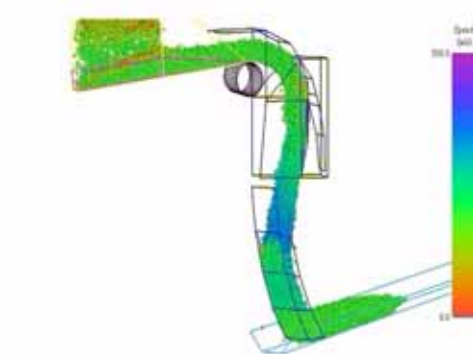
PROBLEM SOLVED™ PAPER

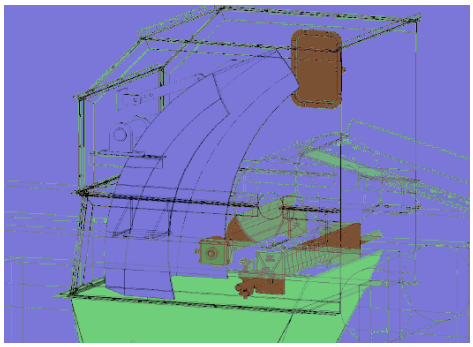
SOLUTION: Martin® Inertial Flow™ Transfer

INDUSTRY: Coal-Fired Power

LOCATION: Mississippi Power Plant Victor J. Daniel
Escatawpa, Mississippi



Coal movement was computer-modeled to make certain the proposed chutes achieved plant objectives.



Engineering drawing shows "Hood" for Conveyor 1C at Plant Daniel.

PROBLEM

Plant Daniel's two 500 MW units burn 2.9 million tons of a blend of bituminous and PRB coal annually. But the coal handling system had problems with dust and spillage. The plant wanted to reduce dust and spillage, and their related hazards, and at the same time control the expense for the contract labor used for clean up and wash down procedures.

SOLUTION

Plant Daniel decided to install flow-engineered chutes on a four transfers: at the crusher discharge (loading Conveyor C) and the tripper feed (loading Conveyor D) on both the PRB coal (#1) and bituminous (#2) sides of the system. Mississippi Power selected Martin® Inertial Flow™ Transfer Chutes from Martin Engineering.

To evaluate the performance of the custom-engineered chutes, Plant Daniel underwent a three-day pre- and post-installation dust testing procedure. Collecting plates and pails were placed in the same locations to gather dust and spillage. Collected material was weighed for a comparative analysis.

RESULTS

The testing showed dramatic reductions in the amount of dust and spillage following installation of the engineered-flow chutes. Spillage levels were dramatically reduced with valid tests consistently showing reductions of 80% or better. The levels of airborne dust were reduced approximately 50%. The chutes performed well below PM-2.5 requirements, with results running approximately 65% below the EPA standard of 2 mg/m3.

As a result of the installation of the engineered chutes, wash downs have been reduced from "every-day-without-fail," to "every couple of days, when required" schedule. This was been accompanied by a similar reduction in the hours (and cost) for contract labor used for these cleanup chores.

After the chutes were installed, Mississippi Power cancelled the planned addition of automated wash down systems at two of the transfers. The performance of the engineered-flow chutes eliminated the need for this $325,000 capital project.

Results from this installation were presented at the COAL-GEN Conference; contact Martin Engineering to receive a copy of the presentation.