Quarterly Training Summit
January 2017

U.S. Department of Labor
Mine Safety and Health Administration

1/18/17
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<thead>
<tr>
<th>Time</th>
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<th>Topic</th>
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<tbody>
<tr>
<td>12:30pm</td>
<td>Jeff Duncan</td>
<td>Welcome and Introduction of Assistant Secretary Main</td>
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<tr>
<td>12:35pm</td>
<td>Joe Main</td>
<td>Opening Remarks</td>
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<tr>
<td>12:45pm</td>
<td>Marcus Smith</td>
<td>Review of Coal Fatalities</td>
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<td>Review of Coal Serious Accidents</td>
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<td>12:55pm</td>
<td>Larry Trainor</td>
<td>Review of MNM Fatalities</td>
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<td>Review of MNM Serious Accidents</td>
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<td>1:05pm</td>
<td>Kevin Deel</td>
<td>EFSMS</td>
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<td>1:10pm</td>
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<td>Questions</td>
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<td>1:25pm</td>
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<td>Closing Remarks</td>
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Coal Mine Safety & Health
Fatal Accidents
4th Quarter 2016

Marcus Smith
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Coal Fatality

- Underground Mine – 1
- Classification – Machinery
- Alabama
- Occupation - Technical Representative
On December 2, 2016, a technical representative for a shield manufacturer, with 13 years of experience, received fatal injuries while adding components to the hydraulic system of a longwall shield. The victim was positioned inside the shield near the hinge point when the shield collapsed and crushed him.
Best Practices

• Ensure that miners who install, remove, or maintain shields are trained on proper procedures.

• Never remove hydraulic components without first determining if they are pressurized and/or supporting weight. Ensure all stored energy is released or controlled before initiating repairs.

• Never work on hydraulic components of both supporting cylinders of longwall shields simultaneously. A shield can collapse if hydraulic components from both cylinders are removed, even if both cylinders have functioning pilot valves.

• Never work on a component that supports a raised portion of the shield unless the shield is blocked against motion.

• Be aware of potential pinch points when working on or near hydraulic components. Examine work areas for hazards that may be created as a result of the work being performed.

• Maintain good communication with co-workers. Make sure those around you know your intentions.
Serious Accident
On October 18, 2016, a continuous mining machine operator was seriously injured when he was pinned against the coal rib by the conveyor boom of the mining machine. The mining machine was equipped with a proximity detection system. A cut had been completed in the working face. At the time of the accident, the mining machine was being used to “clean up” on the left side of the entry in the working place.
Best Practices

• Avoid “RED ZONE” areas when operating or working near a remote controlled continuous mining machine. Ensure all personnel; including the equipment operator is outside the machine turning radius before starting or moving the equipment. STAY OUT of RED ZONES.

• Maintain a safe distance from any moving equipment. Position the conveyor boom away from the operator or other miners working in the area or when moving the machine.

• Perform manufacturer’s pre-operation examinations each shift to ensure the proximity detection system is in proper working order to verify that the shutdown zones are sufficient to stop the machine before contacting a miner.
Best Practices Cont’d.

• Be aware that radio frequency interference and Electromagnetic Interference generated by mining electrical systems can disrupt communications between the Miner Wearable Components (MWC) and the Proximity Detection System.
• MWCs should be worn securely at all times according to manufacturer recommendations and in a manner so that warning lights and sounds can be seen and heard.
• Always ensure continuous mining machine pump motors are disabled before handling trailing cables and never defeat machine safety controls.
• Develop procedures to assist the continuous mining machine operator when repositioning or moving the machine.
MSHA Training Summit
Metal and Nonmetal
4th Quarter 2016

Larry Trainor
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MNM Fatalities 4th Quarter 2016

• Surface Mines – 2
• Underground Mine – 1
• Classifications
  – Machinery – 1
  – Fall of Material – 1
  – Powered Haulage – 1
MNM Fatalities by State
4th Quarter 2016

- Georgia – 1
- Michigan – 1
- Washington – 1
MNM Fatalities by Commodity
4th Quarter 2016

• Sand – 2
• Gold – 1
MNM Fatalities by Occupation
4th Quarter 2016

• Equipment Operator – 1
• Truck Driver – 1
• Front-end Loader Operator – 1
On December 19, 2016, a 62-year old Front-end Loader Operator with 6 years of mining experience was fatally injured at a sand and gravel surface mine. The victim was engulfed by sand when entered a hopper to remove a blockage.
On October 9, 2016, a 61 year old Equipment Operator, with 3 years of experience, was fatally injured at a sand surface mine. The victim was attempting to attach a screen plant to a front-end loader by hooking them together with a steel cable when the equipment moved pinning the victim. The victim was later discovered injured and leaning against the loader bucket. The victim died of his injuries the following day.
On December 21, 2016, a 39 year old contract Truck Driver, with 11 months of experience, was fatally injured on the surface of a underground gold mine. The victim was hauling gold ore in an over-the-road truck from the mine to the plant. While descending the roadway from the mine, the victim lost control of his truck. He traveled up an embankment and over an approximate 20 foot drop, landing back in the roadway. The victim was transported to the hospital and died of his injuries several days later.
MNM: Serious Accidents
A haul truck operator lost control while traveling down a haul road. The truck struck a berm causing the truck to cross the road and travel through another berm. The truck flipped end over end and came to rest on its top. The operator received minor injuries. The operator was wearing a seat belt at the time of the accident.
A supervisor positioned the tracks of a hydraulic excavator in such a manner that it caused the machine to overturn as he was moving it. Though the supervisor sustained an injury to his shoulder, more serious injuries would have been likely had he not been using his seatbelt.
A miner was attempting to remove torn conveyor belting from a stacker tail pulley with the belt shut down and locked out. After being unable to remove the belting, the victim and another miner energized the belt and began jogging it to remove the belting when the victim’s arm became entangled. The victim suffered serious injuries to his arm.
Best Practices

- Conduct thorough examination of workplaces prior to starting work.
- Properly block equipment against hazardous motion during maintenance.
- Ensure that persons are trained, including task training, to understand the hazards associated with the work being performed.
- When traveling on a slope, an excavator should be driven straight up and down the slope at low speed and should not be driven across the slope.
- For maximum stability while at work on a slope, the crawlers or wheels and the undercarriage of the excavator should be placed parallel to the slope and not across the slope.
- Wear your seatbelt.
- Maintain control of mobile equipment.
- Eliminate distractions while operating equipment. Stop if you need to, eliminate the distraction and then continue your work.
- Ensure that objects inside of the cab are secured so they don’t become airborne during an accident.
A front end loader operator was loading sand into the feed hopper. He dismounted from the cab to retrieve two 55-gallon drum lids from the hopper, when he fell into the hopper and became engulfed by the sand.

Mine operators should equip feed hoppers with mechanical devices, gates/grilles or other effective means of handling material so that persons are not required to work where they are exposed to entrapment by sliding material. This short video, Quicksand, illustrates engulfment hazards.

MSHA standards 30 CFR §§66/77.16002(b) address bins, hoppers, silos, tanks and surge piles. They state, “Where persons are required to move around or over any facility listed in this standard, suitable walkways or passageways shall be provided." 30 CFR §§ 66/77.16002(c) require a safety belt or harness equipped with a lifeline suitably fastened.

Mine operators must always comply with the following additional standards:
• 30 CFR §§66/77.9301 - Dumps site restraints;
• 30 CFR §§66/77.9304 - Unstable ground;
• 30 CFR §§66/77.11001 - Safe access and;
• 30 CFR §§66/77.16005 - Safety belts and lines.

BEST PRACTICES

• Signs that warn, "CONFINED SPACE, ENGULFMENT HAZARD", should be posted at all access points to hoppers, bins, silos, tanks and surge piles.
• Mobile or stationary platforms from which miners may work should be made available at locations where there is risk of being engulfed by sliding material.
• Assign a safety harness and lanyard to each individual miner who may work at an elevated height, or who may work on or near locations where an engulfment hazard exists.
• Construct stable, durable and secure anchor points to which miners can attach a fall protection lanyard at all locations where an engulfment hazard exists, and inspect these anchor points frequently. Post signage, "FALL PROTECTION IS REQUIRED HERE".

Have a Safe 2017
Educational Field and Small Mine Services (EFSMS)

Upcoming Training for Industry on the “Examinations of Working Places in Metal and Nonmetal Mines Rule”

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Questions