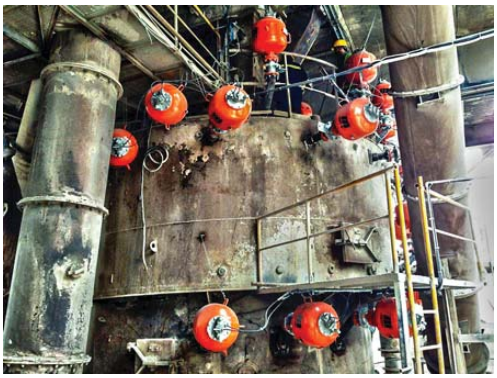
PROBLEM SOLVED™ PAPER

SOLUTION: Martin® Air Cannon, Thermo Safety Shield, Return Reservoir

INDUSTRY: Cement

LOCATION: Büyükçekmece Cement Plant, Istanbul, Turkey

29 Martin® Hurricane Air Cannons, each with a 70 liter reservoir, were installed in strategic locations.



Installed in a series and sequenced for maximum effect, the air cannon network can be timed to suit specific conditions.

22 existing Tornado Air Cannons were upgraded with a Martin® Piston Return Reservoir to reduce operating costs.

PROBLEM

The Büyükçekmece cement plant located west of Istanbul, Turkey, has a production capacity of 5,900 tons of clinker per day. Operated by the Akçansa Group (a joint venture between Turkish Sabancı Holding and German Heidelberg Cement), it's one of the largest producers in Turkey's busy cement industry, supplying 10% of the country's total demand and 12.5% of the nation's total cement and clinker exports. As the facility's output capacity increased and fuel types changed over the years, workers began having to manually dislodge material buildup in Cyclone 4 of Kiln #2's preheater tower in order to maintain throughput. The unscheduled shutdowns to allow cleanout of the cone and deep tube interfered with production schedules and exposed maintenance staff to potential hazards.

SOLUTION

Plant officials contacted Martin Turkey to conduct an audit of the process to determine the optimum solution. It was determined that a series of air cannons would be the best option to return normal flow to the system and prevent future blockages. To control the material buildups and maintain production stability, 29 Martin® Hurricane Air Cannons were supplied by Martin Turkey, each with a 70 liter reservoir, installed in strategic locations by Martin. The installation included hi-velocity and fan-jet nozzles with Martin® Thermo Safety Shields to protect maintenance personnel when they inspect or service the air cannon system. Additionally, the facility's 22 existing Tornado Air Cannons at the inlet chamber and riser duct of the Kiln #2 preheater tower, were upgraded with a Martin® Piston Return Reservoirs, canisters that close the valve after approx 50% has been discharged.

RESULTS

Since the installation of the new air cannon network, no unscheduled shutdowns have been caused by material buildup in that section of the cyclone. With the problem solved, engineers have turned their attention to some additional buildups higher in the deep tube, an area not covered by the air cannon network. During its next shutdown, the plant will install an additional set of four Martin® 70L Hurricane Air Cannons, locating them above the cyclone deep tube.

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