



Connected Solutions

## Plant Uses iCue™ Service to Help Reduce Emissions and Exposure Risks



### The Problem

In industrial facilities regulated by emissions standards, it's crucial to keep dust collectors in good working condition. A large powder processor near the Appalachians has strict parameters to maintain under a Title V permit from the state and EPA. However, one of the facility's collectors at a high-volume transfer point tended to fail, especially in humid weather.

"Emissions are always the thing we're trying to prevent, and this collector tended to allow them," says the maintenance manager. "With very fine product the consistency of baby powder, it plugged up the discharge point, pushed the filter bags out of their seat, and threw dust out the side."

To complicate matters, the chemical composition of the powder made inspection and repair hazardous.

"You don't want people inside these collectors very often for inspections because the fine dust reacts with perspiration and causes a physical burn," the manager explains.



## The Solution

He addressed the dual challenges by installing the iCue™ connected filtration service on the problem collector. The service provides automatic condition monitoring using IoT. Differential pressure (dP) data from the service enabled crews to solve the root cause of the dust back-up.

“Whenever we had high dP was when we had problems with emissions,” the maintenance manager says. “With the Donaldson system, we were able to monitor what was going on with the dP and change the way we’re operating the fan. By shutting it off every four hours for 30 seconds, it’s enough to get excess dust to release from the bags and convey it out.”

Since the issue was resolved, the iCue service is now monitoring particulate trends in discharge air to provide an early warning that emissions are rising, while dP levels help quickly address any potential breach.

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*We’re getting alerts on what the particulate percentage is as well as what the dP is. Those are the alarms we’ve set up,” says the maintenance manager. “In the last six months, we have not had a Delta P problem. And we’re going to reduce our preventive maintenance frequency from once every three months to once per year for a full mechanical and material inspection.*

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**With the iCue service recording operating data every 15 minutes,** the facility also gets accurate performance data to submit for compliance reports.

“Currently the production group has to go by and check our collectors once a shift and record the differential pressure and that’s stored for the state to be able to review,” the maintenance manager adds. “Now the environmental manager will be able to download the dP data once a month and we should be able to slowly eliminate these walk-throughs with production staff. We should actually be getting more data that are quality data in order to maintain that compliance requirement.”

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