

Fourth Quarter 2014 Summary of Fatal Accidents at Coal Mines with Preventative Recommendations

During the fourth quarter of 2014, four miners were killed as a result of accidents in the coal mining industry.

One miner died in a **Fall of Face, Rib, or Highwall** accident and another miner was killed in a **Fall of Roof or Back** accident. Two other miners died as a result of **Powered Haulage** accidents.

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:

One miner was killed in a Fall of Face, Rib, or Highwall accident.

On Tuesday, October 7, 2014, a 31-year-old utility worker, with 13 years of mining experience, was killed after he crawled 37 feet into an entry mined with a highwall mining machine to retrieve a broken cutter-head-chain from the mining machine. A rock, 8 feet wide, 6 feet long, and 16 inches thick fell on him. He was initially transported to a local hospital and was being airlifted to a larger medical facility when he died.

Two miners were killed in Powered Haulage accidents.

On Saturday, October 18, 2014, at approximately 10:05 p.m., a 51-year-old contractor truck driver with over 5 years of truck driving experience was killed while operating a rock truck. The driver was removing top soil ahead of a Pit when he drove off a highwall and fell approximately 240 feet.

On Tuesday, December 16, 2014, a 34-year-old repairman, with approximately 15 years of mining experience, was killed when struck by a ram car while he was walking inby on the mining section toward the face of the No. 7 entry. The ram car operator moved the ram car into the No. 7 entry with the batteries positioned outby the face area and then traveled towards the face area, striking the victim with the left side, trailer end of the ram car.

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

On Monday, November 10, 2014, at approximately 9:35 p.m., a 49-year-old section foreman with 27 years of mining experience was killed when he was struck by a large rock that measured 5 feet by 3 feet by 13 inches thick. The victim was operating a roof bolting machine on a section in the No. 2 entry at the time of the accident. The rock fell inby the last full row of permanent roof supports and between the automated temporary roof support (ATRS) and the left rib.

Best Practices

Miners do not need to die while working at coal mining operations. These fatalities can be prevented. No miner should die while working. Effective safety and health management programs save lives. Workplace examinations can identify and eliminate hazards that kill and injure miners. Effective and appropriate training help ensure that 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 is what we know at this time:

Fall of Face, Rib, or Highwall Accidents

These deaths can be prevented by following well-known precautions:

- Never go under unsupported roof.
- Never enter a hole mined with a highwall mining machine or auger without a specific, detailed, and approved plan to do so.
- Develop a plan to remotely retrieve any part of a highwall mining machine caught or left in an entry. The plan must specify methods which do not expose miners to hazards. Train all personnel in such plans.
- Know and follow the provisions of the established Ground Control Plan.
- Establish Ground Control Plans for highwall mining operations that ensure safety and address web spacing, depth of penetration, and confined work areas.
- Keep all equipment in proper working order by establishing and implementing maintenance schedules.

Powered Haulage Accidents

These death can be prevented by following well-known precautions:

- Operate equipment in a manner that is consistent with conditions of roadways, grades, clearance, visibility, traffic, and the type of equipment used.
- Standardize and post traffic rules, signals, and warning signs.
- Provide and maintain adequate berms and other barriers that are at least mid-axle high on the banks of roadways where a drop off exists.
- Train all employees on the equipment they operate, on safe job procedures, hazard recognition, and on hazard avoidance.
- Maintain control of equipment at all times during operation. Know the truck's capabilities, operating ranges, load-limits, and safety features.
- Monitor work activities and examine work areas to assure safe work practices are followed.
- Monitor contract employees adequately at all job sites to ensure that safe work procedures are being followed.
- Conduct pre-operational checks to identify and repair any defects that may affect the safe operation of equipment before it is placed into service.
- Use proximity detection systems to protect personnel from accidents of this type. See the [proximity detection single source page](#) on the MSHA web site.

- Ensure that visibility is clear in the direction of travel and across the equipment being operated.
- Use transparent curtain for checks and line curtains in the active face areas.
- Sound audible warnings if the equipment operator's visibility is obstructed, when making turns, reversing direction, or approaching ventilation curtains. Ensure the sound levels of audible warnings are significantly higher than ambient noise.
- Come to a complete stop and sound an audible warning before moving equipment through ventilation controls/curtains.
- Operate lights in the direction of travel when operating haulage equipment.
- Position yourself in an area or location where equipment operators can readily see you and confirm eye contact with the operator.
- Require the use of personal strobe lights for any foot traffic in by the tailpiece. Position personal strobe lights on the back of hard hats or equivalent areas and use reflective materials to ensure maximum visibility.
- For more information related to struck-by equipment accidents, view the following link: [MSHA – Safety Targets Programs – Hit By Underground Equipment](https://www.msha.gov/MSHA-Safety-Targets-Programs-Hit-By-Underground-Equipment) at www.msha.gov

Fall of Roof or Back accidents

These deaths can be prevented by following well-known precautions:

- Perform a visual examination of the roof, face, and ribs immediately before any other work is started in the area.
- Be alert to changing conditions, especially after activities that could cause roof disturbance.
- While under supported roof, perform sound and vibration tests where roof supports are to be installed.
- Adequately support or scale down any loose roof or rib material from a safe location.
- Ensure that ATRS systems on all roof bolting machines are maintained in good working condition and set firmly against the mine roof before installing new roof supports.
- Ensure ATRS are set within 5 feet of permanent support as well as within 5 feet of the rib line.
- Stay under the roof bolting machine canopy when working in the area between the ATRS and the last row of permanent roof support.
- Ensure that the approved roof control plan is followed and is suitable for the geologic conditions encountered at the mine. If conditions change and cause the plan to no longer be suitable, the plan must be revised to provide adequate support for the control of the roof face and ribs.

Violations of the priority standards identified as **Rules to Live By** continue to play key roles in mine fatalities. While the mine site portion of the fatality investigations have been completed, not all of the violations have been identified,

and not all of the associated citations and orders have been issued, it currently appears that violations of the Rules to Live By standards were still involved in several of those fatalities. MSHA's inspectors will be especially mindful of these issues while performing inspections. They will be talking to miners and mine supervisors in mines throughout the country to discuss these kinds of fatalities, and the ways to prevent them.

Contractors

One contractor was killed at coal mining operations in the fourth quarter of 2014. Contractors and mine operators should ensure that contractor employees are properly trained and follow 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.

The importance and value of effective **safety and health management programs** cannot be overstated. A thorough, systematic review of all tasks and equipment to identify hazards is the foundation of a well-designed safety and health management program. Modify equipment, processes, work procedures and management systems to eliminate or control identified hazards. Operators and contractors should create effective safety and health management programs, ensure that they are implemented, and periodically review, evaluate, and update them.

If an accident or near miss does occur, find out why and act to prevent recurrence. If changes to equipment, materials or work processes introduce new risks into the mine environment, address them immediately.

Conducting **workplace examinations** before beginning a shift and during a shift – every shift – can prevent deaths by finding and fixing hazards. All required workplace examinations must be performed and identified hazards eliminated to protect miners.

Providing effective and appropriate **training** to miners is a key element in ensuring their safety and health. Mine operators and Part 48 trainers need to train all miners to recognize the conditions that lead to deaths or injuries and ensure that measures are taken and followed to eliminate hazardous conditions. Training all miners to follow safe work procedures and stay focused on the task they are performing cannot be stressed enough.

Miners deserve a safe and healthy workplace and the right to go home safe and healthy at the end of every shift, every day. Working together, we can make that happen.