

MNM Fatal 2013-12

- Falling/Sliding Material Accident
- September 18, 2013 (Kentucky)
- Crushed Stone Mine
- Front-end Loader Operator
- 56 years old
- 16 years of experience

Overview

The victim was killed when he was engulfed by material in a pug mill hopper (hopper). He used a front-end loader to place material into the hopper. He then entered the top of the hopper to remove a lump of stone that would not feed onto the belt conveyor below. The unconsolidated material that the victim was standing on collapsed, engulfing him. The hopper was operating at the time of the accident.

The accident occurred due to management's failure to establish policies and procedures for safely clearing a hopper. The hopper's discharge operating controls were not deenergized and locked out before the victim worked on or near equipment and he did not wear a safety harness and lanyard, which was securely anchored and tended by another person, prior to entering the hopper.

The hopper did not have a heavy screen (grizzly) installed to control the size of material and prevent clogging. Additionally, the hopper was not equipped with any mechanical devices or other effective means of handling material so persons can work where they are not exposed to entrapment by sliding material.

The victim was not task trained to recognize all potential hazardous conditions and to understand safe job procedures to eliminate all of the hazards before he began work on the hopper.



Root Causes

Root Cause: Management failed to establish policies and procedures for safely clearing a pug mill hopper. The hopper's discharge operating controls were not deenergized and locked out before the victim worked on or near equipment and he did not wear a safety harness and lanyard, which was securely anchored and tended by another person, prior to entering the hopper.

Corrective Action: Management installed a grating designed to cover the top of the chute. It has been welded to the top of the hopper to prevent persons from accessing the hopper. This grating also prevents lumps from clogging the discharge chute.

Root Cause: Management failed to ensure that the victim was task trained to recognize all potential hazardous conditions and to understand safe job procedures to eliminate all of the hazards before he began work on the hopper.

Corrective Action: Management established written policies and safe work procedures to ensure that miners are task trained when working near bins, hoppers, silos, tanks and surge piles. All miners received training regarding working near bins, hoppers, silos, tanks and surge piles. The task training included revised lockout procedures, lockout responsibility, and procedures to restore equipment and/or circuits to service. Requirements for wearing a safety belt or harness equipped with a lifeline when entering such facilities were also discussed.

Best Practices

- Establish and discuss policies and procedures for safely clearing a hopper.
- Equip hoppers with mechanical devices or other effective means of handling material so persons are not required to work where they are exposed to entrapment by sliding material.
- Install a heavy screen (grizzly) to control the size of material and prevent clogging.
- Task train persons to recognize all potential hazardous conditions and to understand safe job procedures for elimination of the hazards before beginning work.
- Before working on or near equipment, ensure that the discharge operating controls are deenergized and locked out.
- Wear a safety harness and lanyard, which is securely anchored and tended by another person, prior to entering bins, hoppers, tanks, or silos.