

MSHA Update & Initiatives

February 2020

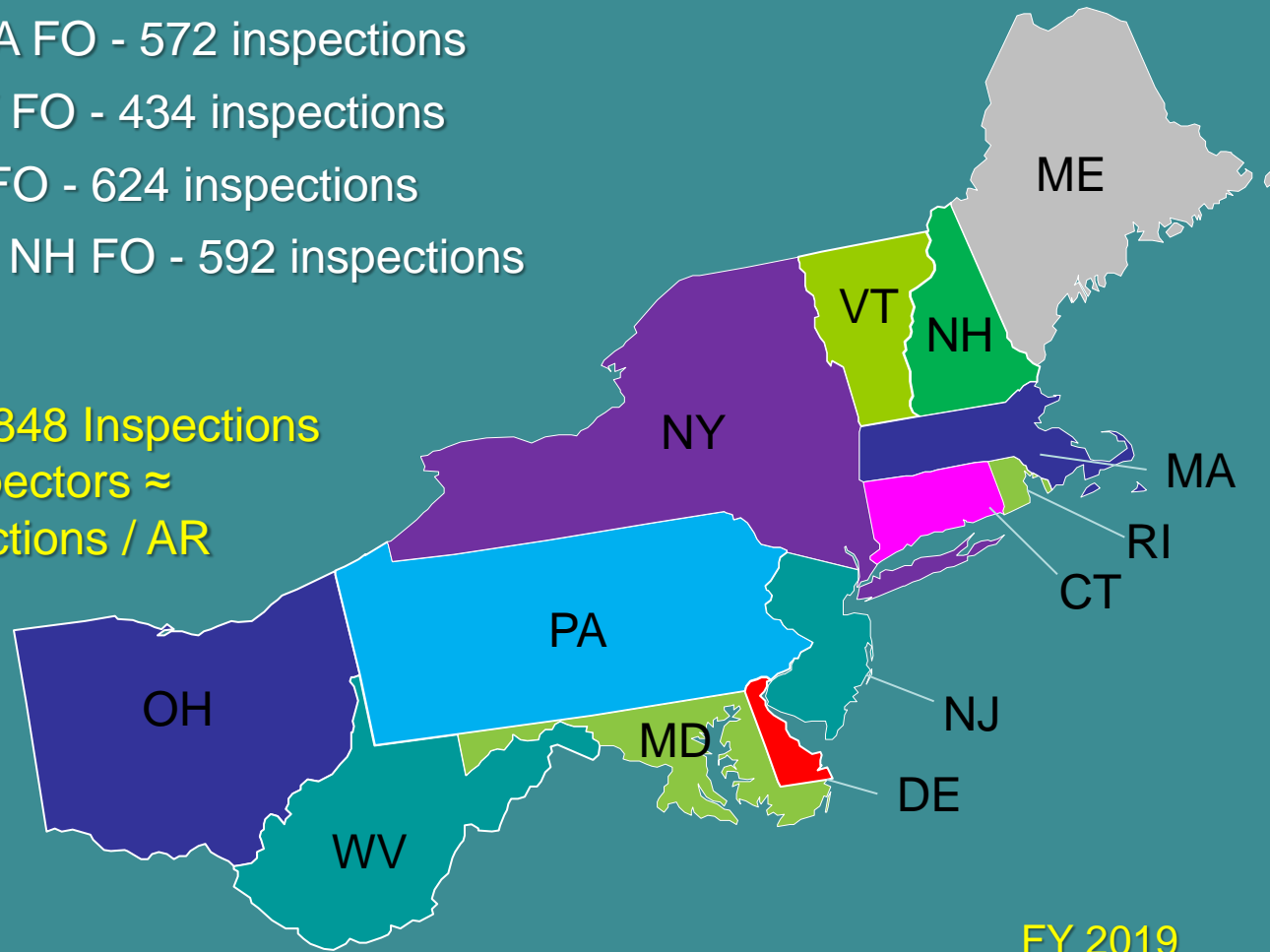
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The Northeastern District is comprised of 6 field offices & the District office

- ★ District Office / Warrendale, PA FO - 262 inspections
- ★ Hebron, OH FO - 364 inspections
- ★ Kutztown, PA FO - 572 inspections
- ★ Geneva, NY FO - 434 inspections
- ★ Albany, NY FO - 624 inspections
- ★ Portsmouth, NH FO - 592 inspections

13 States – 2,848 Inspections
54 Inspectors ≈
53 inspections / AR



FY 2019
36,895,414 Operator Hours Reported
2,477 Mines
22,044 Miners

265 Active and Intermittent Metal and Nonmetal Mines in the State of Ohio

Mines	Type of Mine
248	Surface
6	Underground
11	Facility

Mines	Commodity	Percent
149	Sand, Industrial NEC/ Common	45.99%
90	Crushed, Broken Limestone NEC	27.78%
38	Coal	11.73%
12	Dimension Stone (Various)	3.70%
9	Clay, Various	2.78%
7	Crushed, Broken Sandstone	2.16%
7	Ground Silica	2.16%
4	Lime	1.23%
3	Crushed, Broken Stone (Other)	0.93%
2	Cement	0.62%
2	Salt	0.62%
1	Common Shale	0.31%

Current MSHA Initiatives and News

- Working Place Examination Rule Change
- Electrical Safety Initiative
- Contractor Safety Initiative

Working Place Examination Rule Change

MSHA reinstated the January 2017 final rule regarding Examinations of Working Places in Metal and Nonmetal Mines. The reinstated rule took effect on September 30, 2019. Stakeholder notification and training was conducted during the following 90-day implementation period that ended on December 31, 2019. Effective January 1, 2020, MSHA will enforce the 2017 final rule and issue citations to mine operators not in compliance with the 2017 rule requirements.

Working Place Examination Rule Change

- The reinstated final rule states that mine operators must:
 - Have a competent person examine each working place for conditions that may adversely affect the safety or health of miners. The working place must be examined at least once each shift, before miners begin work in that place;
 - Promptly initiate appropriate corrective action when adverse conditions are found;
 - Promptly notify miners in any affected areas if adverse conditions are found and not corrected before miners are potentially exposed;
 - Withdraw all persons from affected areas when alerted to any conditions that may present an imminent danger, until the danger is abated;
- Create an examination record before the end of each shift that includes:
 - The name of the person conducting the examination;
 - Date of the examination;
 - Location of all areas examined;
 - A description of each condition found that may adversely affect the safety or health of miners; and
 - The date when the described condition is corrected;
- Maintain the examination record for at least one year, and make the examination record available to MSHA and miners' representatives, with a copy provided upon request.

Working Place Examination Rule Change

EXAMINATION OF WORKING PLACES IN METAL AND NONMETAL MINES §§ 56/57.18002

Topic	Requirements
Who conducts the working place examination	Competent persons designated by the mine operator
When to conduct working place examination for conditions that may adversely affect safety or health	At least once each shift before miners begin work in the working place
Notification to miners	Promptly notify miners in any affected areas of any conditions found that may adversely affect safety or health that are not corrected before miners are potentially exposed
Corrective action for adverse conditions	Promptly initiate appropriate action to correct such conditions
Conditions that present an imminent danger	Notify operator immediately and withdraw all persons in affected areas until danger is abated
When to make examination record	Before the end of the shift
Contents of the examination record	Name of person conducting examination; date; locations of areas examined; description of each adverse condition found; date of corrective action for each adverse condition
Record retention	1 year
Record availability	Available for inspection by MSHA and miners' representatives; provide a copy upon request

Electrical Safety Initiative

The mining industry experienced three electrical fatalities in a six-week time span between August 7, 2019 and September 17, 2019.

Additionally, 25 non-fatal electrical accidents occurred in the mining industry between October 1, 2018, and September 17, 2019.

Electrical Safety Initiative

A fatal accident occurred on August 7, 2019, when a 42-year-old electrician with 15 years of mining experience contacted an energized component of a 4,160 VAC electrical circuit. The victim was in the preparation plant's Motor Control Center (MCC) adjusting the linkage between the disconnect lever and the internal components of the 4,160 VAC panel that supplied power to the plant feed belt motors.

Electrical Safety Initiative

A fatal accident occurred on August 15, 2019, when a 44-year-old contract electrician, with 10 weeks of mining experience, was working inside a fire suppression system's electrical panel and contacted an energized 120 VAC conductor.

Electrical Safety Initiative

The third fatal accident during this six week time span occurred on September 17, 2019. The preliminary investigation indicated that the miner was electrocuted while troubleshooting the electrical circuit for a scrubber on a 995 VAC continuous mining machine.

Electrical Safety Initiative

- Lock-out and tag-out the circuit before working on electrical equipment with your lock and tag.
- Never get in a hurry! Never work alone! Always think, plan, and communicate your intentions to others in the area to ensure the task can be completed without creating hazards.
- Train all miners including electricians on equipment they will work on or troubleshoot. It is important for miners to know how the electrical system and equipment in the mine is energized and where disconnecting devices are located.
- Always identify and control all hazardous energy sources before conducting any task and follow safe work procedures.

Electrical Safety Initiative

- Never troubleshoot energized high voltage circuits over 1,000 V. Always troubleshoot without power first. When it is necessary to troubleshoot an energized circuit, employ safeguarding measures to prevent hazards.
- After identifying the problem and entering an electrical enclosure or before performing electrical work make sure to: Locate the circuit breaker or load break switch and open it to de-energize the incoming power cable(s) or conductors. Locate the visual disconnect and open it to provide evidence that incoming power has been de-energized. Lock-out and tag-out the visual disconnect. Ground the de-energized conductors.
- Use properly rated personal protective equipment (PPE) when troubleshooting or testing energized circuits. This includes electrically rated gloves, meters with proper settings, non-contact voltage testers, insulated blankets or mats, and polycarbonate barriers to eliminate personnel exposure to hazardous energy during troubleshooting.

Contractor Safety Initiative

In 2019, eleven (48%) out of the 25 fatalities nationwide have claimed the lives of contractors working at our nation's mines. This is significant because contractors only make up 25% of the mining workforce. MSHA is requesting that mine operators take time out to talk to contractors about the causes of these accidents. We need to take action now to STOP the fatalities. Sharing information and discussing these recent accidents with contractors can help avoid these types of accidents. Although it is a normal practice for mine operators to utilize contractors and contract workers to perform work on mine property, it is important to note that the mine owner (i.e., production operator) is equally responsible for assuring that ALL MINERS are properly trained, and that work on mine property is being performed in a safe manner, and in accordance with MSHA standards and regulations. The "Mine Act" defines "operator" to include both owner/production operators and independent contractors. Mine operators must pay careful attention to what is going on around them and to the work that contractors are hired to perform.

Contractor Safety Initiative

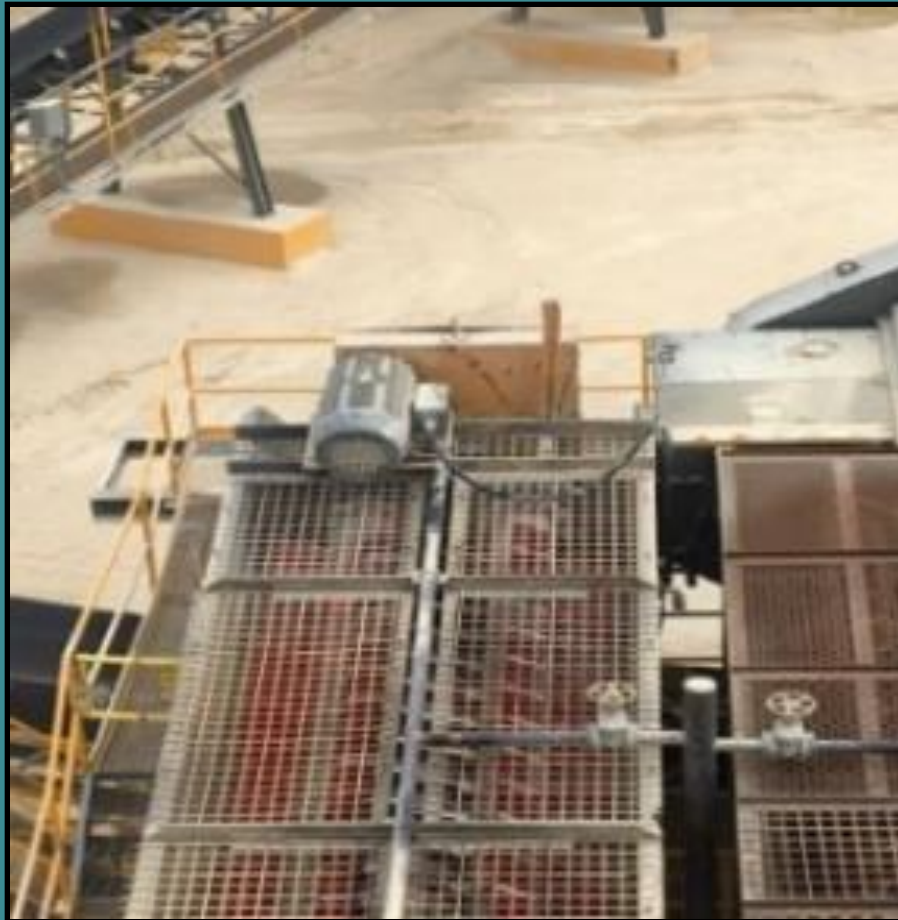


Struck by ventilation door

Struck by shuttle car



Contractor Safety Initiative



Fall without fall protection

Contractor Safety Initiative

Struck by Truck



Struck by Loader



Contractor Safety Initiative



Methane Ignition



Brake Failure

Contractor Safety Initiative

Electrocution



Struck by Dozer



Contractor Safety Initiative

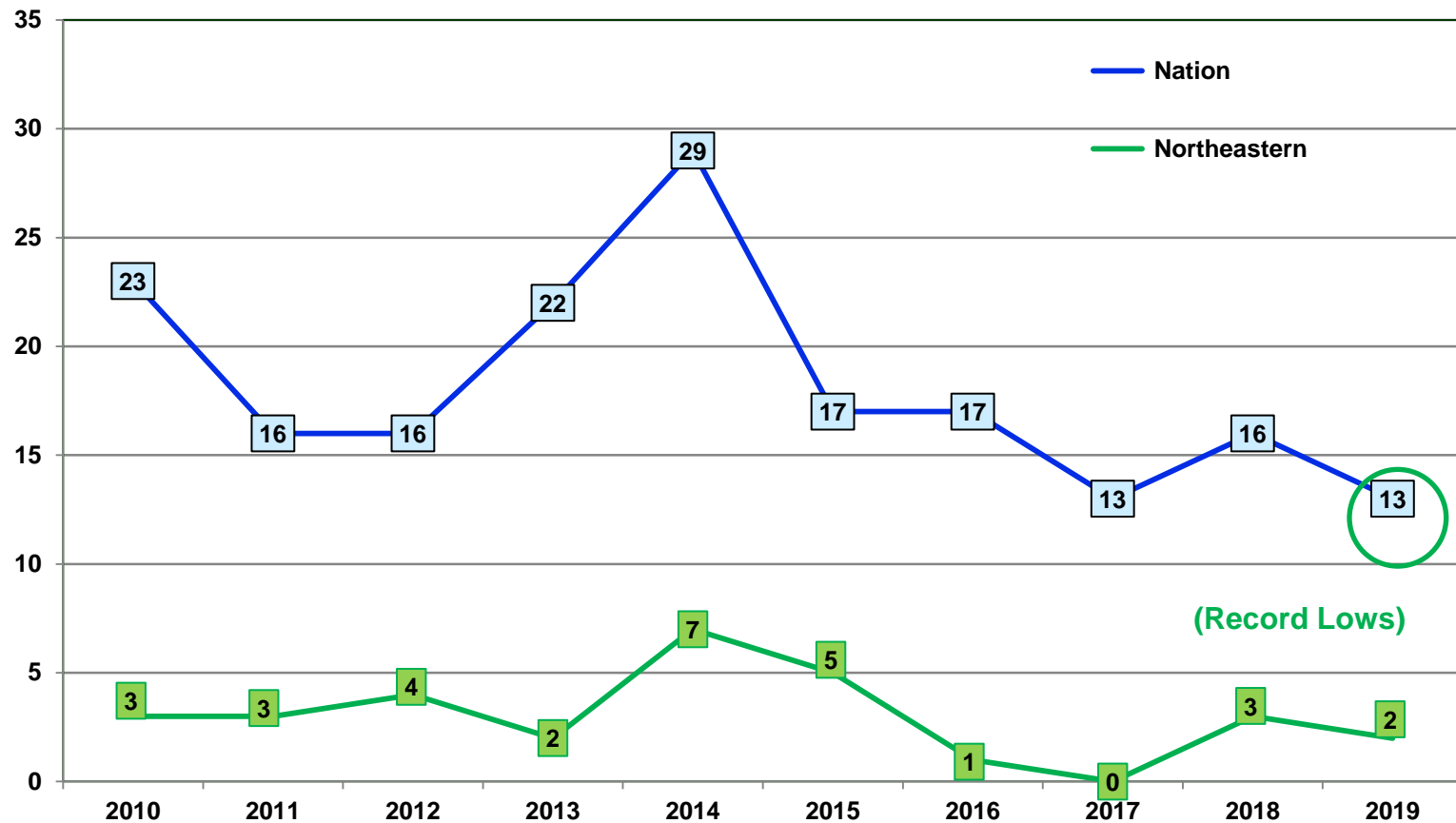
Best Practices

Struck by Elevator



- **Know the task.** Know the environment. Ensure miners are properly trained and are familiar with the mine environment.
- **Monitor miners** to ensure they follow safe work procedures.
- **Establish and discuss safe work procedures.** Identify and control all potential hazards and appropriate safety procedures.
- **Check equipment.** Before working identify any defects that may affect the safe operation of equipment.
- **Use safety gear.** Properly use PPE or safety equipment (e.g. fall protection, hard hats, safety glasses, electrical gloves, seat belts).

Metal and Nonmetal Mining Industry Fatality Trend (2010 – 2019)



Reversing the fatality trend over the past few years in metal and nonmetal mines has taken the efforts of everyone in the mining community. We must continue to improve conditions for our Nation's miners!

**Thirteen Fatalities at
Metal and Nonmetal Mines
Occurred in Calendar Year
2019**

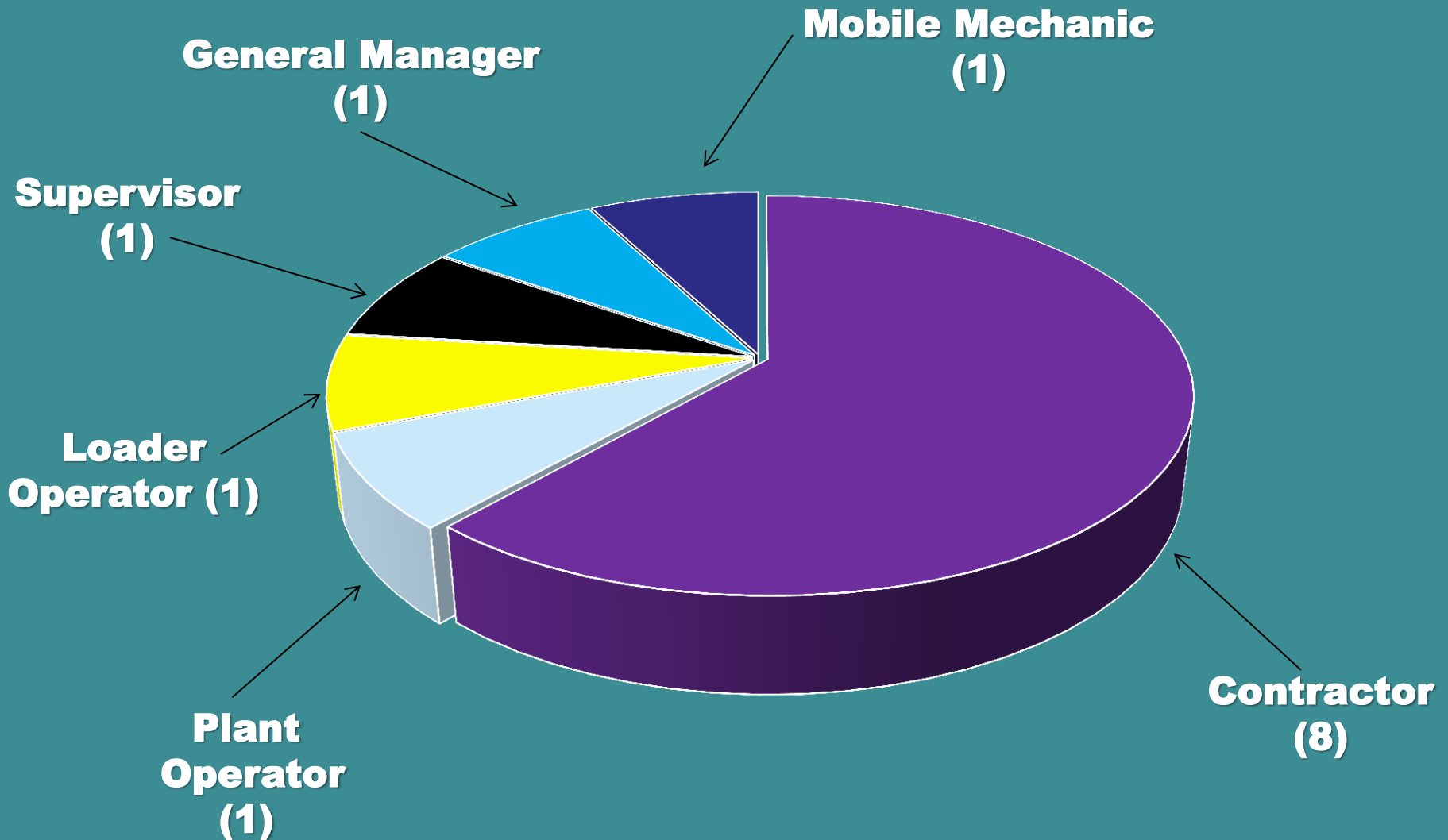
2019 Metal and Nonmetal Fatality Summary

From year-to-year, many of the same trends still exist:

- A significant percentage of the 13 fatalities involve mobile equipment (powered haulage and machinery classifications).
- Eight of the fatalities involved contractors.
- Fatal Accident classifications:

– Machinery	4
– Powered haulage	5
– Slip or Fall of a Person	2
– Electrical	1
– Hoisting	1

2019 Metal and Nonmetal Fatalities by Occupation



March 6, 2019

On March 6, 2019, a 35-year-old contractor with 35 weeks of experience was fatally injured when he was struck by a relief valve that was ejected from a 500-ton hydraulic jack. The hydraulic jack was being engaged to make contact with the frame of a P&H 4100A shovel when the relief valve was ejected.



- Inspect, examine, maintain, and evaluate all materials and system components used in the installation, replacement, or repair of pressurized systems to ensure they are suitable for use and meet minimum manufacturer's specifications.
 - Test systems at lower pressures to verify connections and flow rates prior to full pressure use.
 - Position yourself in a safe location, away from any potential sources of failure, while pressurizing systems.
 - Consult and follow the manufacturer's recommended safe work procedures.
 - Establish and discuss safe work procedures that include hazard analysis before beginning work.
- Identify and control all hazards associated with the work to be performed and use methods to properly protect persons.

March 7, 2019

On March 7, 2019, a 46-year-contractor with three years of experience was fatally injured when he lost his balance and fell backwards through a narrow gap between two log washers and landed on a cable tray approximately 12 feet below. The victim was changing drive belts on a log washer motor when his wrench slipped off of a bolt he was tightening, causing the loss of balance.



- Always use fall protection equipment, safety belts and lines, when working at heights and near openings where there is a danger of falling.
- Always be aware of your surroundings and any hazards that may be present.
- Have properly designed handrails, guards, and covers securely in place at openings through which persons may fall.
- Train personnel in safe work procedures regarding the use of handrails and fall protection equipment during maintenance and construction activities and ensure their use.
- Conduct workplace examinations in order to identify and correct hazards prior to performing work.

May 13, 2019

On May 13, 2019, a 59-year-old supervisor with 40 years of experience was fatally injured when the stationary crane he was operating fell 85 feet into the quarry.



- Ensure all safety devices are functional.
- Conduct a visual inspection of the equipment, load, and rigging prior to placing equipment in operation.
- Conduct a visual inspection of site conditions and potential hazards.

May 18, 2019

On May 18, 2019, a 34-year-old plant operator with 8 years of experience received fatal injuries when he was ejected from a man lift basket. The victim was tramming while elevated at 28 feet. The miner was wearing a fall protection harness with a retractable lanyard but it was not secured/tied off to the man lift basket.



- Always stay connected/tie off. Always attach the lanyard of the approved fall protection device to the designated attachment point.
- Use boom functions instead of tram functions to position the platform close to obstacles.
- Ensure that persons are properly task trained regarding safe operating procedures before allowing them to operate mobile equipment.
- Do not place yourself in a position that will expose you to hazards while performing a task.
- Ensure that access gates or openings are closed.

June 10, 2019

On June 10, 2019, a 22-year-old contractor with 3 years of experience, was fatally injured when he was pinned between a front-end loader and a concrete block. The victim was working in a conduit trench, preparing to install a junction box. The plant manager was using a front-end loader above to back fill the trench. The front-end loader over travelled the edge and toppled into the trench.



- Establish and discuss safe work procedures. Identify and eliminate or control all hazards associated with the task being performed.
- Train and monitor persons on safe work positioning.
- Keep mobile equipment a safe distance from the edge of unstable ground, open excavations, and steep embankments.
- Operating speeds should be consistent with conditions of roadways, grades, and the type of equipment used.
- Assure equipment operators are familiar with their working environment. Front-end loader operators must ensure personnel are not near the machine when in operation.

June 24, 2019

On June 24, 2019, a 34-year-old contractor with 10 years of experience, received fatal injuries when he fell beneath the wheels of a tractor-trailer. Miners were using a bulldozer to pull the tractor-trailer, which had become stuck in the sand. As the tractor-trailer began to be pulled, the victim was seen walking toward the side of the truck. The victim died at the scene from crushing injuries after being run over by the truck wheels.



- Do not allow people to ride in any area of a vehicle that is not equipped with a seat belt.
- When approaching large mobile equipment, do not proceed until you communicate and verify with the equipment operator your planned movement and location.
- Stay in the line of sight with mobile equipment operators. Never assume the equipment operator sees you.
- Ensure, by signal or other means, that all persons are clear before moving equipment.

July 17, 2019

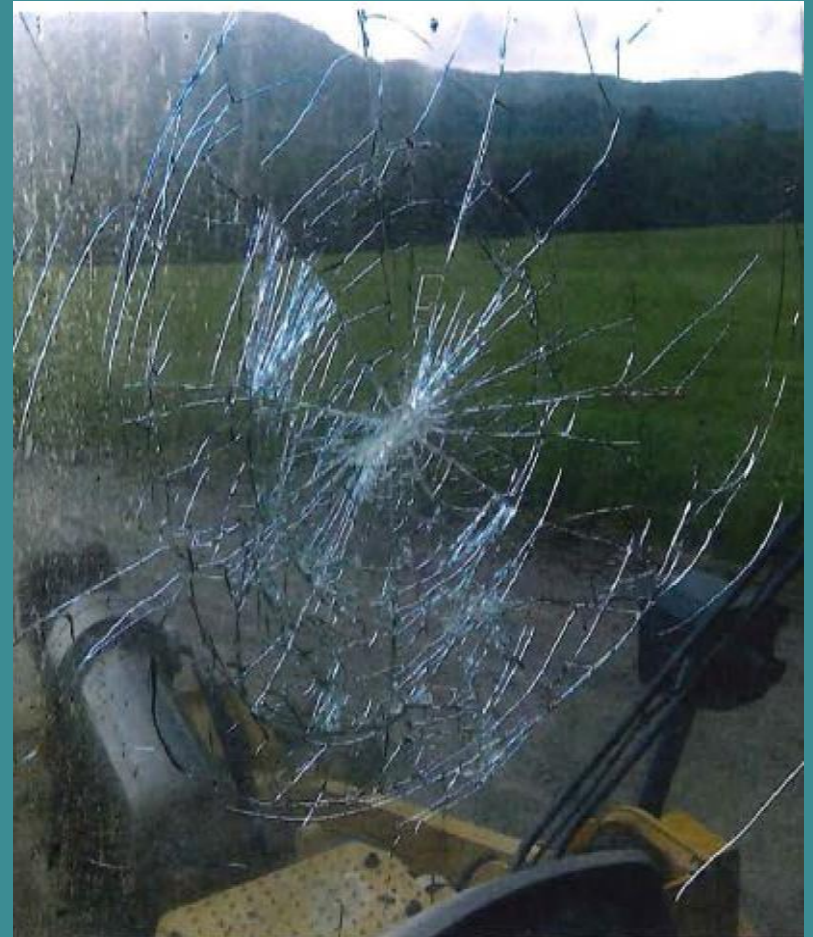
On Wednesday, July 17, 2019, a 32-year old general manager/owner was killed when he was struck by a hydraulic breaker. The victim and the excavator operator were in the process of positioning the excavator for a motor exchange when the hydraulic breaker attachment fell off the excavator and hit the victim.



- Conduct adequate pre-operational checks and correct any defects affecting safety in a timely manner prior to operating mobile equipment.
- Make sure machine implements are securely attached to prevent unintentional disconnection.
- Stay clear of suspended loads and raised equipment.
- Any repairs to equipment should be made to OEM specifications.
- Always position yourself in a safe location and away from potential “red-zone” areas. Consult and follow the manufacturer’s recommended safe work procedures.
- Train miners to recognize potential hazardous conditions and understand safe job procedures before beginning work.

July 30, 2019

Powered Haulage - Vermont



On July 30, 2019, a miner was seriously injured when the front end loader they were operating came to an abrupt stop and the unrestrained operator struck the windshield. The miner died from his injuries in January of 2020.

August 2, 2019

On Friday, August 2, 2019, a 39-year old contract equipment operator, with 16 years of experience, was killed while descending the main haul road in a fuel/lube truck. The victim radioed that the truck's brakes did not work and after traveling approximately one mile down a 7% grade, struck a runaway truck ramp's berm causing it to overturn. The victim was not wearing a seatbelt.



- Always wear seat belts when operating mobile equipment.
- Maintain control and stay alert when operating mobile equipment.
- Conduct adequate pre-operational checks and correct any defects affecting safety in a timely manner prior to operating mobile equipment.
- Promptly remove equipment from service if defects affecting safety are found. Never rely on engine brakes and transmission retarders as substitutes for keeping brakes properly maintained.
- Operate mobile equipment at speeds consistent with the conditions of roadways, tracks, grades, clearance, visibility, curves, and traffic.
- Ensure that berms are adequate for the vehicles present on site. Runaway truck ramps should be constructed to accommodate out of control mobile equipment traveling at a high rate of speed. The length, width, grade, and approach to the runaway truck ramp should be sufficient for the mobile equipment used on the haul road.

August 15, 2019

On Friday August 15, 2019, a 44-year-old contract electrician with 10 weeks of mining experience was electrocuted when he contacted a 120V cable while working inside a fire suppression system's electrical panel.



- Ensure miners receive proper training on all electrical related tasks.
- Ensure that circuit breakers and switches are properly labeled.
- Properly lock-out and tag-out electrical circuits prior to working on them.
- Wear properly rated and well maintained personal protective equipment while troubleshooting or testing energized circuits.
- Use properly insulated tools when performing electrical work.
- Use properly rated electrical meters and non-contact voltage testers to ensure electrical circuits have been de-energized prior to performing electrical work.

November 5, 2019

A mobile maintenance mechanic was driving on the pit haulage road when the service truck he was operating left the road, hit a berm, and flipped onto its side, ejecting the miner. The miner died at the scene on November 5, 2019.



- Always wear seat belts when operating mobile equipment.
- Maintain control and stay alert when operating mobile equipment.
- Conduct adequate pre-operational checks and correct any safety defects before operating mobile equipment.

November 16, 2019

While spotting for a dump truck, a contractor stepped directly into the path of a bulldozer and died at the scene on November 16, 2019.



- Safety first. Before starting work, establish and discuss safe work procedures. Identify and control all hazards associated with the work and properly protect workers.
- Know where people are. Be aware of body positioning around equipment, traffic patterns, dump sites, and haul roads.
- Train miners and contractors on traffic controls, mobile equipment patterns, and other site-specific hazards.
- Stay alert. Do not place yourself in harm's way.
- Communicate with mobile equipment operators and ensure they acknowledge your presence.
- Ensure travelways are clear before moving a vehicle or mobile equipment.
- Look behind you. Install "rear viewing" cameras or other collision warning systems on mobile equipment. When backing up, look over your shoulder to eliminate blind spots. When using mirrors, use all available mirrors.
- Wear reflective material while working around mobile equipment. Use flags, visible to equipment operators, to make miners and smaller vehicles more visible.

December 3, 2019

A contract maintenance mechanic was performing elevator maintenance when the car descended, crushing the mechanic against an elevator platform. The person died at the scene on December 3, 2019.



- **De-energize, lock out and tag out, and block** machinery or equipment that can injure miners – before entering the area.
- **Post warning signs or barricades** to keep miners out of areas where health or safety hazards exist.
- Install an **audible alarm** to warn of impending equipment movement.
- **Evaluate and correct possible hazards** promptly before working.
- **Train personnel** in safely using handrails and fall protection equipment during maintenance and construction activities. Ensure their use.

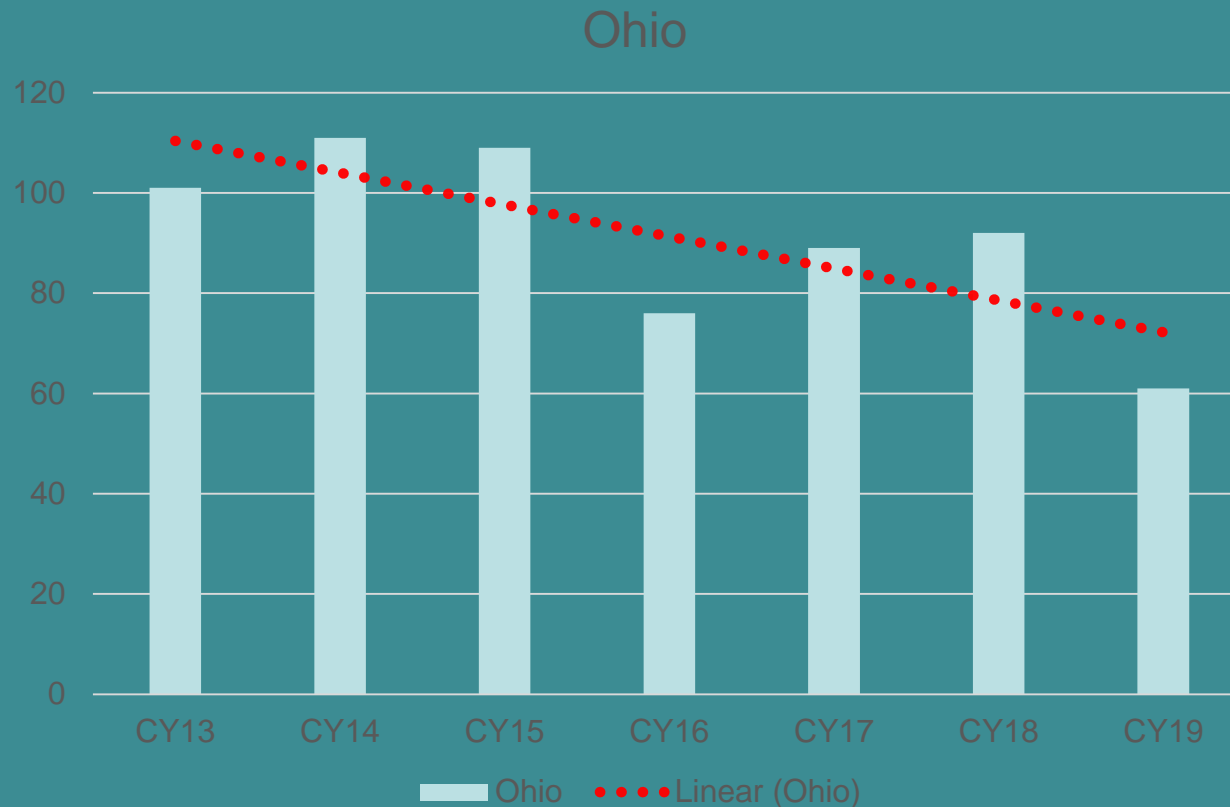
Northeastern District Fatal Accidents (1995 – 2019)

Year	Mine Employee		Contractor	
	Supv	Hourly	Supv	Hourly
1995	0	2	0	3
1996	0	5	1	2
1997	1	4	0	1
1998	0	4	1	0
1999	1	4	1	0
2000	0	2	0	2
2001	0	0	0	1
2002	0	1	0	1
2003	1	1	0	0
2004	2	0	0	1
2005	0	3	0	0
2006	1	1	1	1
2007	1	2	0	0
2008	1	1	0	1
2009	1	0	0	0
2010	0	1	0	1
2011	0	3	0	0
2012	1	2	0	1
2013	0	2	0	0
2014	2	3	0	2
2015	2	2	0	1
2016	0	0	0	1
2017	0	0	0	0
2018	0	1	0	1
2019	1	1	0	0
Totals	15	45	4	20
	60		24	

- 71% of the Fatalities involved **Mine Employees** (60 of 84)
 - 25% of these accidents involved **Supervisors** (15 of 59)
 - 2008 – 2019 → 33% (7 of 21)
- 29% of the Fatalities involved **Contractors** (24 of 83)
 - 17% of these accidents involved **Supervisors** (4 of 24)
 - 2008 – 2019 → 0% (0 of 7)
- 22.5% of all Fatalities in the Northeastern District involved **supervisory personnel** (19 of 84).

**No Fatalities at Ohio
Metal and Nonmetal Mines in
CY 2019**

Ohio Metal NonMetal Mines Accident/ Injury Trend (2013 – 2019)



Reversing the accident and injury trend in metal and nonmetal mines has taken the efforts of everyone in the mining community. We must continue to improve conditions for our Nation's miners!

Northeastern District Accident Investigations CY 2019 (28 Total)

- 1 Fatal Accident Investigation
- 18 Injury Accident Investigations
- 6 Non-Injury Accident Investigations
- 3 Chargeability Investigations – Deaths on Mine Property

Total - 28

Serious Accident – NE District CY 2019

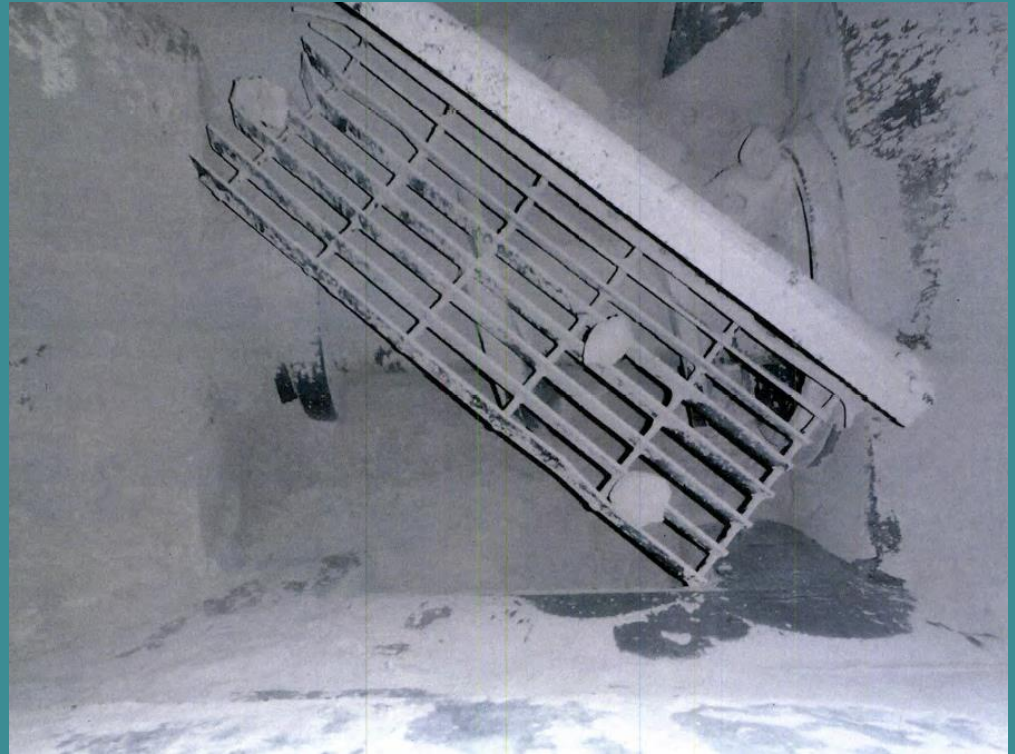
Fall of Person - Pennsylvania



On March 4, 2019, a miner was seriously injured when the miner fell through an unprotected opening during a screen change. Safety belts, lines or harnesses were not in use during the screen change.

Serious Accident – NE District CY 2019

Powered Haulage - Pennsylvania



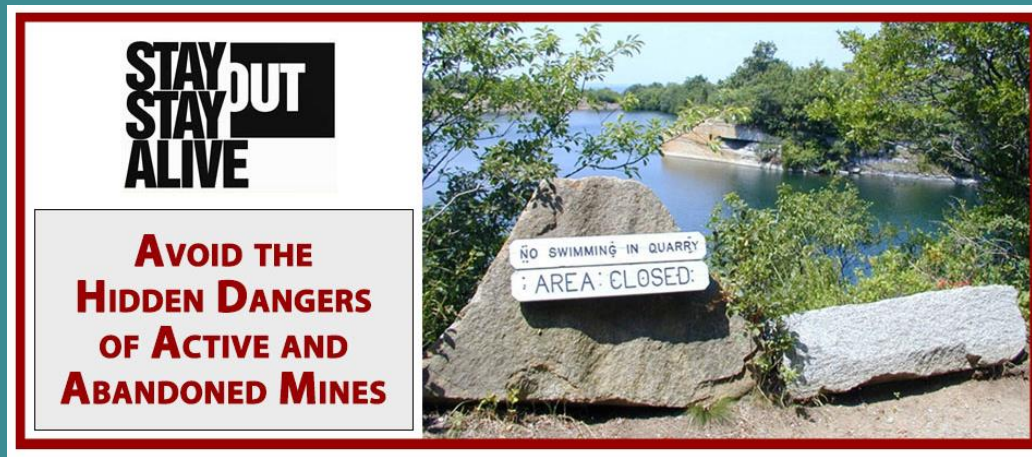
On September 13, 2019, a miner was seriously injured when the grating they were standing on flipped over and the miner's leg fell into a rotating screw conveyor. The miner suffered a partial leg amputation as a result of the accident.

Serious Accident – NE District CY 2019

Fall of Person - Ohio



On November 4, 2019, a contract Millwright was attempting to evaluate a dust collector scheduled for demolition and sustained serious injuries when a portion of the elevated walkway he was traveling on gave way. The victim fell through the hole in the elevated walkway, struck a handrail and landed on the floor approximately 20 feet below.



- **Stay Out – Stay Alive** is a national public awareness campaign aimed at warning children and adults about the dangers of exploring and playing on active and abandoned mine sites. Launched by MSHA in 1999, the campaign is a partnership of federal and state agencies, private organizations, businesses and individuals.
- Each year, dozens of people are injured or killed in recreational accidents at abandoned quarries, mines and pits. Through the Stay Out – Stay Alive campaign, MSHA and its partners visit schools, communities and youth organizations around the country to educate children, adults and communities at large about the hidden hazards that await the unsuspecting hiker, off-roader or swimmer.

Top 5 Standards Cited at Metal and Nonmetal Mines in CY 2019

Rank	Ohio Mines	Northeastern District	National
1	56.14112(b) Guards in Place	56.14107(a) Moving Machine Parts	56.14107(a) Moving Machine Parts
2	56.20003(a) Housekeeping	56.12004 Electrical Conductors	56.12004 Electrical Conductors
3	56.12032 Inspection and Cover Plates	56.12032 Inspection & Cover Plates	56.20003(a) Housekeeping
4	56.12004 Electrical Conductors	56.11001 Unsafe Access	56.14100(b) Safety Defects
5	56.14107(a) Guarding Moving Machine Parts	56.20003(a) Housekeeping	50.30(a) Quarterly Reports

Four of the Top 5 standards cited in OH appeared on the lists for the District or National rankings (all metal and nonmetal mines).

In CY 2019, the Top 5 standards in OH accounted for 39.8% of the total issuances.

Top 20 Cited Standards at Metal and Nonmetal Mines in CY 2019

Ohio Mines

Rank	Number of Violations	Standard
1	77	56.14112(b)
2	76	56.20003(a)
3	68	56.12032
4	47	56.12004
5	66	56.14107(a)
6	60	56.14100(b)
7	49	56.11001
8	47	56.12028
9	42	56.12018
10	42	56.14112(a)(1)
11	39	56.14132(a)
12	32	56.12008
13	30	56.9300(a)
14	26	50.30(a)
15	38	56.14101(a)(2)
16	22	56.14207
17	21	56.4201(a)(1)
18	21	57.3200
19	19	56.4101
20	17	56.4201(a)(2)

NE District

Rank	Number of Violations	Standard
1	552	56.14107(a)
2	454	56.12004
3	412	56.12032
4	364	56.11001
5	363	56.20003(a)
6	348	56.14132(a)
7	340	56.14100(b)
8	282	50.30(a)
9	236	56.14112(b)
10	233	56.14101(a)(2)
11	225	56.14100(c)
12	212	56.4201(a)(2)
13	200	56.12018
14	172	56.9300(a)
15	149	56.12028
16	137	56.14112(a)(1)
17	135	56.4101
18	128	47.41(a)
19	121	47.44(b)
20	116	56.11012

National

Rank	Number of Violations	Standard
1	3,120	56.14107(a)
2	2,786	56.12004
3	2,391	56.20003(a)
4	2,115	56.14100(b)
5	1,721	50.30(a)
6	1,637	56.14132(a)
7	1,613	56.12032
8	1,418	56.11001
9	1,402	56.14112(b)
10	1,188	56.12028
11	1,153	56.14100(c)
12	1,027	56.4201(a)(2)
13	993	56.14101(a)(2)
14	961	56.12018
15	829	56.14207
16	739	56.4101
17	704	56.9300(a)
18	664	56.12008
19	650	56.14112(a)(1)
20	648	47.41(a)

Most of the Top Twenty Cited Standards issued at Ohio Mines appear on the lists for the NE District and for All Metal and Nonmetal Mines. Consider these lists as a starting point for workplace safety!

Safety



Values