CASE STUDIES

Sand & Gravel: Grizzly Vibrator Installation

Grizzly Feeder redesign remedies slowed production and safety issues while reducing cleaning time.

Introduction

This job story illustrates how continuous improvements to processes – like the addition of vibration to a grizzly bar grate – can ultimately save time, money and keep personnel safe from physical injuries. At this northeast plant, heavy equipment operators would frequently need to stop loading the grizzly feeder to clean oversized material from it. This extra step not only slowed production, but created a potential for injury to the operators who had to climb onto the grate to remove oversized stones that were jammed between bars.

Problem in More Detail

Working with soil and stones is sure to cause a jam due to the varying sizes of materials that need to feed through the grizzly bars. When the buildup of stone and soil occurred, operators would constantly need to remove them from the grizzly bar grate. These activities slowed down production by delaying the loading of the screener. It also presented a safety hazard as the workers had to disassemble equipment to deal with the cleaning of the grate. The danger for the operators came when they climbed in and out of their equipment and were exposed to other earthmoving equipment on the ground in the mine area. Additionally, they were exposed to potential injury while climbing onto the grizzly and having to forcefully remove obstructions that were sometimes quite heavy.

Production throughout the entire facility was delayed by the stoppage of product flow to their screeners and crusher. These delays at times were responsible for missed deliveries and for production and maintenance workers needing to take on duties outside of their normal scope of work. The additional duties subjected these employees to physical danger when they needed to park and climb down from the heavy equipment that is essential to the operations of the facility.

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Solution

An AIRMATIC Vibration Specialist proposed the addition of an 1800 rotary electric vibrator, generating 1300 CF lbs., mounted onto the grizzly bars using an AIRMATIC designed special mount beam kit. We provided the customer with drawings and instructions concerning the proper installation of the mount, motor, and how to protect the motor from damage or unusual wear and tear. The installation of the vibrator on the grizzly bar grate eliminated the clogging of the bars that caused stoppage of the feeder.

Conclusion

This redesign and improvement have greatly decreased the number of times per week workers spend cleaning off the grizzly bar grate. This case study shows that the proper application of vibration to encourage flow can save time, increase productivity by eliminating costly work stoppage, and reduce the risk of injury by keeping workers in their equipment out of harm's way.

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