Mid-Year Summary of 2015 Fatal Accidents at Metal/Nonmetal Mines with Preventative Recommendations

Ten miners in the metal and nonmetal mining industry were killed as a result of accidents from January 1 to June 30, 2105.

In the first six months of the year, two of the fatalities occurred at underground mines; eight at surface mines. Two of the miners were supervisors. Two trends in fatalities were noticed in the average age of the miners who died were 54 and fifty percent of the fatalities occurred at mines with less than 10 employees.

Six of the fatalities occurred in the first quarter of the year. Two miners died in **Machinery** accidents. **Powered Haulage**, **Falling/Sliding Material**, **Fall of Roof or Back** and **Hoisting** accidents contributed to the deaths of the remaining 4 miners. Two of the fatalities were contractors.

Four miners were killed in the second quarter of 2015. **Powered Haulage**, **Falling/Sliding Material**, **Striking or Bumping and Fall of Person** accidents claimed the lives of these four miners. Two of the fatalities were contractors.

When completed, a detailed investigation report of each fatality is posted on the MSHA website at:
http:/www.msha.gov/fatals/fab.htm

Here is a brief summary of these accidents:

Two miners were killed in Powered Haulage accidents.

A 44-year old haul truck driver was operating a loaded articulated haul truck along an elevated roadway next to a dredge pond. After traveling about 125 yards from the loading point, the haul truck drifted into the water.

A 61-year old water truck driver was killed when a water truck ran over a portable toilet that was occupied by the victim.

Two miners were killed in Falling/Sliding Material accidents.

A 63-year old sales manager was installing new screen panels in the B tower screen. The feeder box pivoted, pinning him between the box and the rear support beam of the screen deck.

A 65-year old equipment operator was operating a front-end loader removing material from a sand bank when material above fell and engulfed the machine entering the operator's cab and asphyxiated the victim.

Two miners were killed in Machinery accidents.

A 57-year old heavy equipment operator was operating an excavator near a water filled ditch when the excavator tipped forward and went in the water, submerging the cab.

A 48-year old mine operator was operating a walk-behind masonry saw, positioned between the saw and a ledge, when he tripped and fell. The victim and the saw went over the 4½-foot ledge, resulting in the saw falling on him.

One miner was killed in Fall of Roof or Back accident.

A 54-year old miner (ground support) was operating a mechanical scaler in an intersection when a roof fall (55 feet long x 20 feet wide x 6 feet thick) occurred, covering the machine.

One miner was killed in Hoisting accident.

a 53-year old contract shaft miner was positioned on a work platform on top of a skip traveling up the ventilation shaft.

He struck a steel cross member on a beam in the shaft.

One miner was killed in Striking or Bumping accident.

A 66-year old contract service mechanic reported to several witnesses that he had hit his head earlier in the shift and afterward was found unconscious.

One miner was killed in Fall of Person accident

A 59-year old delivery truck driver arrived at the plant to deliver drums. After opening the trailer doors, the driver walked to the cab of his truck and proceeded to climb the steps to get back in the cab when he suddenly fell backwards onto the ground striking the back of his head.

Best Practices

Effective safety and health management programs save lives. Workplace examinations can identify and eliminate hazards that kill and injure miners. Effective and appropriate training, including task training, helps to ensure miners recognize and understand hazards and how to control or eliminate them.
While some of the specific circumstances of these accidents remain under investigation, here are some of the best practices that prevent them:

Powered Haulage Accidents
These deaths can be prevented by following these Best Practices:

- Task train mobile equipment operators adequately and ensure each operator can demonstrate proficiency in all phases of mobile equipment operation before performing work.
- Provide and maintain adequate berms or guardrails on the banks of roadways where a drop-off exists.
- Conduct adequate pre-operational checks and correct any defects affecting safety in a timely manner prior to operating mobile equipment.
- Maintain control of self-propelled mobile equipment while it is in motion.
- Operate mobile equipment at speeds consistent with the conditions of roadways, tracks, grades, clearance, visibility, curves, and traffic.
- Conduct adequate work place examinations using competent persons and promptly correct hazardous conditions that adversely affect safety and health.
- Ensure that all exits from cabs on mobile equipment are maintained and operable.
- Locate portable toilet facilities in areas inaccessible to mobile equipment. Always be aware of equipment operating in close proximity to your area.
- Ensure that all persons are clear before moving equipment.
- Sound your horn to warn persons prior to moving mobile equipment and wait a few moments to give them time to get to a safe location.
- Communicate with mobile equipment operators before getting on or off of equipment and ensure they acknowledge your presence.
- Establish rules and use signs or signals warning of hazards at locations where pedestrians and mobile equipment are both performing tasks.

Falling/Sliding Material Accidents
These deaths can be prevented by following these Best Practices:

- Establish and discuss safe work procedures. Identify and control all hazards associated with the work to be performed along with the methods to properly protect persons.
- Always follow the equipment manufacturer's recommended maintenance procedures when conducting repairs to machinery.
- Task train all persons to recognize all potential hazardous conditions and understand safe job procedures to eliminate all hazards before beginning work.
- Securely block equipment and components against hazardous motion at all times while performing work.
- Ensure that blocking material is competent, substantial, and adequate to support the load.
- Require all persons to be positioned to prevent them from being exposed to any hazards. Do not work in pinch points where inadvertent movement could cause injury.
- Observe and evaluate all pit, highwall, slope, and bank conditions prior to beginning work and throughout the shift to ensure safety. Be especially vigilant for these conditions after each rain, freeze, or thaw.

•Provide equipment cabs strong enough to resist burial pressure.

Machinery Accidents
These deaths can be prevented by following these Best Practices:

•Task train all persons to recognize all potential hazardous conditions and safe job procedures to identify and eliminate all hazards before beginning work, specifically the limited visibility of large equipment.
•Discuss safe work procedures before beginning work. Identify and control all hazards associated with the work to be performed and the methods to properly protect miners.
•Provide traffic patterns and roads that minimize the danger of machines traveling near bodies of water.
•Conduct examinations of travelways to evaluate hazards.
•Install barriers, markers, or other warning devices to aid equipment operators where travelways are not recognizable or hazards are not apparent. Limit travel of mobile equipment and inform mobile equipment operators of hazards.
•Do not travel into areas where ground conditions can't be verified. If necessary, use the bucket of the machine to probe the travel/work area to check the ground conditions.
•Ensure that operators are in a safe position and have control of their equipment at all times.
•Keep workplaces free of tripping hazards.
•Use barricades or railings at edges of drop-offs where persons are in danger of falling.
•Equip walk behind masonry saws with automatic shut off devices to stop the engine if the operator cannot maintain control of the equipment.
•Design bench top stone cutting patterns to ensure the saw operator is not positioned between the saw and the drop off edge.

Fall of Roof or Back Accidents
These deaths can be prevented by following these Best Practices:

•Establish safe work procedures that ensure a safe work location for miners conducting scaling operations, and train all miners to recognize and understand these procedures.
•Discuss safe work procedures before beginning work. Identify and control all hazards associated with the work to be performed and the methods to properly protect miners.
•Always examine and test areas for loose ground before starting to work, after blasting, and as ground conditions warrant.
•Identify and scale loose material from a safe position which will not expose miners to falling material.
•Test for loose material frequently during work activities. Be alert to any change of ground conditions.
•Install ground support in roof and ribs where conditions warrant.
•Use equipment with a reach that reduces the possibility of the equipment being struck by falling material.

Hoisting Accidents
These deaths can be prevented by following these Best Practices:

•Train all persons in hazard recognition, awareness of their surroundings, and safe positioning when riding skips.
•To prevent hazard exposure, require safe positioning for personnel who ride skips.
•Monitor all persons for safe positioning when riding skips.
•Place warning signs on skip platforms to remind persons to keep body parts inside the handrails

Striking or Bumping Accidents
These deaths can be prevented by following these Best Practices:

•Wear a hard hat to protect your head from injuries resulting from impact with other objects.
•Maintain proper lighting in work areas.
•Use the proper tools for the job.
•Discuss work procedures; identify all potential hazards; and ensure the job is done safely.
•Ensure that persons are trained, including task-training, to understand the hazards associated with the work being performed.

Four contractors were killed at metal and nonmetal mines in the first half of 2015. Contractors and mine operators should ensure that contractors are properly trained and are following the mine's safety policies and procedures. Contractors and mine operators should coordinate operations at the mine to ensure that safety and health management programs are in place and are effective, all workplace examinations are performed, and safe work procedures are followed.

Conducting workplace examinations every shift can prevent injuries and deaths when safety and health hazards are found and fixed. Miners are protected when workplace examinations are conducted and hazards are identified and eliminated.

For the first half of 2015 fifty percent of the fatals occurred at operations with 10 or less employees. MSHA's Educational Field and Small Mine Services (EFSMS) works with small mining operations to help them improve or develop safety and health programs tailored specifically to the needs of their miners and operations. EFSMS has training specialists to work one-on-one at the mine site with the mine operator and miners and show them the business case for good safety and health practices. EFSMS specialists also show small mine operators how to develop and maintain an effective safety and health program.

The average age of the ten fatalities was 54 and the last three miners who lost their lives were over 60. Twenty percent of American workers will be over age 65 by 2015 and 25 percent will be over age 55 by 2020, according to the U.S. Bureau of Labor Statistics. National Institute for Occupational Safety and Health (NIOSH) states that older workers tend to experience fewer workplace injuries than their younger colleagues, perhaps due to increased caution and experience, but when accidents do occur, older workers often require more time to heal, and incidents are more likely to be fatal. These outcomes reflect the need for employers to be mindful of how best to keep older workers protected from on-the-job hazards

Take action to prevent additional injuries and deaths. Printable posters regarding the causes of some of these accidents can be found on the Alerts/Hazards section of MSHA's website. www.msha.gov . Fatalgrams describing each fatality and Best Practices to prevent a recurrence can also be found on the agency's website.