

# Automating Coal Dust Washdown Boosts Safety, Saves Power Plant US\$25,000 per Year



## Problem:

A coal-fired power plant needed a faster and more thorough way to clean a large coal transfer building. Accumulation of the fine dust created in handling the coal could not be tolerated due to the risk of explosion.

The previous cleaning method consisted of two operators with fire hoses washing down the interior of the building and all the equipment in it. Cleaning this way exposed the operators to coal dust in the air and the process took up to two hours to complete. Hose streams from the floor also were ineffective in cleaning the upper side of beams and supports more than 20' (6.1 m) overhead.

## Solution:

An automated washdown system from Spraying Systems Co. solved the problem. The system consists of 12 ceiling-mounted TankJet® 80 tank cleaners on 40' (12 m) centers down the centerline of the 480' long, 40' wide, 50' tall building (146 m long, 12 m wide, 15 m tall). Plumbing the TankJet 80 units in three zones minimized the required pump size.

Each fluid-driven TankJet 80 includes two solid stream nozzles rotate in multiple axes in a pattern that provides complete 360° coverage. One operator follows up with a hose to spot clean as needed and the complete cleaning process has been reduced to just over 30 minutes.





## Automating Coal Dust Washdown Boosts Safety, Saves Power Plant US\$25,000 per Year – Continued

### Results:

By using just one operator for a much shorter length of time, the plant is saving approximately US\$25,000 per year in labor costs, which provided a payback period of about 16 months. Water usage has also been cut by approximately 20%, improving the plant's sustainability.

Even more important, however, is the increased level of employee safety. The risk of explosion due to coal dust in the air is greatly reduced and employees are spending much less time in the coal transfer building.

### A CLOSER LOOK AT THE SYSTEM

**TankJet® 80 Tank Cleaner** is a fluid-driven, turbine-driven unit with external gears that indexes the nozzles with each rotation. Slow rotational speed provides excellent dwell time on surfaces and improves cleaning.

Units are available with two or three solid-stream nozzles and have an effective cleaning range of 25' (7.6 m). Optional external clean-in-place nozzle cleans unit and drop pipe.



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