

2021 Fatal Comparison Chart (based on preliminary report data, fatal alerts, & final reports) Updated: 4/12/2021

MNM Total	7	Fatal Date	Coal Total	0	Fatal Date	Total
Underground (UG)	1	Feb22	Underground (UG)			1
Surface & Sur of UG	6	Jan16, Jan19, Feb8, Feb25, Mar5, Mar12	Surface & Sur of UG			6
Found Non-Chargeable			Found Non-Chargeable			
Contractor			Contractor			
Powered Haulage	3	Jan19, Feb8, Feb22	Powered Haulage			3
Machinery	2	Jan16, Mar5	Machinery			2
Roof, Rib, Highwall Fall			Roof, Rib, Highwall Fall			
Electrical			Electrical			
Slip & Fall of Persons	1	Feb25	Slip & Fall of Person			1
Fall & Sliding Materials			Fall & Sliding Materials			
Handling Materials	1	Mar12	Handling Materials			1
Hand Tools						
Age			Age			
Age 0-19			Age 0-19			
Age 20-29	2	Feb22, Feb25	Age 20-29			2
Age 30-39	3	Jan19, Feb8, Mar12	Age 30-39			3
Age 40-49	1	Jan16	Age 40-49			1
Age 50-59			Age 50-59			
Age 60+	1	Mar5	Age 60+			1
Experience			Experience			
Less than 1 year	1	Feb8	Less than 1 year			1
1-9 years	4	Jan16, Feb22, Feb25, Mar12	1-9 years			4
10-19 years	1	Jan19	10-19			1
20+	1	Mar5	20+			1
Mine Site Experience			Mine Site Experience			
Less than 1 year	3	Jan19, Feb8, Feb25	Less than 1 year			3
1-9 years	3	Jan16, Feb22, Mar12	1-9 years			3
10-19			10-19			
20+	1	Mar5	20+			1
Job/Task Experience			Job/Task Experience			
0-7 days	1	Mar5	0-7 days			1
Less than 1 year	4	Jan19, Feb8, Feb22, Feb25	Less than 1 year			4
1-9 years	2	Jan16, Mar12	1-9 years			2
10-19			10-19			
20+			20+			
Day of the Week:			Day of the Week:			
Sunday	1	Feb22	Sunday			1
Monday	1	Feb8	Monday			1
Tuesday	1	Jan19	Tuesday			1
Wednesday			Wednesday			
Thursday	1	Feb25	Thursday			1
Friday	2	Mar5, Mar12	Friday			2
Saturday	1	Jan16	Saturday			1

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2021 - Month	MNM	Coal	Totals	Difference	Totals	2020 - Month	MNM	Coal
January	2	0	2	0	2	January	2	0
February	3	0	3	0	3	February	2	1
March	2	0	2	+2	0	March	0	0
April					0	April	0	0
May					2	May	2	0
June					3	June	3	0
July					3	July	3	0
August					3	August	3	0
September					2	September	2	0
October					5	October	2	3
November					3	November	2	1
December					3	December	3	0
2021 Total:	7	0	7	+2	29	2020 Total:	24	6

Product	2021 Fatal Dates	2021 Total	2020 Total	State (2021)	Total	MNM	Coal	Fatal Date
Alumina				Alaska	1	1	0	Jan16
Barium			1	Illinois	1	1	0	Mar5
Cement			1	Missouri	2	2	0	Feb8, Mar12
Clay				Nevada	1	1	0	Feb25
Coal			5	Tennessee	1	1	0	Feb22
Copper				Utah	1	1	0	Jan19
Diatomaceous Earth								
Gold Ore			1					
Granite			1					
Gypsum								
Iron Ore								
Kaolin								
Lead Ore	Jan16	1						
Lime								
Limestone	Feb8	1	5					
Magnesite								
Phosphate								
Potash								
Sand/ Sand & Gravel	Jan19, Feb25, Mar5, Mar12	4	10					
Sandstone			2					
Shale								
Silver Ore								
Stone			1					
Titanium								
Traprock								
Zinc	Feb22	1						
				Part 48 = 1				Part 46 = 6
				All Coal = 0				Non Metal SUR = 6
				MNM: UG = 1				
				Metal: SUR = 0				

Month	2021	2020	2019	2018	2017	2016	2015	2014	2013	2012	2011	TOTAL	AVG
January	2	2	2	1	2	3	5	1	3	2	1	24	2.18
February	3	3	0	2	3	1	1	5	5	3	3	29	2.64
March	2	0	3	3	3	3	5	2	3	5	2	30	2.73
April		0	0	1	0	2	0	6	3	2	2	16	1.6
May		2	3	1	2	2	4	6	1	5	1	27	2.7
June		3	2	3	3	4	3	6	3	2	4	33	3.3
July		3	3	1	4	2	2	2	4	4	2	27	2.7
August		3	5	2	2	1	4	3	3	2	3	28	2.8
September		2	2	1	3	3	2	3	3	5	4	28	2.8
October		5	0	6	4	1	0	3	5	1	6	31	3.1
November		3	2	2	0	0	0	6	5	4	4	26	2.6
December		3	2	4	2	3	3	3	4	1	4	29	2.9
Total:	7	29	24	27	28	25	29	46	42	36	36	326	2.68/mo

Average over past 10 years (2011-2020) = 36 per year

Average over past 5 years (2016-2020) = 27 per year

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2021 – Combined Coal and MNM Fatal

Jan16

Machinery

Alaska

On Saturday, January 16, 2021, a 47-year-old drill operator with over 7 years of experience was fatally injured while assisting another drill operator in removing the down hole drill (DHD) from Company Drill #40-008. The driller was installing a J wrench on the DHD wrench slots when the DHD rapidly rotated in a counter-clockwise direction, crushing his right thigh between the J wrench and the drill mast. The machine power was on, and no action was taken to prevent unplanned movement of the DHD.

Cited Regulations: 48.27 and 56.14105

Root Cause:

- The mine operator did not have adequate policies and procedures to ensure miners stayed clear of moving drill parts.
- The operator did not have policies to ensure that miners turned off or blocked equipment against hazardous motion while conducting maintenance activities.
- The mine operator did not have policies to ensure miners were de-tooling the DHD within the scope of the manufacturer’s instructions.
- The mine operator’s task training program had a deficiency that allowed inadequacies in the miners’ training.

Best Practices:

- Establish and discuss safe work procedures before starting any task.
- Identify and control all hazards. Train all workers to recognize potential hazards and use safe job procedures to eliminate hazards before beginning work.
- Follow manufacturer’s procedures for using equipment, and monitor employees for compliance.
- Position yourself in a safe location away from potential “danger-zone” areas.
- Train miners to safely perform their tasks.
- Conduct equipment inspections and correct any defects affecting safety.

Use the following links to view additional information:

[Preliminary Report](#)

[Fatal Alert](#)

[Final Report](#)

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2021 – Combined Coal and MNM Fatal

Jan19

Powered Haulage

Utah

On Tuesday, January 19, 2021, a 39-year-old truck driver with over 15 years of total mining experience backed a haul truck to the edge of a dump point that was over steepened by a loader removing material at the bottom of the slope. When the edge of the bank failed, the haul truck traveled backwards and overturned, landing on the roof of the cab.

Cited Regulation:

Root Cause:

Best Practices:

- Always dump material in a safe location. If ground conditions aren't reliable, dump loads a safe distance back and push the material over the edge.
- Never load material from the toe directly below an active dump point. This may lead to an over steepened and unstable slope.
- Never drive haul trucks beyond cracks on the top of the dump site.
- Always construct substantial berms as a visual indicator to prevent overtravel. Clearly mark dump locations with reflectors and/or markers.
- Always wear a seatbelt.
- Install advanced systems that restrain miners during roll-overs.
- Maintain communication between equipment operators and loaders.
- Train miners to use safe dumping procedures and recognize dumping hazards such as material slides and other unsafe conditions.

Use the following links to view additional information:

Preliminary Report	Fatal Alert	Final Report
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2021 – Combined Coal and MNM Fatal

Feb 8

Powered Haulage

Missouri

On Monday, February 8, 2021, a 38-year-old miner with approximately 8 months experience was fatally injured when he became entangled in a fluted tail pulley while attempting to shovel under an adjacent fluted tail pulley.

Cited Regulation:

Root Cause:

Best Practices:

- Design, install, and maintain area guards with signage and locks in addition to a physical barrier. Find more information on area guarding at <https://www.msha.gov/guarding-slide-presentation-guarding-conveyor-belts-metal-and-nonmetal-mines>.
- Design and maintain secure guards so miners can perform routine maintenance on belt conveyor systems without contacting moving machine parts.
- Do not perform work on a belt conveyor until the power is off, locked out and tagged, and machinery components are blocked against motion.
- Never clean pulleys or idlers manually while belt conveyors are operating.
- Establish policies and procedures for conducting specific tasks on belt conveyors.
- Ensure that people assigned to work on belt conveyors are task trained, understand the associated hazards, and demonstrate safe work procedures before beginning work.
- Ensure all new miners receive new miner training and task training.

Use the following links to view additional information:

Preliminary Report	Fatal Alert	Final Report
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2021 – Combined Coal and MNM Fatal

Feb 22

Powered Haulage

Tennessee

On Monday, February 22, 2021, a 26-year-old underground chute puller with over 5 years mining experience was fatally injured as a passenger of a rail-mounted locomotive when he was crushed between the deck of the locomotive and an overhead chute

Cited Regulation:

Root Cause:

Best Practices:

- Install controls such as rail stops at loading points, crossings, etc., where track equipment must stop.
- Install reflective signs or warning lights well in advance of low clearance areas to alert miners of the upcoming hazard.
- Develop safe working procedures to avoid low clearance and pinch point areas. Monitor workers to ensure these procedures are followed.
- Always look in the direction the equipment is moving in, and keep all body parts within the operator's compartment while it is moving.
- Conduct proper travelway examinations to identify and mitigate the hazards presented by low clearances.
- Train all workers to recognize potential hazards and understand safe job procedures and tasks to eliminate hazards before beginning work

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2021 – Combined Coal and MNM Fatal

Feb 25

Slip and Fall

Nevada

On Monday, February 25, 2021, a 26-year-old plant operator with over 3 years mining experience died after entering a cyclone discharge box. The local fire department recovered the victim lodged in an 18-inch wide discharge pipe that was full of water.

Cited Regulation:

Root Cause:

Best Practices:

- Wear a fall protection harness, properly tie off to a permanent support structure, and attach a lifeline when entering a bin or other confined space. Have a second person monitor the lifeline to make sure there is no slack in the fall protection system.
- Use personnel lifts or ladders to safely access elevated work areas.
- Always use fall protection when there's a potential fall hazard.
- Examine work areas and equipment. Report defects and do not use unsafe work equipment.
- Assess risks and hazards before beginning maintenance activities.
- Train miners to safely perform their tasks and properly use their personal protective equipment.

Use the following links to view additional information:

Preliminary Report	Fatal Alert	Final Report
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2021 – Combined Coal and MNM Fatal

Mar 5

Machinery

Illinois

On Friday, March 5, 2021, a 63-year-old mine manager with 43 years of mining experience died while operating an excavator along an elevated roadway adjacent to a dredge pond. The ground under one excavator track sloughed off which caused the excavator to overturn, fall approximately 13 feet, and slide into the pond.

Cited Regulation:

Root Cause:

Best Practices:

- Construct berms or install guardrails on roadways where a drop-off exists. Ensure berms and guardrails are at least as high as the mid-axle height of the largest equipment using the roadway.
- Examine and maintain roadways to prevent slope instability such as over steepened banks, sloughs, and cracking on the roadway and bank.
- Install locked gates at the entrances of roadways that are infrequently traveled. Post speed limit signs and install delineators at the edges of roads.
- Always wear seatbelts when operating mobile equipment.
- When working near water, wear flotation devices and ensure combination seat belt cutter/window breaker tools are installed in equipment. See safety alert <https://www.msha.gov/news-media/alerts-hazards/mnm-safety-alert-water-related-safety>.
- Train equipment operators in the safe performance of their tasks, potential hazards, and the use of alternative/emergency exits in cabs. Examine these exits during pre-operational examinations.

Use the following links to view additional information:

Preliminary Report	Fatal Alert	Final Report
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2021 – Combined Coal and MNM Fatal

Mar 12

Handling Material

Missouri

On Friday, March 12, 2021, a 35-year-old miner with 8 years of mining experience was fatally injured while attempting to insert a steel pin into a barge spud beam. The pin was partially inserted into the collar of the hole as the spud continued to lower into the spud well. The victim was struck in the face by the cantilever action of the safety pin.

Cited Regulation:

Root Cause:

Best Practices:

- Always ensure hoisted equipment movement has stopped and the hoist operator has set the brake before working on hoisted equipment.
- Ensure the hoist operator can see miners working on hoisted equipment.
- Establish an effective communication protocol, which includes confirmation of instructions, between the hoist operator and miners working on hoisted equipment.
- Position yourself in a safe location to maintain balance and protection from any energy of cantilevering tools or objects.
- Stay in a Safe Zone when working around cables and sheave wheel systems.
- Always maintain a work area that is clean and clear of debris.
- Train equipment operators in the safe performance of their tasks and potential hazards.

Use the following links to view additional information:

Preliminary Report	Fatal Alert	Final Report
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MSHA investigates all deaths on mine property; however, some deaths are unrelated to mining activity and are not counted in the statistics MSHA uses to assess the safety performance of the mining industry. These deaths are termed "non-chargeable" and include homicides, suicides, deaths due to natural causes, and deaths involving trespassers.

MSHA uses a formal Fatality Review Committee to determine whether a questionable death is chargeable. Currently, there is one 2021 mining accidents pending chargeability determination.

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