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# Metal and Nonmetal Quarterly



## Think Safe and Work Safe

In 2007, fatal accidents at Metal and Nonmetal mines increased from 10 on May 31 to an alarming 25 fatalities by September 20th. MSHA wants you to think safe and work safe. We are all responsible for our own safety and the safety of our fellow miners. If you see someone not following proper safety procedure, please let them know you care and remind them to put on their seat belt, tie off, or follow correct lock out/tag out procedure. It can be the difference between life and death.

### Fatal accidents at Metal and Nonmetal Mines– 2007

1	Hydrogen fluoride discharge splashed onto the miner's face. He was hospitalized and died several hours later.
2	The miner was struck by a large rock while he was installing ground support.
3	A brakeman was fatally injured when two loaded railroad cars struck a 35-ton haul truck as it crossed railroad tracks.
4	The miner was adjusting an aerial tram cable when he was struck by a tension jack.
5	The miner fell from a dredge and was found floating in the water behind the dredge.
6	The miner lost control of his haul truck which had rolled over and become partially submerged in a pond.
7	The miner was crushed when the loader he was repairing fell off the jack supports.
8	The miner was ejected from the drill cab as the drill tipped on its side causing him to fall over the edge of a high wall.
9	The miner fell approximately 50 feet onto a lower level scaffolding support pipe.
10	The miner was ejected from the cab of his haul truck which traveled over a berm and landed on the bench below.
11	The miner was crushed when a crane landed on him.
12	The miner was standing in a trench and was struck by falling material.
13	The miner was pinned down by a large steel pipe he was welding.
14	The miner was engulfed and buried in his loader when backfill gave way.
15	The miner was entrapped and drowned when his front-end loader fell into a pond.
16/17	The boom of a man basket was extended approximately 50 feet above ground level when the unit tipped over., fatally injuring the miners.
18	The miner was fatally injured when the haul truck he was driving struck a guard rail on a bridge and landed in a river
19	The miner working on top of a service hoist when he fell into the service shaft . He was wearing his safety harness but it was not secured.
20	The miner's truck caught fire after the engine was covered by ore.
21	The miner was roof bolting when the left rib and back fell in covering the roof bolter.
22	The miner fell approximately 7 feet to the bottom of an empty tank.
23	The miner was operating a track loader on an access road. The loader traveled over an embankment and landed approximately 125 feet below.
24	The miner was operating a rubber tire mantrip when it struck a rib and overturned.
25	The miner went behind a guard, used a wooden handle shovel to clean under a conveyor belt take-up pulley, and was entangled in the pulley.

# Nuggets



# of Knowledge

**Prior  
Preparation  
Prevents  
Poor  
Performance**



# Shock Tactics

Shocking visual photographs or moving footage of accident scenes and victims are often used during safety training to shock trainees into following safety procedures. But do these images truly work to prevent unsafe behavior?

Shock Tactics do not work unless they are accompanied by lessons on prevention and avoidance. We must do more than just intimidate we must convince miners to reduce their vulnerability to hazards. It is not effective to show a crowded room a photograph of a miner with amputated limbs unless you explain the accident that caused these injuries as well as explore how the accident could have been avoided and how to minimize risks of injury if found in similar situations. When using emotion or fear to gain compliance, trainers often leave their trainees shocked and awed but not necessarily inspired to change their habits.

“A realistic scare tactic tells an audience they need to do something to avoid a negative consequence. Second, give workers a straightforward strategy to avoid that scary consequence. Finally, you must convince them they can do it — they have the time and tools and skills to successfully execute the plan”

(“Scared Safe” ISHN E-NEWS, Vol. 4, No. 1, 01/21/05).

If you choose to use scare tactics, make sure they are applicable to the audience. It does not help miners to hear about a tragedy that left a police officer blind; seek out situations that affect individuals in their field and tell their stories. A final word of caution: preface these discussions with a warning to employees sensitive to graphic images. The images may make the trainees uncomfortable and miss the important talking points.



#### INFORMATION PROVIDED BY:

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Safety FUNdamentals™ by Linda Tapp, ALCM

AND

“ Scared Safe ” ISHN E-NEWS, Vol. 4, No. 1, 01/21/05

# Is Your Brain Your Best Bet?

Determining risk is one of the most important defense mechanisms humans take for granted. Most animals rely on their flight or fight responses- primitive chemical reactions that begin in the amygdala region of the brain. This portion of the brain processes basic emotions that occur in response to senses such as anger, defensiveness, avoidance and fear. Chemicals are released into our bodies causing us to undergo a series of very dramatic changes. Respiratory rate increase, increased blood flow is directed into our muscles and limbs, our pupils dilate, and our awareness intensifies. Sight sharpens, impulses quicken and our perception of pain diminishes. We become prepared—physically and psychologically—for fight or flight.

Humans and other mammals, by way of evolution, have an additional system for coping with risks- the logical evaluative process helps hold off our flight or fight response long enough that we can make calculated decisions in response to situations. The mammalian brain learned how to predict the timing and location of dangers before they actually happened. This system helps us to tell the difference between a potentially harmful or traumatic event and a practical joke or non-threatening circumstance.

This logical system of analysis can work against us. Take for instance not wearing your seatbelt while operating machinery; luck may be on your side and you may not encounter any harm the first few times operating the vehicle without a seatbelt. This may cause you to become accustomed to not wearing the seatbelt. Your logic system may have reduced your sen-

sitivity to not buckling up and in turn reduced your ability to see dangerous results of not following this procedure. In the event of an accident, not wearing your seatbelts leaves you ill prepared and at risk of injury or even death. If our logical system of anticipation does kick in, it is often too late to put on your seatbelt and protect yourself.

The term “gut instinct” does not exactly sound like the best advice to follow, but it oftentimes is. Our advanced logical system has its bugs. By going with your instincts, you are making a decision that will most likely put you out of danger. In the mining industry, seconds can be the difference between exiting the mine safely and being trapped. Quick reactions to danger are necessary, therefore we must be in tune with gut instincts - it could be the difference between leaving the mine alive or not.



# Compliance Through Positive Reinforcement

Safety and hazard alert notifications to employees are extremely important, yet we are overloaded with the same predictable messages and uninspiring images with reports, pamphlets or sound bites that come our way. Predictable slogans and shock value statistics can be found in almost any safety manual or hazard warning. The familiarity with these overused images and slogans can detract an individual from reading important documents and retaining the pertinent information provided in safety warnings. Safety message delivery speaks volumes. If it is not presented right, information can fall on deaf ears.

We become numb to statistics relaying the number of fatalities due to errors or disasters. Instead of advertisements that make employees feel like lectured-to school children, positive reinforcement should be used. Why not report numbers of fatalities or injuries avoided because employees followed safety rules? The information provided to employees should be upbeat and positive. Tell employees what a good job they are doing and encourage them to continue following through with their precautions. This small gesture may encourage them to follow procedure with more conviction. Making employees feel as though they are appreciated and celebrated for their safety practices can do more to boost morale and make employees think twice before avoiding safety procedures and committing violations. Simply taking the time to stop and point out that an employee is working safely sends a strong message to employees.

When a safety or hazard alert needs to be communicated to employees, let one of their peers tell them about the hazard and what they can do to avoid being injured. Always keep messages short and to the point. Providing mountains of safety instructions at once can seem intimidating and few people absorb

what they hear when information is delivered in such a high volume. Always make it a point to show them what you are talking about. A picture of hazards speaks volumes to employees.

Get your employees involved in their safety and health program. Run safety slogan contest and use the employees' slogans on signs, newsletters, etc. The main point is to make a big deal out of employees' input into their safety and health programs. Encourage employees to look out for each other and to correct each other when they observe a co-worker doing something that can harm them.

One of the most important things management can do for their safety and health program is to get employees directly involved in eliminating hazards when they encounter them. Once employees begin doing this, your facilities will become safer and employees will take ownership for the safety and health of the operation and all of the people they work with. They will believe that everyone is responsible for safety and health. Fostering a culture of team safety can be accomplished simply by involving employees in the decisions made about their safety and health programs, using their ideas and recognizing them for working safely.



# Method Developed to Measure A Person's Distractibility

Distractions pop up when you least expect them too and usually take your attention and focus away from a task. They can impair your judgment and accuracy. For some, a distraction is a ringing cell phone or a conversation with a co-worker or friend that can slow down your productivity; but for others, distractions can lead to serious accidents, injury or even death.

Some are more vulnerable to distractions than others, but how do we know exactly how susceptible we are to distractions? A University College London (UCL) psychologist developed an indicator method to measure a person's level of distractibility.

The computer-based test “measures the subject's accuracy and reaction time when they are exposed to distractions”; this may allow some employers to pre-screen applicants based on their ability to concentrate. Subjects were asked to find a dissimilar letter among a set of similar letters. For example a subject was asked to locate the letter S when grouped with similar letters such as H, M, K, and Z. While the subject was asked to perform this task, other similar letters were flashing in the background as a distraction. Subjects were asked to select the odd letter at rapid paces while the computer measured their reaction time.

In most instances, employees' ability to focus dictates the productivity of a company. In the mining industry, an individual's ability to stay focused often dictates their safety. Most accidents occur on mine sites because miners were distracted. This test could help the industry recognize miners who are more likely to be distracted and do targeted safety talks about concentration and distractions. In time, it is possible to reduce one's susceptibility to being distracted. Tactics that train people to pay more attention could prove beneficial to the Mining industry.



# Winter Weather Safety

Every winter, people die from exposure to the cold, carbon monoxide poisoning, traffic accidents due to poor weather conditions, and heart attacks when shoveling snow. According to the National Weather Service Forecast Office in Shreveport, Louisiana, following some simple safety tips such as the ones below can prevent disaster. Preventative measures taken before winter storms can be your first and best line of defense against the elements.

## When indoors:

- **Keep space heaters away from walls, furniture, and curtains.**
- **Drink non-alcoholic beverages like tea, coffee, hot chocolate and soup.**
- **Prescription drugs may increase vulnerability to cold. Check with your doctor or pharmacist.**
- **If you suspect a problem with your heater, have it checked immediately.**
- **Keep your Carbon monoxide detector in working order.**
- **Offer assistance to elderly and disabled people living alone.**
- **Listen to National Oceanic and Atmospheric Administration (NOAA) weather radio for continuous updates on the weather situation.**

## When venturing outdoors:

- **Wear loose-fitting, light-weight, warm/dry clothing in several layers to trap in body heat.**
- **Wear a hat– most of our body heat is lost through our heads.**
- **Cover your mouth to protect your lungs from extreme cold.**
- **Wear mittens. (They are warmer than gloves.)**
- **As protection against frostbite, cover any exposed skin surfaces.**
- **If you get frostbite, warm the affected areas gradually by wrapping them or placing them next to warm skin. DO NOT rub the affected areas.**

**When shoveling snow, remember that it is extremely hard work. Do not shovel snow unless you're in good physical condition. But if you have to shovel snow:**

- **Rest frequently and pace yourself.**
- **Use a proper snow shovel.**
- **Lift with your leg muscles, not your back.**
- **If you experience chest or arm pain, stop immediately and go indoors. Over-exertion can cause sore muscles, falls on slippery surfaces, and heart attacks in people of all ages.**

With proper planning and common sense, it is possible to stay safe during the winter.

Information provided by National Weather Service Forecast Office in Shreveport, LA

website: [http://www.srh.noaa.gov/shv/Winter\\_Safety.htm](http://www.srh.noaa.gov/shv/Winter_Safety.htm)

# Metal Nonmetal Quarterly

## Word Find

Preparation

y	h	i	n	r	c	c	w	a	t	c
t	h	g	i	f	y	o	f	m	i	t
i	p	t	h	o	n	m	r	y	o	t
v	c	r	f	s	n	p	o	g	o	c
i	m	t	e	t	n	l	s	d	f	n
t	t	t	o	v	y	i	t	a	r	i
c	h	r	t	i	e	a	b	l	t	t
u	g	g	a	t	o	n	i	a	n	s
d	i	s	t	r	a	c	t	i	o	n
o	l	e	a	u	d	e	e	i	c	i
r	f	h	a	z	a	r	d	p	o	g
p	r	e	p	a	r	a	t	i	o	n

Fight

Flight

Productivity

Instinct

Frostbite

Amygdala

Compliance

Distraction

Snow

Prevention