CYCLONAIRE CASE STUDY

Salt River Materials Group 19th Avenue Terminal

Situation

Headquartered at the Salt River Pima-Maricopa Indian Community's Chaparral Business Park near Scottsdale, Arizona, the Salt River Materials Group (SRMG) is a leading supplier of portland and masonry cements; fly ash and other pozzolans; normal and lightweight aggregates; products throughout Arizona and the southwestern United States. With its strategically located manufacturing facilities, a large fleet of railcars and an extensive network of rail-served bulk terminals, SRMG delivers products and services to the construction market.

SRMG contracts with coal-fired power plants to take their fly ash, which is a by-product from the coal burning process. Prior to advancements in beneficiation equipment and concrete technology, fly ash was typically destined for on-site disposal. Today, it is considered to be a valuable component in high-performance concrete. Due to the physical and chemical characteristics of fly ash, both plastic and hardened properties of concrete can be improved. Two types of fly ash—Class C and Class F—are the by-products of burning different types of coal. Blending Class C and Class F fly ash produces a high-quality and consistent Class F fly ash.

Project Profile

Client: Salt River Materials Group

Project: 19th Avenue Terminal Fly Ash Blending System

Cyclonaire Equipment:

Two CB-150 Vacuum-Loaded Blend-Veyors Two Blower Packages System Controls

Date Completed: October 2017

Objective: Weigh, Batch, Blend and Convey Fly Ash to Destination Silos

SRMG serves ready mixed concrete producers across the Southwest region from strategically located sources and terminals. The SRMG 19th Avenue Terminal is located along a BNSF rail line just south of downtown Phoenix. A facility upgrade was needed to blend and make more F ash available to the market; the end result was an engineered system that includes Cyclonaire pneumatic blending/conveying products.



Cyclonaire Solution

The demand for concrete and concrete products is rapidly growing in the Southwest for construction and infrastructure development and SRMG is up to the challenge of supplying fly ash to meet those needs. By modifying its 19th Avenue Terminal, SRMG was able to boost output of critical fly ash supply by blending Class C and Class F to create a Class F that meets ASTM C618 requirements.

We approached the project from an efficiency perspective. Our goal was to simplify SRMG's production process with a system that was easy to maintain, achieved production goals and complemented the existing flow. We provided a CB Series Blend-Veyor semi-dense conveying system with batching and blending capabilities. The system included two CB-150 Blend-Veyors, two blower packages and system controls. These components allowed SRMG to weigh, batch, blend and convey material in one unit.

With Cyclonaire CB-150 Blend-Veyors, Class C and Class F fly ash can be weighed and blended in the same vessel. The two Cyclonaire pneumatic conveyors run simultaneously to ensure ongoing production even if one of the conveyors is down for service or repair. After blending, the material is pneumatically conveyed into a silo for discharging into a truck or rail car.

Because all maintenance takes place at grade on the unit and replacement components are relatively inexpensive, it is easier—and more economical to maintain this system than a mechanical approach that has many moving parts.

With this Cyclonaire solution, which processes 50 tons per hour per pod, SRMG can increase fly ash production by efficiently weighing, batching, blending and conveying material in one pneumatic unit. That's airefficiency.







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