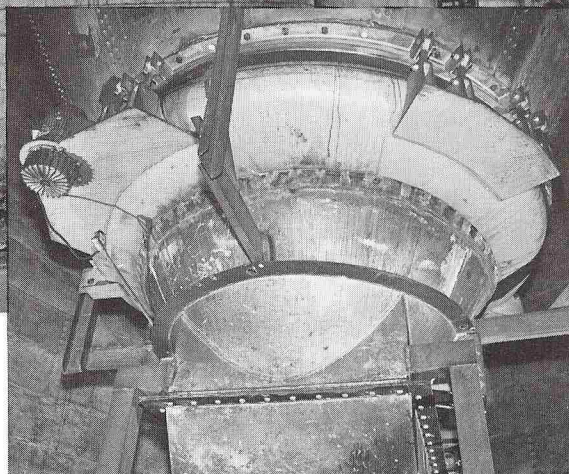
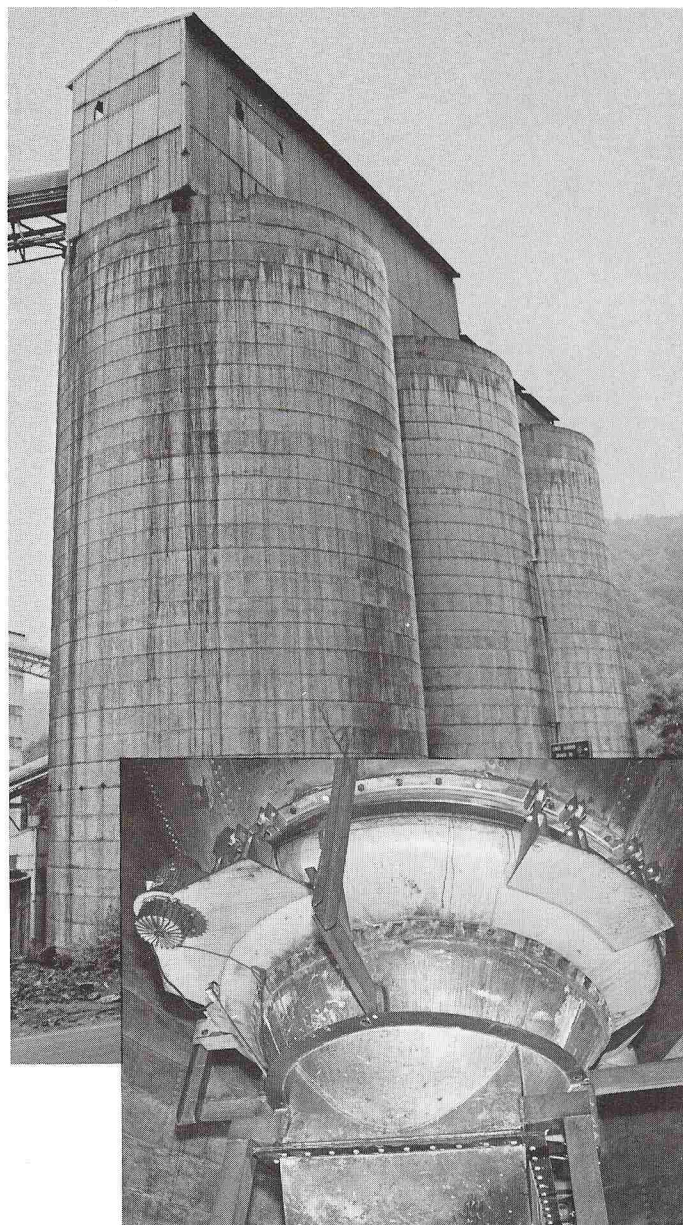
Allied realized they would need a reliable flow-aid device and selected a Vibra Screw Bin Activator. The cone of the bin was cut off at the 12-ft. diameter level and replaced by a flexibly hung Bin Activator of the same diameter. The activator is a vibrated bin bottom powered by a patented gyrator which is capable of producing vibratory thrusts in excess of 10,000 lbs.

In this particular application, an unusual method of installation was required. Ordinarily, a Bin Activator is mounted from directly below the bin. However, at Allied a door providing access to the bottom of the bin was too small to permit entry of the Bin Activator. Instead, the activator was lowered sideways from the top of the silo by a crane. A piece was notched out of the bin cone to allow the activator to be slipped through more easily from the inside. After the piece was welded back into place, the unit was brought up and bolted into position.

### Results

Benny Buckner, Standards Engineer at Allied, reports that the Bin Activator is achieving efficient results. "The unit significantly improved the material flow in the silo." The material now discharges from the bin in a first-in, first-out flow at the rate of 350 tons per hour.

The 82-ft. high silos store raw coal and wet refuse material.



A 12-ft. diam. Bin Activator attached to the skirted silo eliminates material discharge problems.