U.S. Department of Labor
MSHA
Mine Safety & Health Administration

Quarterly Stakeholder Call
September 17, 2020

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

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Agenda

2:00 – Welcome and Introduction
2:05 – Opening Remarks
2:10 – Review of 2020 Fatalities
2:20 – Slip/Fall Truck Injuries & Fatalities
2:35 – Enforcement
2:40 – EP&D Training Material
2:50 – Mine Rescue Training/Contests
2:55 – COVID-19 DOL/MSHA Update
3:00 – Questions
Closing Remarks

Opening Remarks

David G. Zatezalo

Assistant Secretary for Mine Safety & Health

Review of Fatalities

Fatal Accident Statistics

16 Fatal Accidents

Accident Classifications:
Fall of Person - 4 (25%)
Machinery - 4
Powered Haulage - 2
Handling of Material - 2

State:
Arizona – 2 Georgia - 2
California - 2
1 fatality in:
CA, WA, WV, IA, OH, LA,TX, KS, MO and MI

Commodity:
Sand and/or Gravel - 9 (56%)
Limestone – 4

Type of Mine:
Surface - 13 (81%)
Underground - 2
Surface of Underground - 1

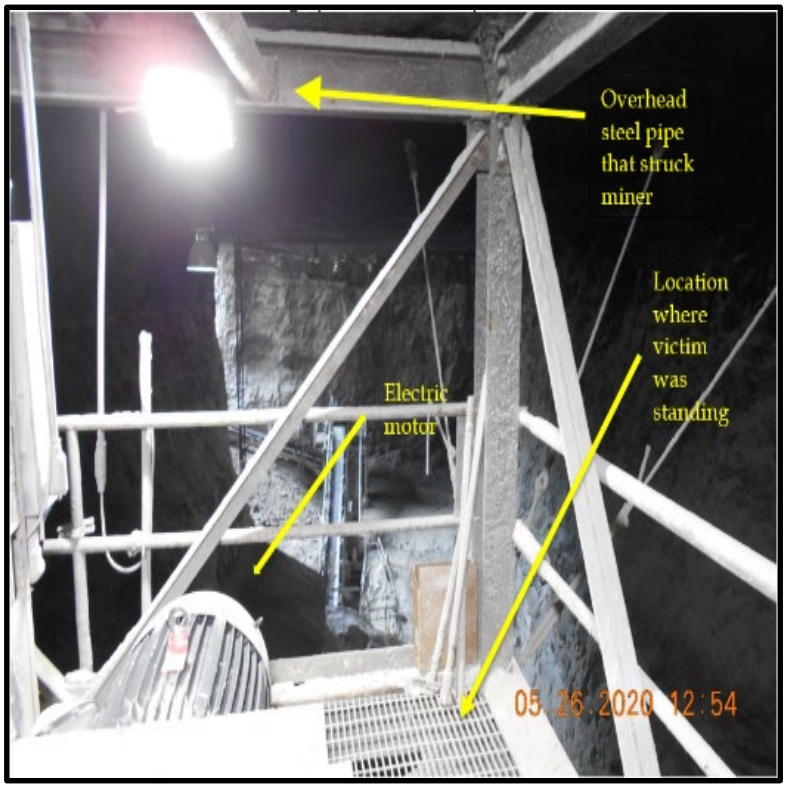
Mine Experience:
1 Year or less - 5
2 Years or less – 8 (50%)

Activity Experience:
1 Year or less - 3
2 Years or less – 8 (50%)

20 employees or less – 14 (88%)

Mine Fatality
#7 - 2020

On May 21, 2020, a miner was injured when an unsecured overhead steel pipe slid out of place and struck him. Miners used the steel pipe to support a lever hoist and electric motor that was being removed. The miner died two days later from his injuries.



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Mine Fatality
#11- 2020

On July 9, 2020, a mine superintendent was electrocuted while attempting to reverse the polarity of the 4,160 VAC circuit by switching the leads inside an energized 4,160 VAC enclosure which contained a vacuum circuit breaker and disconnect.

Mine Fatality
#12 - 2020

On July 24, 2020, two miners were loading explosives from inside an aerial lift's basket, when the basket jolted upward into the mine roof causing the death of one of the miners.

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Mine Fatality
#13 - 2020

On July 29, 2020, a miner was injured when his arm became entangled in a stacker belt conveyor. The victim was airlifted to a trauma center where he passed away a week later.

Mine Fatality
#14 - 2020

On August 18, 2020, a miner was killed while attempting to clear a material blockage. The victim entered the cone crusher to begin work when material shifted and engulfed him. The victim was extracted from the crusher and taken to a hospital where he died the next day.

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Mine Fatality
#15 - 2020

On August 26, 2020, two miners were preparing a mobile track mounted jaw crusher for shipping off site. The victim was removing wedges that secured the right hopper extension. When the wedge was removed the extension fell, crushing the victim.

Mine Fatality
#16 - 2020

On September 1, 2020, a miner died when he fell attempting to close a hatch on top of a customer tractor-trailer. The miner was wearing a safety harness but was not tied off.

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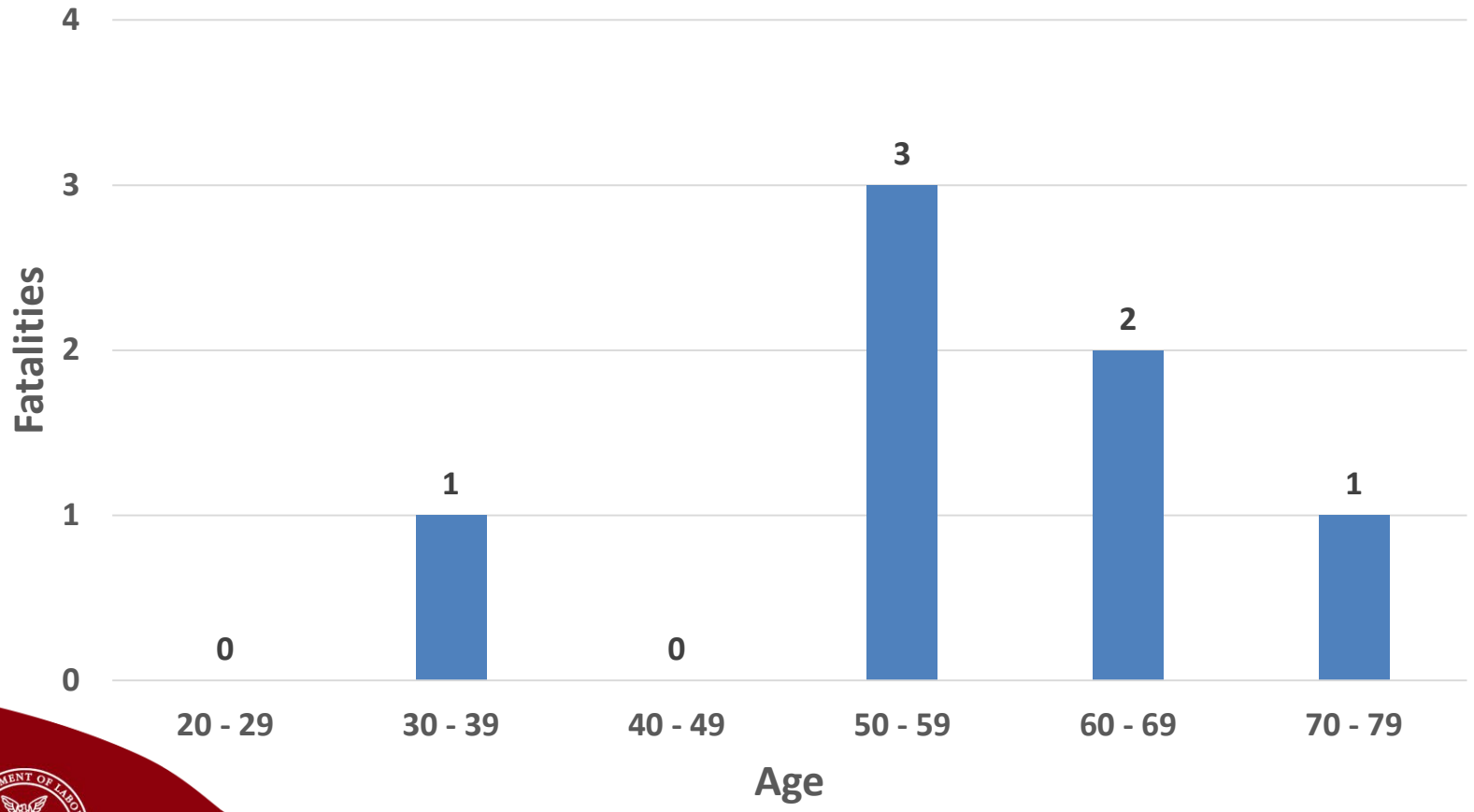
Review of Slip & Fall Injuries & Fatalities

Fall from Equipment Fatalities

- From 2015 to present, there have been seven fatalities involving miners falling from equipment.
- Three were attempting to mount/dismount equipment.
- One victim was not tied off in an aerial lift while doing maintenance.
- Three of these fatalities have occurred this year.
  - Two involved closing the hatch of a bulk tanker truck.
  - One involved falling from the top of a trailer while installing a tarp.
- Root causes include not providing safe access, not wearing PPE, inadequate policies and oversight, and inadequate training.

Fall from Equipment Fatalities by Age 2015 to Present



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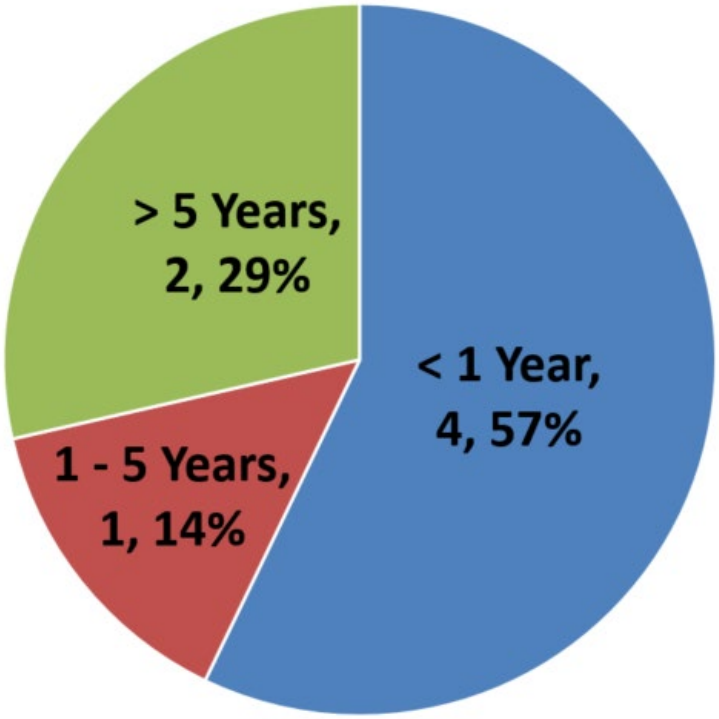
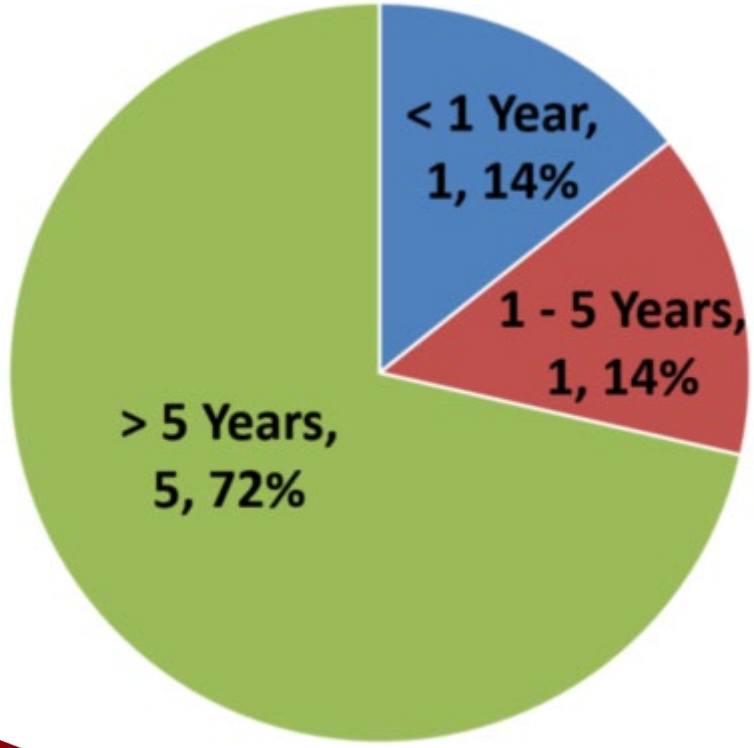
Fall from Equipment Fatalities by Mine Experience 2015 to Present



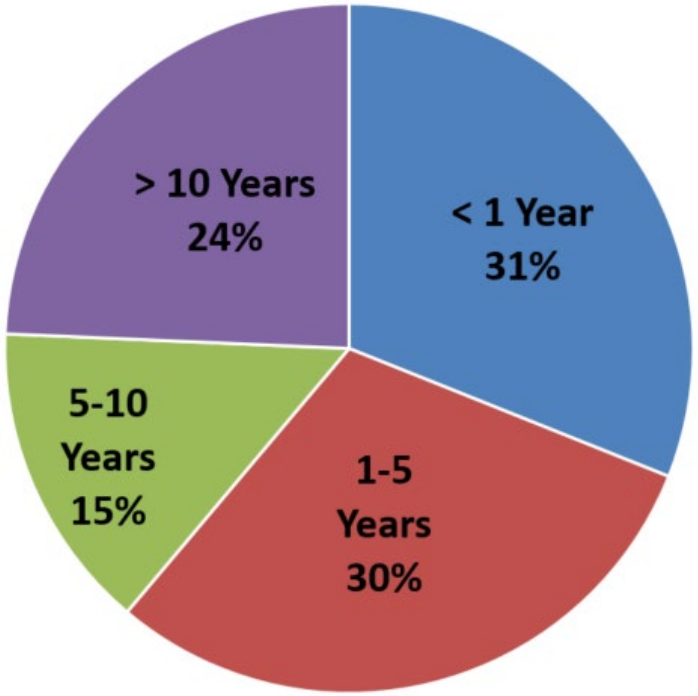
Fall from Equipment Fatalities by Total Experience 2015 to Present



Fall from Equipment NFDL Injuries

- From 2015 to present, there have been 865 NFDL injuries.
  - Getting on or off equipment accounts for over two thirds (590) of fall from equipment NFDL injuries.
  - Truck tarping and opening hatches to bulk tanker trucks accounted for 40 NFDL injuries.
- Most of the injured miners were mine employees.

Fall from Equipment NFDL Injuries
Mine Experience
2015 to Present



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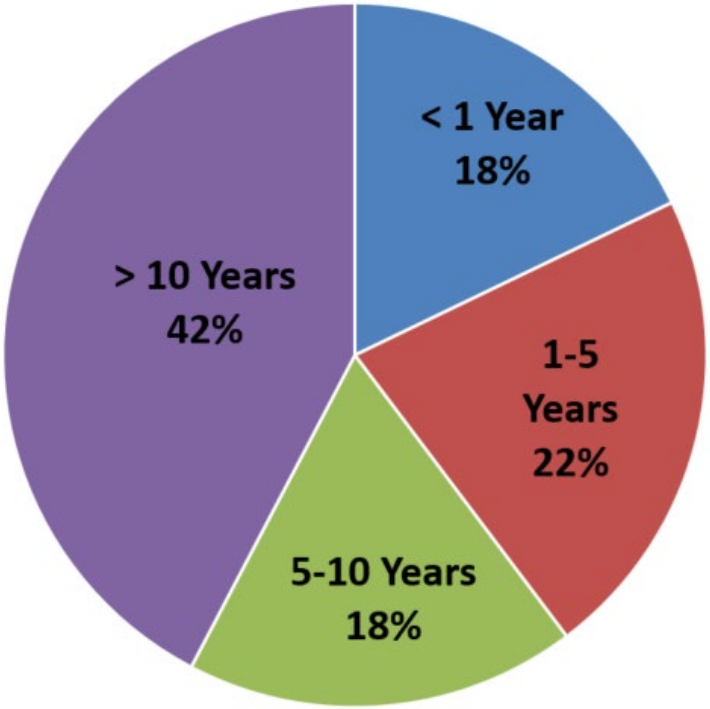
Fall from Equipment NFDL Injuries
Total Experience
2015 to Present



Aging Workforce

- According to U.S. Bureau of Labor Statistics:
  - One in every five American worker is over 65.
  - Employment of workers aged 65 or older has grown by 117% in a span of 20 years.
  - Employment of individuals 75 years or older has also increased by 117%.

- Grip strength and flexibility generally decrease with age. Older miners are at risk when using access systems that rely on grip strength and flexibility.

Innovative Product Solutions

AUTOMATED LID COVERS FOR TANKERS AND TRAILERS

Innovative Product Solutions

PLATFORMS FOR SAFE ACCESS ATOP TANKERS AND TRAILERS

Innovative Product Solutions

FALL PROTECTION ANCHOR POINTS

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Innovative Product Solutions

AUTOMATIC TARP SYSTEMS

Summary

- 7 fatalities involving miners falling from equipment
  - This year, two were falls while accessing the hatch of a bulk tanker truck and one truck tarping fatality.
- The average age of the victim is 56 ½ years old.
- Four victims had less than 1 year of experience at the mine.
- 865 NFDL injuries involved miners falling from equipment. Forty of these involved truck tarping and opening hatches to bulk tanker trucks.
- 68% of fall from equipment NFDL injuries happened while miners were attempting to mount or dismount the machine.
- Root causes include not providing safe access, not wearing PPE, inadequate policies and oversight, and inadequate training.

Best Practices

1. Establish a fall protection program and provide training to miners.
2. Reduce hazards by providing safe access and fall protection that includes a harness and lanyard.
3. Provide, use, and maintain safe truck tarping and bulk truck hatch access facilities.
4. Emphasize three points of contact when getting on and off equipment.
5. Examine, maintain, and use fall protection systems as per manufacturer recommendations.
6. Maintain travelways and access systems free of debris.
7. Provide adequate lighting.

Review of Enforcement

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Safety Alert

Fatalities involving Miners falling off Equipment!

7 miners have died after falling from equipment since 2015.

Three fatalities occurred when miners attempted to mount or dismount equipment. One fatality occurred when a miner did not tie off in an aerial lift while conducting maintenance. Three fatalities have occurred in 2020 involving miners falling from trucks.

- Two of these involved closing the hatch of a bulk tanker truck.
- One involved falling from the top of a trailer while adjusting a tarp.

Between January 2019 and August 2020, MSHA issued 72 imminent danger orders for people working atop trucks, front end loaders, aerial lifts, bulldozers and railcars. The most common violations were equipment operators climbing atop their vehicles.

A truck driver fell 9 ½ feet while adjusting the tarp. He had climbed up the side of the truck into the bed and fell while walking on loose sand.

A miner fell approximately 12 feet from the top of the bulk trailer through a gap caused by misalignment of the tractor-trailer with the truck rack cage.

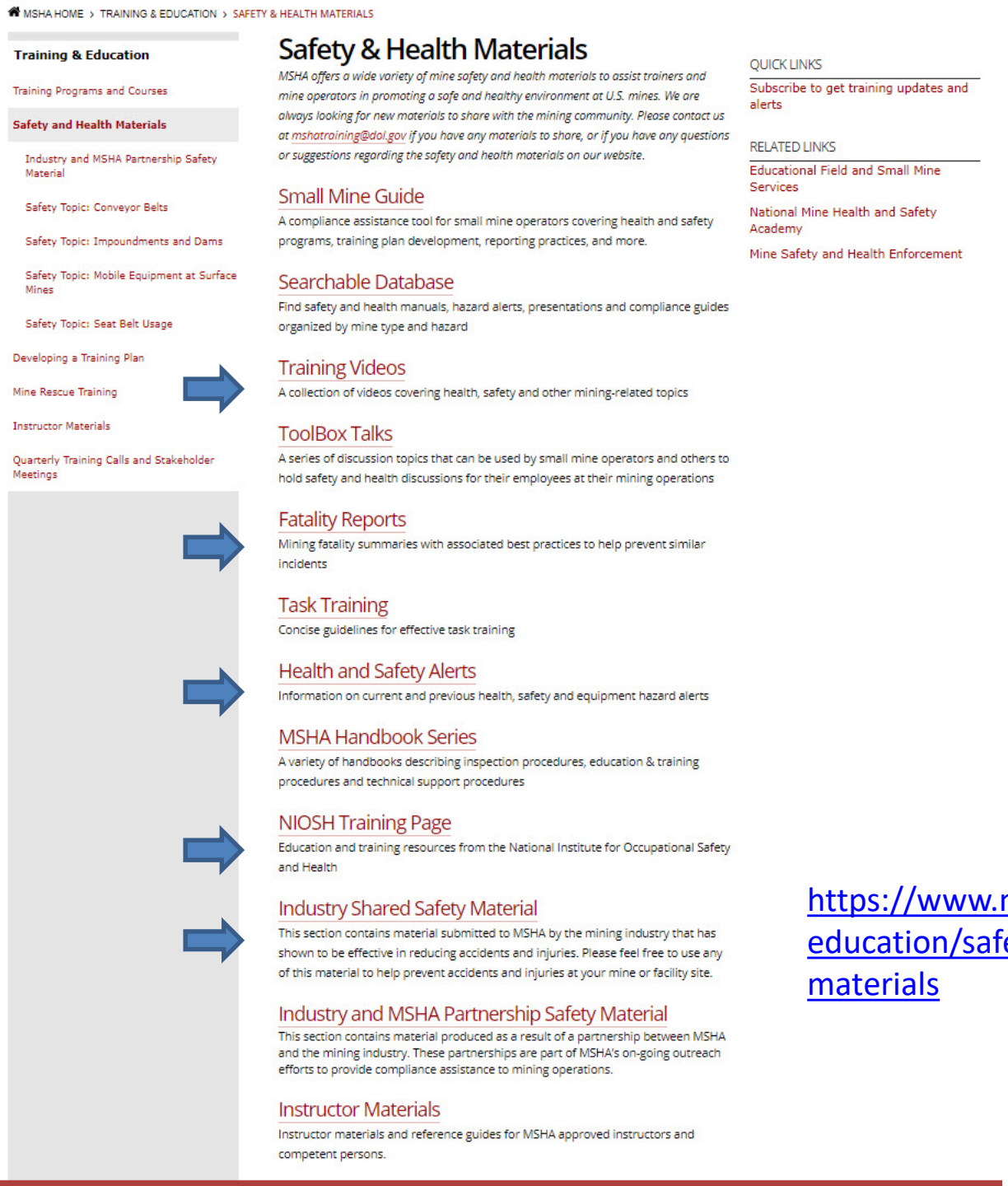
Best Practices

- **Provide safe truck tarping and bulk truck hatch access facilities.**
- **Provide mobile or stationary platforms or scaffolding** at locations and on work projects where there is a risk of falling.
- **Reduce hazards.** Design work areas and develop job tasks to minimize fall hazards.
- **Have a program.** Establish an effective fall prevention and protection program that provides task and site-specific hazard training.
- **Provide a fall protection harness and lanyard** to each miner who may work at an elevated height or a location unprotected by handrails. Ensure their use.
- **Instruct miners** to use three points of contacting when accessing machines. **Proactively enforce** fall protection equipment usage and safe work-at-height policies and procedures with supervisors, miners, contractors, and truck drivers.

Report accidents and hazardous conditions: 1-800-746-1553
msha.gov | askmsha@dol.gov | @MSHA_DOL

Review of Educational Policy & Development

Resource Links
for
Mine Operators
Contractors



MSHA HOME › TRAINING & EDUCATION › SAFETY & HEALTH MATERIALS

Training & Education

Training Programs and Courses

Safety and Health Materials

- Industry and MSHA Partnership Safety Material
- Safety Topic: Conveyor Belts
- Safety Topic: Impoundments and Dams
- Safety Topic: Mobile Equipment at Surface Mines
- Safety Topic: Seat Belt Usage

Developing a Training Plan

Mine Rescue Training

Instructor Materials

Quarterly Training Calls and Stakeholder Meetings

Safety & Health Materials

MSHA offers a wide variety of mine safety and health materials to assist trainers and mine operators in promoting a safe and healthy environment at U.S. mines. We are always looking for new materials to share with the mining community. Please contact us at mshatraining@dol.gov if you have any materials to share, or if you have any questions or suggestions regarding the safety and health materials on our website.

Small Mine Guide

A compliance assistance tool for small mine operators covering health and safety programs, training plan development, reporting practices, and more.

Searchable Database

Find safety and health manuals, hazard alerts, presentations and compliance guides organized by mine type and hazard

Training Videos

A collection of videos covering health, safety and other mining-related topics

ToolBox Talks

A series of discussion topics that can be used by small mine operators and others to hold safety and health discussions for their employees at their mining operations

Fatality Reports

Mining fatality summaries with associated best practices to help prevent similar incidents

Task Training

Concise guidelines for effective task training

Health and Safety Alerts

Information on current and previous health, safety and equipment hazard alerts

MSHA Handbook Series

A variety of handbooks describing inspection procedures, education & training procedures and technical support procedures

NIOSH Training Page

Education and training resources from the National Institute for Occupational Safety and Health

Industry Shared Safety Material

This section contains material submitted to MSHA by the mining industry that has shown to be effective in reducing accidents and injuries. Please feel free to use any of this material to help prevent accidents and injuries at your mine or facility site.

Industry and MSHA Partnership Safety Material

This section contains material produced as a result of a partnership between MSHA and the mining industry. These partnerships are part of MSHA's on-going outreach efforts to provide compliance assistance to mining operations.

Instructor Materials

Instructor materials and reference guides for MSHA approved instructors and competent persons.

QUICK LINKS

Subscribe to get training updates and alerts

RELATED LINKS

Educational Field and Small Mine Services

National Mine Health and Safety Academy

Mine Safety and Health Enforcement

https://www.msha.gov/training-education/safety-health-materials

MSHA Fatal Alerts

Fall from top of truck trailer – Preliminary Report
https://www.msha.gov/data-reports/fatality-reports/2020/september-1-2020-fatality/preliminary-report

Fall from top of truck trailer
https://www.msha.gov/data-reports/fatality-reports/2020/june-1-2020-fatality/fatality-alert

Fall from top of bulk trailer
https://www.msha.gov/data-reports/fatality-reports/2020/january-23-2020-fatality/fatality-alert

Fall into portable load out bin
https://www.msha.gov/data-reports/fatality-reports/2020/january-8-2020-fatality/fatality-alert

Fall 40 feet down a shaft
https://www.msha.gov/data-reports/fatality-reports/2019/august-20-2019-fatality/fatality-alert

Ejected from a man-lift basket
https://www.msha.gov/data-reports/fatality-reports/2019/may-18-2019/fatality-alert

Fall 12 feet because lost balance
https://www.msha.gov/data-reports/fatality-reports/2019/march-7-2019-fatality/fatality-alert

Fall 19 feet through a 27 inch opening
https://www.msha.gov/data-reports/fatality-reports/2017/fatality-3-february-27-2017/fatality-alert

MSHA Serious Accident Alerts

Current Fall Protection Safety Alert
https://www.msha.gov/fall-protection-june-2020-safety-alert

Fall 20 feet during installation of building roof
https://www.msha.gov/mnm-serious-accident-alert-surface-gold

Fall 10 feet from cone crusher
https://www.msha.gov/mnm-serious-accident-alert-surface-portable-screen

Fall 15 feet from mine basket/electric shovel
https://www.msha.gov/mnm-serious-accident-alert-surface-shovel

Fall 7.5 feet from jaw crusher platform
https://www.msha.gov/mnm-serious-accident-alert-surface-maintenance-0

Fall 12 feet down a step ladder
https://www.msha.gov/mnm-serious-accident-alert-surface-ladder

Fall from a conveyor galley
https://www.msha.gov/mnm-serious-accident-alert-plant-fall-protection-0

Lost footing and fell
https://www.msha.gov/mnm-serious-accident-alert-plant-fall-protection-1

Training Videos

MSHA Shared Industry Training Material/Fall Protection-
Ohio Aggregate and Industrial Mineral Association (Video)
https://www.youtube.com/watch?v=07x5uklonQs&feature=youtu.be

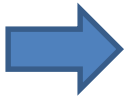
MSHA Training Video - Fall Protection
https://www.msha.gov/msha-training-videos

Personal Fall Arrest Equipment Task Training Guide for MNM
https://arlweb.msha.gov/training/docs/safe-steps-fall-arrest-task-training-outline.pdf

Ladder Safety Guide
https://www.msha.gov/ladder-safety-standards

NIOSH
FALLS IN THE WORKPLACE

https://www.cdc.gov/niosh/topics/falls/default.html



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Workplace Safety & Health Topics

- Falls in the Workplace
  - Projects
  - NIOSH Labs
  - Ladder Safety App
  - Mast Climbing Work Platforms
  - Aerial Lifts
  - Resources

Ladder Safety App
Read Ladder Safety: There's an App for That on the NIOSH Science Blog and share your comments.

Related Topics
Traumatic Occupational Injuries
Construction

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Programs
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Promoting productive workplaces through safety and health research | NIOSH

FALLS IN THE WORKPLACE

Español (Spanish)

Falls are a hazard found in many work settings. A fall can occur during walking or climbing a ladder to change a light fixture, or as a result of a complex series of events affecting an ironworker 80 feet above the ground.

Spotlights

***NEW* Mast Climbing Work Platform Inspection Tool**

This new online tool provides users the opportunity to see a typical mast climber installation and inspect it for safety. Using this tool can help build familiarity with the equipment.

Fast Facts

- Job Hazards +
- How big of an issue are falls in the workplace? +
- What can be done to prevent work-related falls? +

NIOSH Ladder Safety App

Now featuring step ladders!

Climbing for work? Get user-friendly guides and tools for extension and step ladder selection and safe use.

Available in English and Spanish (adaptive to which language is set on your device).

Low Resolution Video

Planning and Guidance of Fall-Related Research at NIOSH

NIOSH fall-injury prevention research strategic planning and goal setting takes into consideration the magnitude or emergence of the problem as evidenced by data, immediacy of need expressed by stakeholders, resources and expertise in the goal area, current research, strength of partnerships in current research, and status and momentum on the course of research-to-practice. The strategic planning process is enhanced with input from the National Academy of Sciences program review.

Program contact: Hongwei Hsiao, Ph.D.
Protective Technology Branch
(304) 285-5910; HHsiao@cdc.gov

Ladder Safety

https://blogs.cdc.gov/niosh-science-blog/2013/08/27/ladder-safety/

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Promoting productive workplaces through safety and health research NIOSH

FALLS IN THE WORKPLACE

Aerial Lifts

Aerial lifts are powered and mobile platforms that are used for elevating workers to various heights, which exposes workers to fall hazards.

Training is necessary for anyone using aerial work platforms and equipment. In an effort to create awareness about common workplace hazards when using aerial lifts, NIOSH has developed educational tools and products. Employers, trainers, safety and health professionals, and aerial lift operators can use the following information to prevent work-related falls.

Note: NIOSH uses the term 'aerial lifts' as an overarching term to capture multiple types of lifts, such as scissor lifts and boom lifts. It is important to note that both OSHA and ANSI standards vary for different types of lifts.

Spotlight

NIOSH Aerial Lift Hazard Recognition Simulator

This free simulator provides realistic workplaces with multiple dangerous hazard types that scissor and boom lift operators can navigate from the safety of a computer. Experienced operators can use the simulator to refresh their knowledge, and new operators can familiarize themselves with hazards they may encounter on the job. Using the simulator is not a substitute for required training to operate aerial and boom lifts.

Use the NIOSH Aerial Lift Hazard Recognition Simulator today! See 'Tools' below for instructions to launch the Simulator from your computer.

- Fast Facts +
- Questions & Answers +
- Standards +
- Tools & Products +
- Other Resources +
- Acknowledgements +

https://www.cdc.gov/niosh/topics/falls/aeriallifts/LiftSimulator.zip

Training Resources for Falls From Equipment

Link to OSHA Fall Protection Website
https://www.osha.gov/SLTC/fallprotection/index.html

Link to NIOSH Falls in the Workplace Website
https://www.cdc.gov/niosh/topics/falls/default.html

NIOSH – Designing Safe Mobile Equipment Access
https://www.cdc.gov/niosh/mining/content/humanfactorsandergonomics/design/ingress_egress.html

NIOSH – Improving Ingress/Egress Systems on Mobile Equipment
https://www.haulageandloading.com/wp-content/uploads/2018/10/2017_04_02_presentation.pdf

NIOSH – Mining Product/Fall Protection: As Simple As ABC
https://www.cdc.gov/niosh/mining/works/coversheet2145.html

Mining

Site Browser

Safety and Health Topics

Data & Statistics

Tools & Publications

Tools You Can Use

Publications

Mining Product: Infographic: Fall Protection: As Simple as A-B-C

News & Articles

Research Program

Mining Links

About Us

NIOSH Homepage

NIOSH A-Z

Workplace Safety & Health Topics

Publications and Products

Programs

Mining Product: Infographic: Fall Protection: As Simple as A-B-C

Keywords: Fall protection | Fall protection devices | Falls

Original creation date: April 2020

Authors: M Nasarwanji, J Pollard, B Eiter, J Hrica, L Kocher

This infographic on fall protection helps workers identify three essential components of a fall arrest system: anchor, body harness, and connecting device. The body text details these steps and components, and the top and bottom banners provide data from the Mine Safety and Health Administration (MSHA) to support how important the proper use of fall arrest systems is to safety. Depending on their duties, mine personnel commonly have the need to use fall protection at work, and this infographic is designed to give them critical tips that will be easy to remember and easy to implement.

For Spanish speakers, download the same infographics with text in Spanish .

Reference - April 2020

Download PDF Document

NIOSHTIC2 Number: 20059288

Pittsburgh, PA: U.S. Department of Health and Human Services, Public Health Service, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, 2020 Apr; :1.

https://www.cdc.gov/niosh/mining/works/coversheet2145.html

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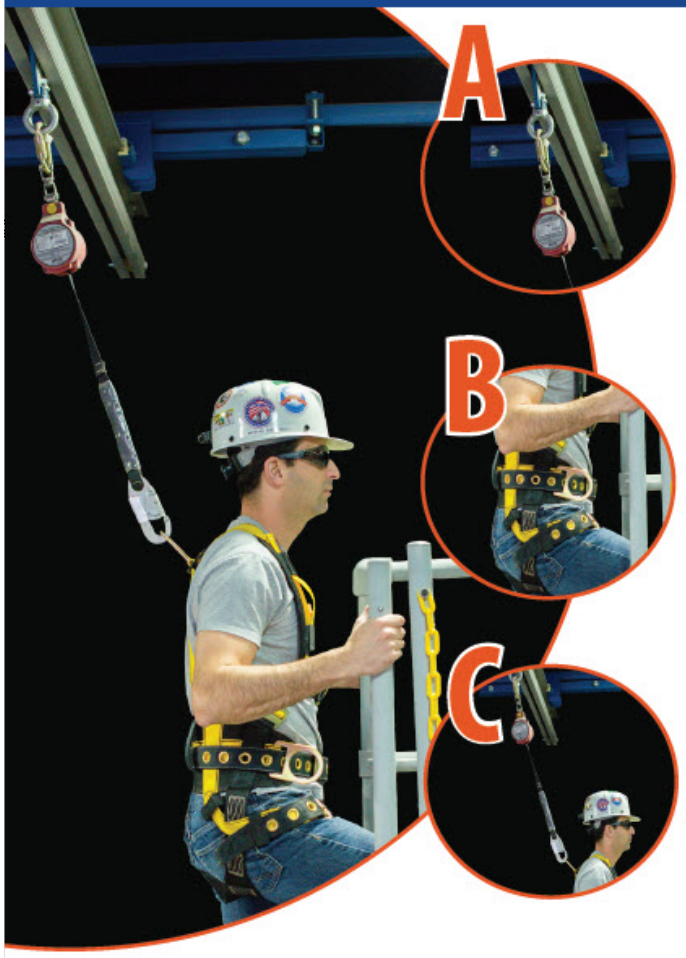
FALL PROTECTION: As Simple as A-B-C

On average annually, MSHA issued 111 fall-related imminent danger orders for using the personal fall arrest system incorrectly or not at all.*



ANCHOR

Ensure that the tie-off point, consisting of either an anchorage and anchorage connector or a life line, is directly overhead.

BODY HARNESS

Be certain to use a full body harness that is sized to fit your height and weight, with a D-ring on the back to attach the lanyard snap-hook. The correct fit adjustments of the straps around the thighs, pelvis, waist, and shoulders are critical to the performance of the system.

CONNECTING DEVICE

Select the appropriate connecting device between the anchorage connector or life line and the D-ring of the full body harness that best suits the conditions of the work environment. Consider the fall distance and the work activity to be performed when making the selection.

Ensure that the anchorage point is rated for 5,000 pounds for each person attached and that all necessary safety fall prevention training is up to date.

To learn more, visit cdc.gov/niosh/mining

CDC NIOSH

* Reported data based on an analysis of 1,057 imminent danger orders issued by MSHA between 2010 and 2017. Recommendations are based on OSHA 29 CFR 1910.140, Personal fall protection systems.

April 2020

UNITED STATES DEPARTMENT OF LABOR

Occupational Safety and Health Administration

CONTACT US FAQ A TO Z INDEX ENGLISH ESPAÑOL

OSHA STANDARDS TOPICS HELP AND RESOURCES SEARCH OSHA

Safety and Health Topics / Fall Protection

Fall Protection

- Construction Standards and Resources
- Non-Construction Standards/Policy
- Protecting Workers from Falls
- Additional Resources

Overview

OSHA has developed this webpage to provide workers and employers useful, up-to-date information on fall protection.

Why is fall protection important?

Falls are among the most common causes of serious work related injuries and deaths. Employers must set up the work place to prevent employees from falling off of overhead platforms, elevated work stations or into holes in the floor and walls.

What can be done to reduce falls?

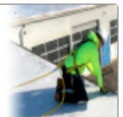
Employers must set up the work place to prevent employees from falling off of overhead platforms, elevated work stations or into holes in the floor and walls. OSHA requires that fall protection be provided at elevations of four feet in general industry workplaces, five feet in shipyards, six feet in the construction industry and eight feet in longshoring operations. In addition, OSHA requires that fall protection be provided when working over dangerous equipment and machinery, regardless of the fall distance.

To prevent employees from being injured from falls, employers must:

- Guard every floor hole into which a worker can accidentally walk (using a railing and toe-board or a floor hole cover).
- Provide a guard rail and toe-board around every elevated open sided platform, floor or runway.
- Regardless of height, if a worker can fall into or onto dangerous machines or equipment (such as a vat of acid or a conveyor belt) employers must provide guardrails and toe-boards to prevent workers from falling and getting injured.
- Other means of fall protection that may be required on certain jobs include safety harness and line, safety nets, stair railings and hand rails.

National Safety **Stand-Down**

Find Out More!



Preventing Falls in Construction

In Spanish

Highlights

- Engulfment in a Sugar Hopper. OSHA Fatal Facts No. 10, (2015).
- Protecting Roofing Workers. OSHA Publication 3755, (2015).
- Fall Protection in Construction. OSHA Publication 3146, (2015).
- Narrow Frame Scaffolds. OSHA Fact Sheet (Publication 3722).

https://www.osha.gov/SLTC/fallprotection/index.html

Training Material

Simple J-Style Tether
Can be used for any style truck or trailer

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Training Material

Mobile Platforms

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Training Resources Applied to Mining (TRAM) Annual Conference 2020

National Mine Health and Safety Academy

As the country adapts to working, communicating, and collaborating in new ways, the TRAM Conference has also adapted by going virtual in 2020. This year's **T**raining **R**esources **A**pplied to **M**ining Conference (TRAM) will be held online October 14-15, 2020. Featuring presentations from some of the industry's most respected safety trainers, this tuition-free conference helps health and safety trainers improve their training skills and infuse their training programs with new ideas and materials. Participants can select from a variety of workshops and attend the conference remotely.

Training Materials Competition

Training in today's mining industry is considered a foundational element in our mission to improve mine safety. Through the years, the training materials competition has fostered a new level of professionalism in the development of training materials. This competition is open to all sources of mining-related training materials. For more information on the training materials competition, or to request competition packets, contact Melody Bragg at 304-256-3531 or Bragg.Melody@dol.gov (This form is to be completed and mailed with your competition submittal. Do not email.) **Training Materials Competition Entry Packet Link** The deadline for entries is Friday, September 18, 2020.

Registration

To register for the 2020 TRAM Virtual Summit, please click on the LINK https://www.surveygizmo.com/s3/5739044/81450a543b6b

For more information about TRAM, contact Angela Blair at 304-256-3202 or blair.angela@dol.gov

Educational Field and Small Mine Services

EFSMS Web Page
https://arlweb.msha.gov/epd/efsms/

MSHA Training Questions Email Site
mshatraining@dol.gov

Syed Hafeez
Director EPD/PEIR
Hafeez.syed@dol.gov
202-693-9765

Kevin Deel
Manager EFSMS
Deel.kevin@dol.gov
202-693-9585

Review of Mine Rescue Training & Contests

Review of DOL & MSHA COVID-19 Update

Questions?

Closing Remarks