



# Quarterly Stakeholder Call

**April 30, 2018**

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



# Agenda

1:00 – Introductory Remarks by Assistant Secretary  
David G. Zatezalo

1:05 – MSHA's Powered Haulage Initiative

1:10 – Large Vehicles vs Smaller Vehicles

1:25 – Seat Belt Safety

1:35 – Conveyor Belt Safety

1:50 – Open Comments and Questions



# Powered Haulage Safety Initiative

- Of 21 accident classifications, Powered Haulage accounts for greatest share of fatalities
- 50% of fatalities in 2017; 57% of fatalities so far this year (4 of 7)
- Safety initiative includes outreach, training, collaboration with operators and miners
- Three target areas (initially): Large vehicles striking smaller vehicles; Seat belt usage; Conveyor belt safety



# Stakeholder Input

- We received more than two dozen ideas on powered haulage safety for this call
- Responses posted to website, we will share some today
- To submit your thoughts or questions during the call, type a message into WebEx or notify the operator when prompted



# Large Vehicles Striking Smaller Vehicles

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# Haul Truck vs Passenger Van

A 340-ton haul truck ran over a passenger van carrying nine miners on October 31, 2017. The driver of the van and the miner in the front seat were fatally injured. Of the remaining seven miners, one suffered a non-life threatening injury.



# Haul Truck vs Light-Duty Truck

A miner was fatally injured when his light-duty truck was run over by a haul truck on July 27, 2017. The victim was pronounced dead at the scene.



# Front End Loader vs Pickup Truck

An employee in a pickup truck approached the quarry loadout area to get the Front End Loader (FEL) operator for lunch on December 30, 2017. The FEL operator backed into the pickup, pushing it sideways and crushing the driver's side of the pickup cab, trapping the victim inside the truck. The pickup truck caught fire and efforts by the FEL operator and a nearby contractor to put the fire out using fire extinguishers were not successful.



# Haul Truck vs Supervisor's Van

A haul truck driver traveled into the pit loading area on June 19, 2017 and parked 30 feet from a supervisor's parked van. When the loader operator sounded a horn notifying the haul truck to move into position for loading, the driver moved forward, pushing the supervisor's van 30-40 feet. The supervisor exited the van through the window and was uninjured.



# Distractions

- Cell phone use, whether talking, texting, or browsing the internet
- Talking to vehicle passengers
- Eating or drinking
- CB Communication
- Watching videos
- Changing a radio station, CD, mp3, or digital music device





# Discussion



# Seat Belt Safety

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# Seat Belt Usage

- From 2007 to 2017, in 38 fatalities involving mobile equipment, miners did not have a seat belt on.
- 35 of these victims (92%) may have survived had they been wearing an adequate seat belt.
- 30 of the victims had an adequate belt available but did not use it.



# Lack of Seat Belt: Roll Over & Ejection



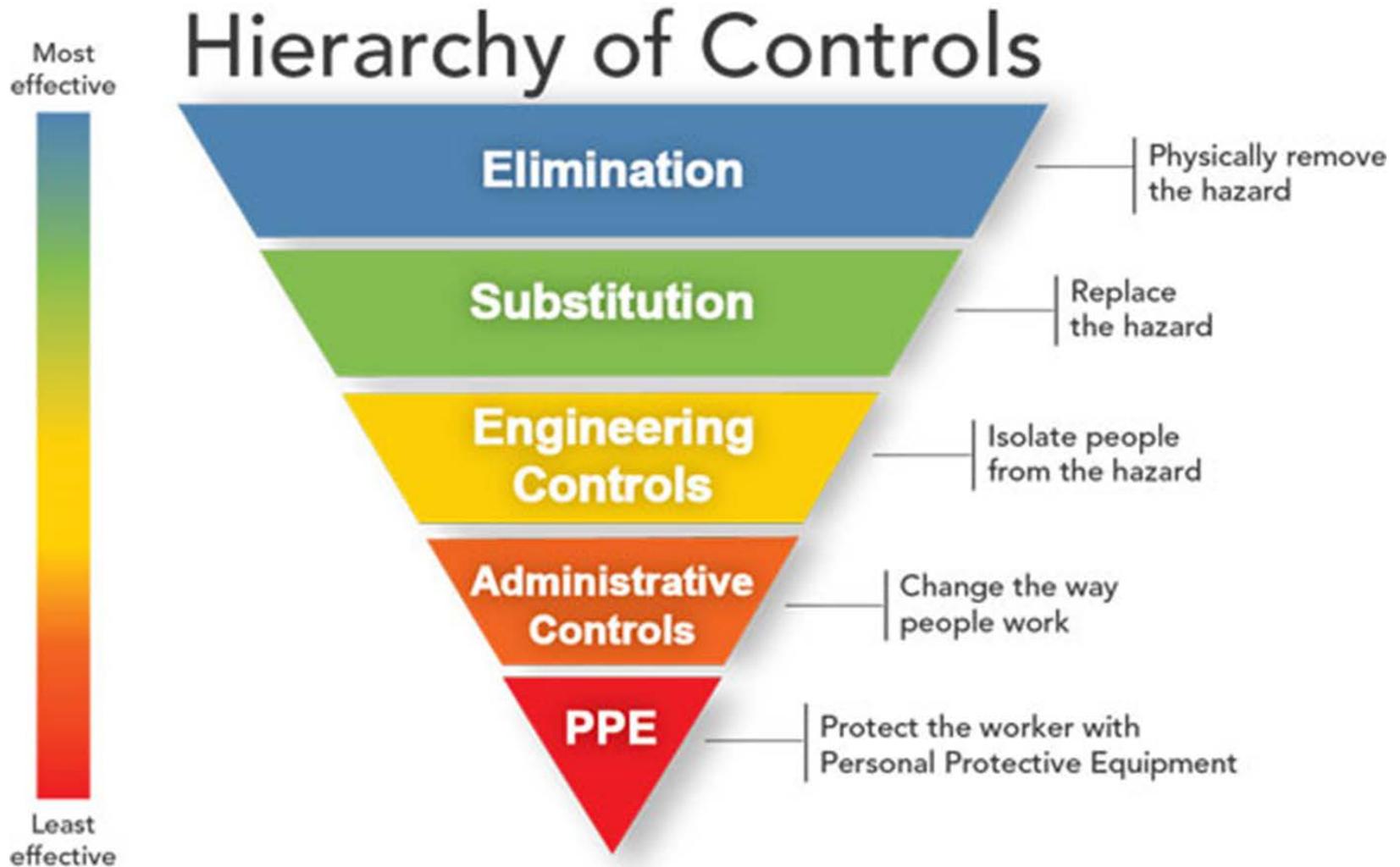
# Alliance: MSHA / Association of Equipment Manufacturers

Report: Seat Belt Use on Mobile Equipment

<https://www.aem.org/AEM/media/docs/Safety/Seat-Belt-Use-Mobile-Equipment.pdf>



# Administrative vs Engineering Controls



# AEM / MSHA Report: Seat Belt Use on Mobile Equipment

## Active Control Interlocks (i.e., seat switch, ignition switch)

### Advantages

- Difficult to defeat
- Requires seat belt usage to operate machine
- Minimal management oversight

### Disadvantages

- Possible unintended consequences
- Design complexity and associated risk must be understood



# AEM / MSHA Report: Seat Belt Use on Mobile Equipment

## Administrative Controls

(i.e., nuisance alarm, training, policies)

### Advantages

- Ease of implementation and training
- Requires minimal resources and cost

### Disadvantages

- Ineffective for equipment operators who refuse to wear seat belts



**BUCKLE UP!**

**Discussion**

**SAFETY STARTS  
WITH A SNAP!**

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# Conveyor Belt Safety

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# Lock-Out/Tag-Out

A belt foreman was fatally injured on March 28, 2018, when the conveyor belt inadvertently started as he and a co-worker were in the process of splicing an underground conveyor belt. The victim became entangled with the belt splicing tools as the conveyor belt moved.



# Lock-Out Tag-Out Best Practices

- Before splicing conveyor belts:
  - Open the circuit breaker that supplies electrical power to the belt drive.
  - Open the visual disconnect for the cable that supplies electrical power.
  - Lock-out and tag-out the visual disconnect yourself and NEVER rely on someone to do this for you.
  - Release the tension in the conveyor belt take-up/storage unit.
  - Block the conveyor belt against motion.
- Ensure that no miner is in harm's way before starting the conveyor belt.
- Provide a visible and/or audible system, with a start-up delay, to warn persons that the conveyor belt will begin moving.
- Establish policies and procedures for performing specific tasks on conveyor belts and ensure all miners are trained.



# Proper Guarding

A miner was fatally injured on January 26, 2017 when he contacted a moving drive roller for the section belt. The victim was positioned between the guard and the conveyor belt drive when he came in contact with the shaft of the belt drive roller.



# Guarding Best Practices

- All belt drives should have adequate guarding, without doors intended to be removed while equipment is running.
- Whenever guarding is removed to perform work, belt drives must first be de-energized and blocked against motion. All employees should be trained in these procedures and a lock and tag should be provided to miners who work on conveyor belts.
- All employees working around moving conveyor belts and their associated components should be trained in hazard recognition and avoidance.
- In addition, persons conducting examinations should be trained to perform thorough examinations to identify hazards.



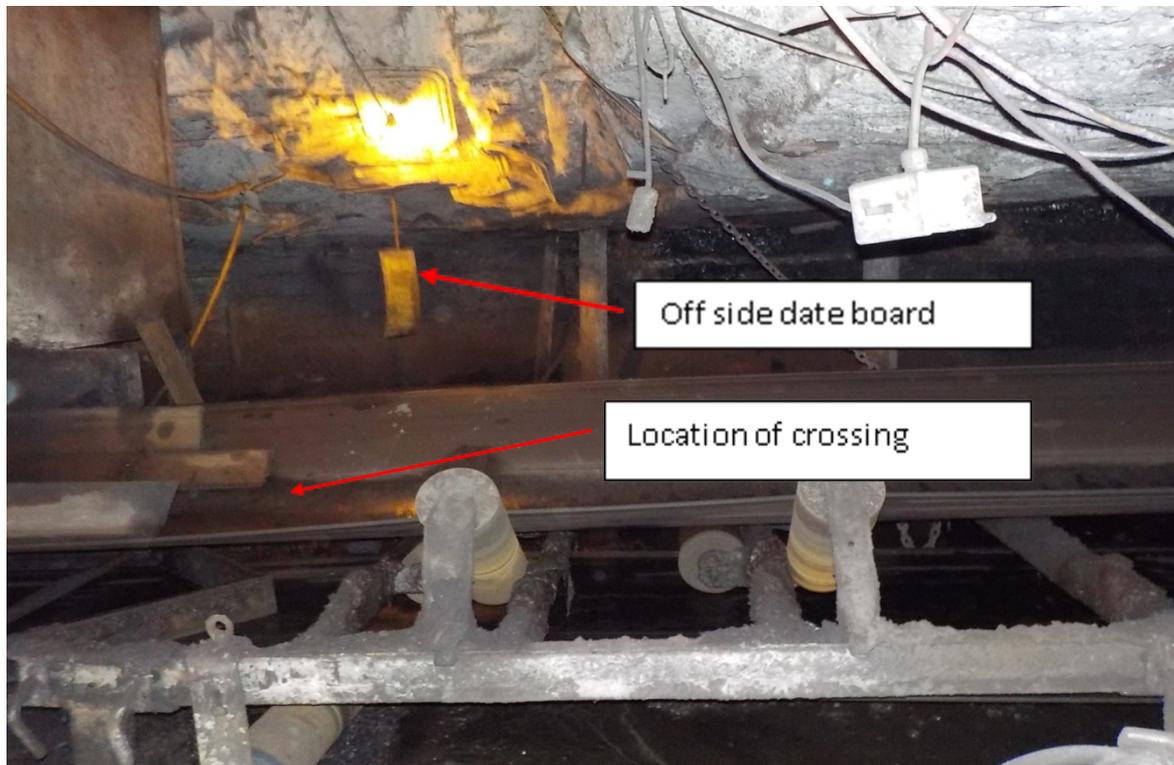
# Crossovers

A mine examiner was killed when he apparently lost his footing attempting to cross over a moving conveyor belt on August 25, 2017. He fell on to the belt and hit a belt crossover located approximately 10 feet away. The victim was found beside the conveyor belt just outside the mine entrance.



# Crossovers

A mine examiner received fatal injuries after he fell on to a conveyor belt while apparently attempting to cross it on October 23, 2017. He was transported by the belt conveyor system to the raw coal pile located outside of the mine.



# Crossover Best Practices

- Install adequate crossovers at all belt transfer points and train miners to use them. All crossovers, mid-belt crossovers, and crossunders should be evaluated and modified as appropriate.
- Install barriers at strategic locations at belt transfers to block areas that can be used to improperly cross the belt.
- Install a visual and audible pre-start alarm that signals several seconds before the start up of the belt.
- Install pull cords and switches that control power to the conveyor belt to stop the conveyor belt in emergencies. Switches may be hung across the conveyor belt.



# Replacement Steel Crossover



# Metal Barrier at Transfer location





# Discussion





# Comments and Questions

*"Daddy  
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