

ILLINOIS INDIANA IOWA MICHIGAN MINNESOTA OHIO WISCONSIN



**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.

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Fatal Accident Summary - 2nd Quarter of 2009

During the second quarter of 2009, eight fatal accidents occurred at M/NM mines. A summary of fatal MNM mining

accidents, year-to-date and annual totals, is shown below by accident category for the years 2005 through 2009:

Fatal Accident Summary for M/NM Mines (2nd Quarter Year-to-Date and Annual Totals, 2005 through 2009)

METAL/NONMETAL FATALITY REPORT

(as of June 30, 2009)

FATALITIES CHARGEABLE TO THE MNM MINING INDUSTRY	2005		2006		2007		2008		2009	
	UG	S	UG	S	UG	S	UG	S	UG	S
ELECTRICAL	0	1	0	1	0	0	0	0	0	1
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	1	0	1	0	1	0	0	0	3
FALL OF FACE/RIB/HIGHWALL	0	0	0	0	0	0	0	0	0	0
FALL OF ROOF OR BACK	0	0	0	0	1	0	0	0	1	0
FIRE	0	0	0	0	0	0	0	0	0	0
HANDLING MATERIAL	0	0	0	0	0	0	0	1	0	0
HAND TOOLS	0	0	0	0	0	1	0	0	0	0
NONPOWERED HAULAGE	0	0	0	0	0	1	0	0	0	0
POWERED HAULAGE	2	2	0	2	1	0	1	0	0	2
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	2	0	2	0	1	0	1	1	3
SLIP/FALL OF PERSON	0	0	0	0	0	0	0	1	0	1
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	0	0	0	0	2	0	1	0	0
YEAR TO DATE TOTALS	6	11	1	15	4	11	4	8	2	10
COMBINED YEAR TO DATE TOTALS	17		16		15		12		12	
END OF YEAR TOTAL	35		26		33		22			

The following are brief descriptions of the eight fatal accidents that occurred during the second calendar quarter of 2009 from April 1 through June 30. Go to www.msha.gov for more information.

Electrocution: On April 7, 2009, a 36-year old supervisor with 15 years of experience was fatally injured at a sand and gravel dredging operation. The victim was attempting to connect the 4160 volt cable for the dredge to load side

terminals in the electrical panel when he came into contact with energized 4160 volt line side terminals.

Fall from scaffolding: On April 14, 2009, a 38-year old contractor carpenter with 8 years of experience was fatally injured at a cement plant under construction. While dismantling a section of scaffolding, the victim lost his balance and fell when one end of the metal pan on which he was standing shifted unexpectedly. As he fell backward, the victim's safety lanyard slipped off the end of the horizontal scaffold to which he was tied.

Crushed by falling object: On April 21, 2009, a 51-year old contract laborer with 3 years of experience was fatally injured at a sand and gravel dredging operation. The victim was inside an excavation ditch while an excavator was maneuvering a concrete box into place. The chain used to attach the four leg sling from the box to the excavator broke. The box fell into the hole and struck the victim crushing him.

Entangled in winch: On May 1, 2009, a 59-year old dredge operator with 3 years of experience was fatally injured at a dredging operation. The victim was trying to manually

guide the wire cable onto one of two positioning winches on the dredge when he became entangled in it.

Run over by his own loader: On May 2, 2009, a 51-year old front-end loader operator with 8 weeks of experience was fatally injured at a surface clay operation. The victim parked a front-end loader on a loading ramp and was run over by the machine after he exited it.

Struck by backing truck: On June 6, 2009, a 57-year old surface driller with 27 years of experience was fatally injured at a surface gold mine. The victim was drilling in a pit, exited the drill, and was walking in the drill area when he was struck by a flatbed truck as it backed up. The truck was in the area to collect drill cutting sample bags.

Crushed by loader bucket ejector plate: On June 11, 2009, a 57-year old mechanic with 31 years of experience was fatally injured at an underground lead/zinc mine while checking for a hydraulic leak on a loader. The victim leaned into the ejector plate relief port in the back of the loader bucket. The ejector plate of the bucket was retracted, crushing him against the back of the bucket.

Struck by roof fall: On June 20, 2009, a 52-year old equipment oiler/greaser with 24 years of experience was fatally injured at an underground salt mine. He was cleaning equipment when a large roof fall occurred.

Since 2005, the largest categories of fatal metal and nonmetal mine accidents have been powered haulage and machinery, each accounting for over 15% of all fatal accidents. **In 2009, these two categories have together accounted for over one-half of all fatal accidents.**

Some important safety precautions to follow when operating or working on or around large mobile equipment and machinery include:

- Approach the machine safely. Be aware of traffic in the area and blind areas on the equipment you are approaching. Make sure the equipment operator knows where you are.
- Maintain three points of contact (2 hands and 1 foot or 2 feet and 1 hand) while mounting or dismounting.
- Use a drop rope to raise or lower personal items or supplies.
- Perform a preoperational check of the machine.
- Report defects or unsafe conditions on the equipment, on other equipment operating in the area, on roads and ramps (such as inadequate or missing berms or guardrails), or involving highwalls or other hazards.
- Faithfully wear your seat belt.
- Sound your horn or other warning device before starting or moving the machine.
- Visually check the machine for people or equipment prior to moving.
- Follow traffic control signs and company traffic rules, such as left hand drive and right-of-way to loaded equipment.
- Use personal protective safety equipment.
- Properly park the machine a safe distance from other machines, banks, stockpiles, or highwalls.
- Clean the cab and windows.
- Have a portable light after dark.
- Check for overhead power lines before raising or elevating equipment.
- Operate the machine at a safe speed.
- Fill out an equipment operator shift report.

Before and during equipment operations, each brake system needs to be evaluated by the equipment operator for proper function. Any deviation from normal operation must be corrected.

The service brake system is the main braking system used to stop the equipment and hold it stationary. The secondary (emergency) brake system is a backup system in case something happens to the service brake system. In many cases, it is of lesser braking capacity and should only be used to stop the machine in an emergency. The parking brake system is a brake intended to *hold a stopped machine* in place. The parking brake on some machines also serves as the secondary brake.

Powered haulage and machinery accidents don't just involve equipment operators. Pedestrians have also been accident victims. To prevent equipment/pedestrian accidents requires both operators and pedestrians to be observant and to follow safe work procedures.

Always make sure equipment operators see you before entering any area where heavy equipment is being used. If

possible, make eye contact with the equipment operator. It is recommended that all personnel who work after dark, or in any poorly lighted area, wear reflective clothing. As an alternative, MSHA recommends the use of a battery-powered illuminated vest.

Use of radios to communicate would assist with these types of situations. Easy visual identification of equipment will ensure pedestrians are communicating with the right equipment operator. All equipment should be painted with large numbers (a foot high or more) on all four sides of the equipment for proper identification.

Pedestrians should always communicate their position to equipment operators. Before entering an area you normally would not enter, let the equipment operator know you are there. When moving to a different area, inform the equipment operator before leaving the area.

Belt conveyors are a type of powered haulage that has historically been the source of numerous fatal accidents. When working on or around belt conveyor systems, insure all safety devices are in place and functioning properly, including all guards, pull cords

along the conveyor, stop buttons, backstops (roll-back protection), start-up warning systems (audible and visual), and all lockout/tagout devices.

Serious accidents involving machinery and powered haulage equipment often occur during maintenance and repair activities. Each year, miners doing maintenance work are severely injured or killed from a wide variety of hazards, including electrical shock, inadvertent or sudden movement of machinery or equipment, failure to take proper precautions during welding and cutting, mishaps involving cranes and lifts, misuse of hand tools, failure to lockout hazardous energy sources, and falling off equipment, platforms or raised areas.

To help prevent such accidents, always adhere to established safety rules and safe work procedures, and follow the manufacturer's recommended maintenance practices. Ensure that all workers are trained in the work tasks they are required to perform. Prior to beginning work, clear the area of trip and fall hazards. Provide safe access to all work areas. Lock and tag electrical equipment and other hazardous energy sources, and block and secure mobile equipment against movement prior to repair work. Use appropriate fall protection where there is a danger of falling. Stay focused for your own safety and for the safety of your fellow workers.

Diabetes and Pre-diabetes

Diabetes is a group of diseases marked by high levels of blood glucose resulting from defects in insulin production, insulin action, or both. Diabetes can lead to serious complications such as blindness (diabetes is the leading cause of blindness in adults) and impaired circulation resulting in amputation of the lower limbs. Diabetes can also lead to high blood pressure, diminished physical abilities, dental problems,

complications in pregnancy, nervous system disorders, higher susceptibility and mortality from other diseases like influenza and pneumonia, and premature death from heart disease, stroke, and kidney disease.

There are 23.6 million people in the United States, or 8% of the population, who have diabetes. Even more disturbing however, is the increasing

incidence of the disease observed in recent years. The total prevalence of diabetes increased 13.5% from 2005-2007. Part of this increase is due to better disease screening efforts, however, the prevalence of the disease itself is also rising at an alarming rate.

Types of diabetes

Type 1 diabetes was previously called insulin-dependent diabetes mellitus (IDDM) or juvenile-onset diabetes. Type 1 diabetes develops when the body's immune system destroys pancreatic beta cells, the only cells in the body that make the hormone insulin that regulates blood glucose. To survive, people with type 1 diabetes must have insulin delivered by injection or a pump. This form of diabetes usually strikes children and young adults, although disease onset can occur at any age.

In adults, type 1 diabetes accounts for 5% to 10% of all diagnosed cases of diabetes. Risk factors for type 1 diabetes may be autoimmune, genetic, or environmental. There is no known way to prevent type 1 diabetes. Several clinical trials for preventing type 1 diabetes are currently in progress or are being planned.

Type 2 diabetes was previously called non-insulin-dependent diabetes mellitus (NIDDM) or adult onset diabetes. In adults, type 2 diabetes accounts for about 90% to 95% of all diagnosed cases of diabetes. It usually begins as insulin resistance, a disorder in which the cells do not use insulin properly. As the need for insulin rises, the pancreas gradually loses its ability to produce it.

Type 2 diabetes is associated with older age, obesity, family history of diabetes, history of gestational diabetes, impaired glucose metabolism, physical inactivity, and race/ethnicity. African Americans, Hispanic/Latino Americans, American Indians, and some Asian Americans and Native Hawaiians or other Pacific Islanders are at particularly high risk for type 2 diabetes and its complications. Type 2 diabetes in children and adolescents, although still rare, is being diagnosed more frequently among American Indians, African Americans, Hispanic/Latino Americans, and Asians/Pacific Islanders.

Gestational diabetes is a form of glucose intolerance diagnosed during pregnancy. Gestational diabetes occurs more frequently among African Americans, Hispanic/Latino Americans, and American

Indians. It is also more common among obese women and women with a family history of diabetes. During pregnancy, gestational diabetes requires treatment to normalize maternal blood glucose levels to avoid complications in the infant. Immediately after pregnancy, 5% to 10% of women with gestational diabetes are found to have diabetes, usually type 2. Women who have had gestational diabetes have a 40% to 60% chance of developing diabetes in the next 5–10 years.

Other types of diabetes result from specific genetic conditions (such as maturity-onset diabetes of youth), surgery, medications, infections, pancreatic disease, and other illnesses. Such types of diabetes account for 1% to 5% of all diagnosed cases.

Common diabetes symptoms

Some of the more common symptoms of diabetes include frequent urination, thirst, hunger, fatigue or tiredness, unexplained weight loss, and blurred vision.

Treating diabetes

People with diabetes can lower the occurrence of adverse health outcomes by controlling

blood glucose, blood pressure, and blood lipids.

- Many people with type 2 diabetes can control their blood glucose by following a healthy meal plan and exercise program, losing excess weight, and taking oral medication. Some people with type 2 diabetes may also need insulin to control their blood glucose.

- To survive, people with type 1 diabetes must have insulin delivered by injection or a pump.

- Among adults with diagnosed diabetes (type 1 or type 2), 14% take insulin only, 13% take both insulin and oral medication, 57% take oral medication only, and 16% do not take either insulin or oral medication. Medications for each individual with diabetes will often change during the course of the disease. Many diabetics also need to take medications to reduce blood cholesterol and control blood pressure.

Pre-Diabetes

Before people develop type 2 diabetes, they almost always have "pre-diabetes" -- blood glucose levels that are higher than normal but not yet high enough to be diagnosed as diabetes. There are 57 million

people in the United States – greater than 1 in 5 adult Americans - who have pre-diabetes. Recent research has shown that some long-term damage to the body, especially to the heart and circulatory system, may already be occurring during pre-diabetes.

Although type 2 diabetes almost always starts with pre-diabetes, the good news is that pre-diabetes does not inevitably lead to diabetes. Research has shown that if you take action to manage your blood glucose when you have pre-diabetes, you can delay or prevent type 2 diabetes from ever developing.

The two keys to stopping the progression of pre-diabetes to type 2 diabetes are to lose weight and to increase your level of physical activity. These two steps can delay or prevent the onset of type 2 diabetes and return blood glucose levels to normal.

The Diabetes Prevention Program, a large prevention study of people at high risk for diabetes, showed that lifestyle intervention (weight loss and increased exercise) reduced the progression from pre-diabetes to diabetes by 58% during a 3-year period. The reduction was even greater, 71%, among adults aged 60

years or older. Other research has found that these lifestyle interventions are more cost-effective than medications.

The primary risk factors for pre-diabetes are age (over 45), race, family history of diabetes (parents or siblings), low physical activity, high blood pressure, diabetes during pregnancy, and/or being very overweight compared to your height (body mass index exceeding 30-31). You can take a quick and easy on-line test to determine whether you are at increased risk of pre-diabetes at the following internet web site: <http://www.diabetes.org/food-nutrition-lifestyle/lifestyle-prevention/risk-test.jsp>

If you think you may have diabetes, or if you think you may be at increased risk of developing pre-diabetes or diabetes, consult with your physician without delay. The internet web sites of the American Diabetes Association (<http://www.diabetes.org/>) and the National Diabetes Education Program of the US Department of Health and Human Services Centers for Disease Control and Prevention (<http://www.cdc.gov/diabetes/ndep/index.htm>) are excellent sources of information on diabetes.

Working Safely Around Water

Many accidents have occurred when miners have been working on dredges, in boats, at barge terminals, or near other water hazards and fallen into the water and drowned.

Implementing these safety procedures can help prevent such accidents:

First and foremost, policies should be established and enforced requiring Personal Flotation Devices (PFDs or life jackets) to be worn whenever miners are required to work or travel where there is a risk of falling into the water. This generally means that PFDs would need to be worn unless equivalent alternative worker protection is provided, such as hand rails. This is an MSHA requirement, and it should also be reflected in company policies and procedures. Like seat belts on equipment, PFDs are effective only when they are worn.

To illustrate the importance of wearing a life jacket, consider that in 2006, the U.S. Coast Guard reported 710 drownings associated with boating accidents in the US. Nine out of ten drowning victims were not wearing life jackets.

Companies should provide PFDs that are appropriate to the hazard, the workplace environment, and to each employee's size and weight. Types I and V PFDs are best suited for use in a workplace environment. Type I's are designed to turn an unconscious person face up in the water. Type V's (marine work vests) are available in designs that allow freedom of movement, while providing adequate flotation. PFD's should be maintained in serviceable condition and replaced if they become worn or damaged.

Boats, like any other equipment, should be of adequate size and power to properly perform the required task. Remember that weight capacity includes persons, motor, gear, and any other load. If a retrieval operation is undertaken, the weight of the retrieved item must be considered as well.

Finally, boats should be operated by qualified individuals who have had the appropriate experience or training. Information on boating safety training resources can be found at: <http://www.uscgboating.org/safety/courses.htm>

