



## Transloading Dry Bulk Fly Ash Case Study

### Case Synopsis:

Q: How did a leading dry bulk marketer and partner eliminate the bottleneck in their fly ash transloading operation?

A: By partnering with **ARS Recycling Systems** to integrate the ARS-DC5TL, a portable continuous dust collection system for dry bulk solids. This system significantly decreases downtime, while drastically increasing productivity through the application of ARS Recycling Systems' new Dust Control technologies.

### Introduction:

Waste Management partnered with Watco Companies to load pneumatic tankers with fly ash from coal fired power plants, Watco transports the fly ash by truck to rail terminals and distribution points. Waste Management's operation requires the transloading of fly ash in and out of both pneumatic trailers and railcars. ARS evaluated the operation and provided the solution to reduce exhaust pluming while increasing transloading production rates for fly ash.

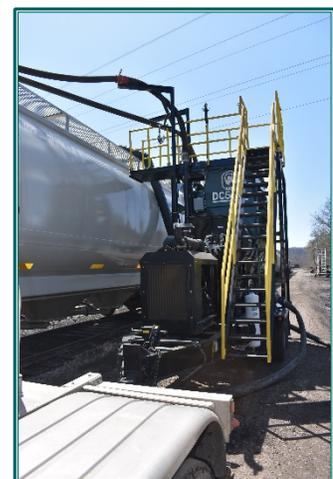


#### Main Concerns of Clients while Trans-Loading

- Protect the Environment
- Increase Productivity
- Decrease Maintenance Times

### Problem:

1. Dusting and pluming at the point of product transfer leads to potential environmental concerns and loss of product during transfer. Inconsistent and slow transloading times due to dust collection system issues with typical airflow and filtration.
2. Lack of proper airflow and filtration led to increased maintenance of dust collector systems and resulted in increased down times for preventive maintenance and emergency maintenance.
3. Productivity was compromised with the existing technology resulting in transloading one tanker in 1.5 hours.



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## Solution: Patent Pending ARS DC5-TL

1. ARS addressed the loss of product due to pluming, by introducing a rotary airlock valve that eliminates product in the dust control stream and returns the product and any particulate back to the transloading line. By utilizing ARS's patent pending technology, Waste Management was able to trans load more product per transfer and reduced Waste Management's potential for environmental concerns, by eliminating dusting and pluming at site of transfer.
2. When ARS examined the slow transloading times, it was apparent the airflow needed addressing in the old system, ARS was able to increase the CFM from 2000 up to 5000 with the DC5-TL. The filtration issues were also addressed by increasing the media space from 325 sq. ft. to 1620 sq. ft. These are contained in a bank of nine vertical air purging cartridge filters, backed up by a compressor with an air-drying system (34 CFM).
3. Prior to implementing the ARS DC5-TL, preventive maintenance shutdowns were a regular part of the operation. Once the new unit is put in place, the ARS DC5-TL can run for up to 2000 hours without filter maintenance. Less downtime has led to an increase in both consistency and trans load times, resulting in more tons transloaded per hours. Besides the increase in productivity for the site operations, the ARS DC5-TL is built heavy duty and easily handles the rugged environment in which it is placed. The heavy duty build of the ARS DC5-TL also contributes to decreased emergency maintenance times.
4. On Previous equipment, site operations could effective transload 5 tankers prior to implementing the ARS DC5-TL. After the new machine was put in place, site operations can now transload up to 20 tankers in the same period, increasing site productivity by 400%. The ARS DC5-TL can effectively unload two tankers simultaneously in 45 minutes, prior site operations were unloading one tanker in 90 minutes.



## Evaluation:

ARS was able to address several concerns for the clients by implementing the ARS DC5-TL. With the new patent pending rotary airlock, dusting and pluming potential has been eliminated, along with potential environmental concerns for the client. The heavy duty build and the reduction of filter maintenance time, has made the DC5-TL the right trans loader for that site operation. Maintenance and unloading times have been cut while still maintaining a high level of productivity.



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