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MSHA
Mine Safety and Health Adminstration

NORTH CENTRAL DISTRICT
MINE SAFETY AND HEALTH NEWSLETTER

MSHA Metal and Nonmetal North Central District

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Welcome to the MSHA Metal and Nonmetal North Central District Mine Safety and Health Newsletter. This internet-accessible quarterly safety and health newsletter for miners and mine operators provides up-to-date information on MSHA regulations and mine safety and health information relating to metal and nonmetal mining in MSHA's North Central District, comprising Illinois, Iowa, Indiana, Michigan, Minnesota, Ohio, and Wisconsin.

Topics covered in this issue include the following:

Fatal Accident Summary – 2008 2nd Quarter

During the second quarter of 2008, six fatal accidents occurred at M/NM mines. A summary of fatal MNM mining accidents by accident category for the years 2004 through 2008 (annual and year-to-date totals) is shown below:

Fatal Accident Summary for M/NM Mines (Annual and Year-to-Date Totals, 2004 through 2008)

FATALITIES CHARGEABLE TO THE MNM MINING INDUSTRY	2004		2005		2006		2007		2008	
	UG	S	UG	S	UG	S	UG	S	UG	S
ELECTRICAL	0	0	1	1	0	3	0	0	0	0
EXP VESSELS UNDER PRESSURE	0	0	0	0	0	0	0	0	0	0
EXP & BREAKING AGENTS	0	0	0	0	0	0	0	0	0	0
FALL/SLIDE MATERIAL	0	2	0	2	0	2	0	2	0	0
FALL OF FACE/RIB/HIGHWALL	0	0	0	0	0	1	0	0	0	0
FALL OF ROOF OR BACK	0	0	0	0	0	0	1	0	2	0
FIRE	0	0	0	0	0	0	0	0	0	0
HANDLING MATERIAL	0	0	0	0	0	0	0	0	0	1
HAND TOOLS	0	0	0	0	0	0	0	1	0	0
NONPOWERED HAULAGE	0	0	0	0	0	0	0	1	0	0
POWERED HAULAGE	0	2	3	3	1	4	2	1	2	1
HOISTING	0	0	0	0	0	0	0	0	0	0
IGNITION/EXPLOSION OF GAS/DUST	0	0	0	0	0	0	0	0	0	0
INUNDATION	0	0	0	0	0	0	0	0	0	0
MACHINERY	1	3	2	5	0	3	1	3	0	2
SLIP/FALL OF PERSON	0	4	0	0	0	2	0	1	0	2
STEP/KNEEL ON OBJECT	0	0	0	0	0	0	0	0	0	0
STRIKING OR BUMPING	0	0	0	0	0	0	0	0	0	0
OTHER	0	1	0	0	0	0	0	2	0	1
YEAR TO DATE TOTALS	**1**	**12**	**6**	**11**	**1**	**15**	**4**	**11**	**4**	**7**
COMBINED YEAR TO DATE TOTALS	**13**		**17**		**16**		**15**		**11**	
END OF YEAR TOTAL	**27**		**35**		**26**		**32**			

The following are brief descriptions of the six fatal accidents that occurred between April 1 and June 30, 2008. Go to www.msha.gov for more information.

<u>Hit by Falling Backfill</u> On April 21, 2008, a 28 year-old mechanic with 1 year 47 weeks experience was fatally injured at an underground gold mine. The victim and two other miners were performing maintenance on a roof bolter when cemented backfill fell, covering him. One of the other miners was injured and hospitalized.

<u>Struck by Front-End Loader</u> On April 24, 2008, a 48 year-old laborer with 32 weeks

experience was fatally injured at an underground industrial sand mine. The victim was checking the roof and ribs for scaling when she was struck by a front-end loader as it backed up.

<u>Trapped in Cab Under Water</u> On May 3, 2008, a 51 year-old mine owner with 45 weeks experience was fatally injured at a surface sand and gravel operation. He was working alone, operating an excavator on the water-covered floor of the pit, attempting to clean a clogged drainage ditch. When the victim moved the excavator, one of the crawler tracks fell into an 8-foot deep sump hole that was not visible due to the high water. The excavator fell on its side, trapping him inside the cab.

<u>Fell Into the Crusher</u> On May 22, 2008, a 46 year-old equipment operator with 15 weeks experience was fatally injured at a surface crushed stone operation. He had been dumping rock into a portable crusher using an excavator when the feeder portion of the crusher apparently clogged. The victim remotely shut off the feeder but left the crusher and discharge belt running. He climbed onto the feeder to check it and fell into the crusher.

<u>Haul Truck Over the Dump</u> On May 27, 2008, a 52-year old truck driver with 2 years experience was fatally injured at a surface crushed stone mine. The victim backed a truck to the edge of a stockpile to dump. The truck went over the crest and fell approx-imately 30 feet to the floor below.

<u>Driller Struck by Roof Fall</u> On May 31, 2008, a 40 year-old driller with 2 years experience was fatally injured at an underground lead-zinc mine. The victim was using a jackleg drill to drill a hole near the face when the bit came off the drill steel. He was attempting to retrieve the bit when a piece of rock, approximately 8½ feet x 4 feet x 14 inches thick, fell from the roof striking him.

The total of 11 fatal accidents that occurred in MNM mines in the first half of 2008 is almost 28% less than the average of the year-to-date totals of the previous four years. One of the six fatal accidents that occurred in the 2nd quarter happened in the North Central District in Iowa. There were no distinct trends or patterns in the types of accidents that occurred. Powered haulage and roof falls accounted for 2 accidents each, and machinery and slip/fall each accounted for 1 accident.

Mine Rescue Contests in Wilmington, IL and Rochester, NY

'Tis the season for mine rescue contests, with no fewer than eight contests conducted around the country in April, May and June. One contest, in Wilmington, IL, was conducted by MSHA's North Central District, and another contest, in Rochester, NY, was conducted jointly by MSHA's Northeast and North Central Districts.

The Wilmington contest, held on May 14, consisted of a mine rescue team competition only, and attracted teams from Illinois and Ohio. The contest was held indoors at the International Union of Operating Engineers Local 150 Apprenticeship and Skill Improvement Training Center, and included a written examination and field problem.

The winning team from Vulcan Construction Materials included members from Vulcan's Bartlett, Lemont, and Bolingbrook underground mines, all located in the suburban Chicago area. The second place team included members from Lafarge underground mines in the Chicago area, as well as Mining International's POWC mine, also in south-suburban Chicago.

Rescue team from Vulcan Construction Materials building a temporary brattice to redirect ventilation

The Northern Mine Rescue Association's (NMRA) Northern Invitational Mine Rescue Contest was held on June 12-13 in Rochester, NY. Eight teams from five mines in Ohio and New York participated. Like the 2008 Metal and Nonmetal National Mine Rescue Contest to be held in Reno, NV July 15-17, the NMRA contest included the rescue team field competition, as well as first aid, apparatus benchman, and multi-gas meter contests.

In the field competition, the winner was the Cayuga Lakers team from the Cargill Deicing Technology Cayuga Mine in Lansing, NY. The runner up was the Whiskey Island team from Cargill's Cleveland Mine in Cleveland, OH.

A mine rescue team from the American Rock Salt Hampton Corners Mine prepares a "survivor" for safe transport out of the mine

In the first aid contest, the winner and runner up were both from Cargill's Cleveland Mine. The Whiskey Island team placed first, and the Cuyahoga River team finished second, a scant five points behind.

In the Draeger (BG-4) Apparatus Benchman contest, the winner was Ken Moore from the "A" team of Morton Salt's Fairport Mine in Fairport, Ohio. The runner up was Cody Rossbach from the Salt

Rocker's team of Cargill's Cayuga Mine.

The outcome of the Multi-Gas Meter (ISC TMX 412) contest was the closest of the four competitions. The winner was Frank Trenton from the Morton Salt "A" team, who finished with zero discounts in a time of 8:35. The runner up was Steve Allenson from the Cargill Cuyahoga team, who finished with a single discount in 10:30. Ryan Weese from Morton's "A" team also finished with a single discount in 11:07.

The winner of the John Jansky Memorial Trophy, awarded annually to the team with the best score on the written test portion of the field competition, was the Cargill Cuyahoga River team.

The overall contest winner with the best combined scores in the field, first aid, apparatus, and multi-gas meter competitions was the Cargill Whiskey Island team. Runner up in the overall standings was the Morton Salt "A" team.

Congratulations to all of the teams and to their sponsoring mines. When it comes to mine rescue contests, clichés aside, everyone goes away a winner.

A first aid team from Cargill's Cleveland Mine
attends to a "victim" injured in a battery explosion.

PEL for DPM Drops to 160_{TC} µg/m^3

On May 20, 2008, MSHA's Permissible Exposure Limit (PEL) for Diesel Particulate Matter (DPM) in underground metal and nonmetal mines dropped from 350_{TC} µg/m^3 to 160_{TC} µg/m^3. Compliance is based on the average eight-hour equivalent full shift airborne concentration of total carbon from a single enforcement sample.

To validate a determination of a miner's exposure to the 160 PEL (based on a personal sample for total carbon), MSHA will analyze a non-citable area sample taken from an area of the mine without organic carbon (OC) interferences. To check for non-diesel OC interferences on the personal sample, MSHA will multiply the elemental carbon (EC) component of the personal TC sample by the ratio of TC to EC obtained from the area sample. MSHA will use this procedure when EC on the miner's personal sample is less than 160 micrograms per cubic meter of air times the error factor (EF) for EC, and TC on the miner's personal sample is greater than 160 micrograms per cubic meter of air times the EF for TC. MSHA will obtain both personal and area samples using the same type of sampling cassette used previously for its compliance sampling. This cassette incorporates an integral submicron impactor and tandem quartz fiber filters. MSHA will use NIOSH Analytical Method 5040 to determine TC and EC on both personal and area samples. Beginning May 20, 2008, MSHA will sample and analyze a miner's exposure to DPM as follows:

- MSHA will determine a miner's exposure to DPM based on the TC content of a single personal sample taken over the miner's full shift as specified in existing 30 CFR § 57.5061 of the DPM standard.

- MSHA will collect area samples for the miner's full shift on the same shift during which the Agency takes the corresponding personal samples.

- MSHA will take the area sample in the main exhaust air course

downstream from the miner's work location, where OC contributions from non-diesel sources are likely to be negligible. At a minimum, MSHA will locate the area sampler at least 25 feet downstream from smoking miners and at least 500 feet downstream from oil mist sources.

- If more than one miner is working upstream from the area sampler, MSHA will apply the TC to EC ratio from the area sample to each miner's personal sample.

- If the ventilation passing through the miner's work area or multiple work areas is coursed to more than one main exhaust, MSHA will locate an area sampler in each of these main exhausts.

- When it is necessary for MSHA to check a miner's personal sample for OC interferences based on multiple area samples, MSHA will average the TC to EC ratios of the area samples to determine the composite TC to EC ratio to apply to the personal sample.

- The miner is overexposed when EC on the personal sample exceeds 160 x EF; ***or*** EC on the personal sample is less than 160 x EF, TC on the personal sample exceeds 160 x EF, and EC on the personal sample times the ratio of TC to EC from the area sample exceeds 160 x EF.

For more information on this regulation, check the Single Source Page for DPM on MSHA's internet web site at:

www.msha.gov

At this web site, you will find a variety of compliance assistance tools, including a Compliance Guide in an easy-to-use question and answer format, a Program Policy Letter detailing how the new PEL will be enforced, and an explanation with examples showing how the DPM PEL and error factors will be used to determine whether a DPM personal sample is in compliance. If you don't have internet access, contact the MSHA District Office for assistance.

“Hands-Only” CPR

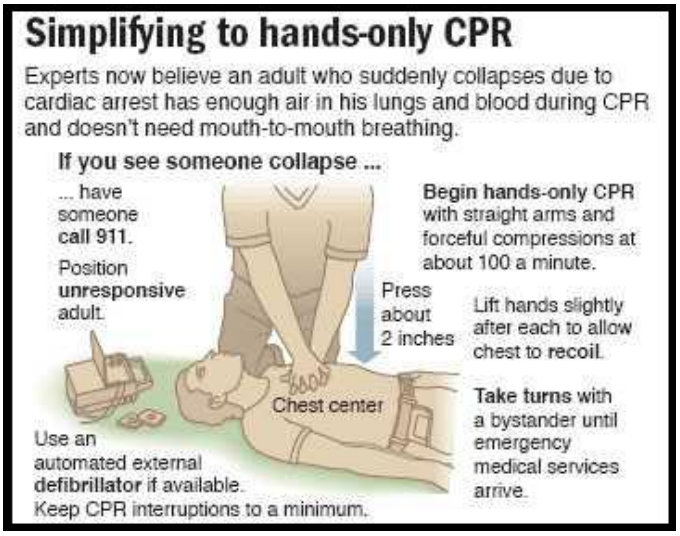
The American Heart Association (AHA) recently issued a "call to action" for bystanders who are not trained in conventional CPR to administer CPR using only their hands (without mouth-to-mouth rescue breathing) in the crucial moments after they witness an out-of-hospital sudden cardiac arrest.

CPR stands for cardiopulmonary resuscitation. It's intended to keep blood moving in people whose hearts have stopped and help keep someone alive until an emergency medical team arrives.

Conventional CPR includes two parts. One part is mouth-to-mouth resuscitation, also known as the "breath of life." The second part is chest compressions, when you push down hard and fast on a person's chest, more than once a second, pressing down at least an inch and a half before releasing.

"Many times people nearby don't help because they're afraid that they will hurt the victim and aren't confident in what they're doing," says Michael Sayre, MD, chairman of the AHA's statement writing committee. Sayre is associate professor in the Ohio State University department of emergency medicine.

Sayre says that by using hands-only CPR, or chest compressions, "bystanders can still act to improve the odds of survival, whether they are trained in conventional CPR or not."



In 2005, the AHA issued recommendations urging bystanders to use compression-only CPR only if they were unable or unwilling to give rescue breaths. Their 2008 update is based on recent studies and the consensus of the AHA's Emergency Cardiovascular Care Committee.

In a nutshell, the AHA recommends that if you are witness

to a sudden collapse of an adult, call 911 and start chest compressions hard and fast in the middle of the chest.

If the bystander isn't trained in CPR or is not confident in being able to do rescue breaths, then they should only do hands-only CPR until emergency medical assistance arrives or an automated external defibrillator (AED) is available for use.

If the bystander was trained in CPR and is confident in being able to provide rescue breaths with minimal interruptions to chest compressions, then they should give CPR with a 30:2 ratio of chest compressions to breaths or hands-only CPR and continue until an AED is available or emergency medical providers arrive to help.

Newer studies have found that in people with out-of-hospital cardiac arrest, survival numbers were comparable between those who received chest-compression only CPR and conventional CPR.

The researchers also note it could take longer for someone trained in traditional CPR to get it going and that people giving chest compressions alone get to it faster with fewer interruptions.

Research shows that while bystander CPR can more than double a person's chances of surviving cardiac arrest, in most cities it is performed in only about 27% to 33% percent of the cases. Chest compression-only CPR may help lower bystander reluctance to perform CPR.

How can you tell if someone's heart has stopped beating? According to the AHA, it's when the person collapses, does not respond to gentle shaking, stops breathing after two rescue breaths, and is still not breathing, coughing, or moving.

If you do give someone CPR, remember to call for help -- 911 – immediately, as bystander CPR is effective only as a short-term measure until emergency medical help arrives.

The hands-only CPR technique is only for adults whom you have seen collapse outside the hospital. Hands-only CPR is not to be used for children or infants or an adult whose heart has stopped because of non-cardiac causes such as a drug overdose or near drowning. In those cases, the AHA says conventional CPR with breaths is still the best technique to perform. The AHA still encourages people to learn conventional CPR at which time they will also learn how to do compression-only CPR.