Department of Labor • Mine Safety and Health Administration • Joseph A. Holmes Safety Association

BULLETIN

March/April 2007

3RD INTERNATIONAL MINE RESCUE CONFERENCE

MSHA Hosts 3rd International Mine Rescue Conference and National Coal Mine Rescue, First Aid, Bench and Preshift Competition . . . See Inside

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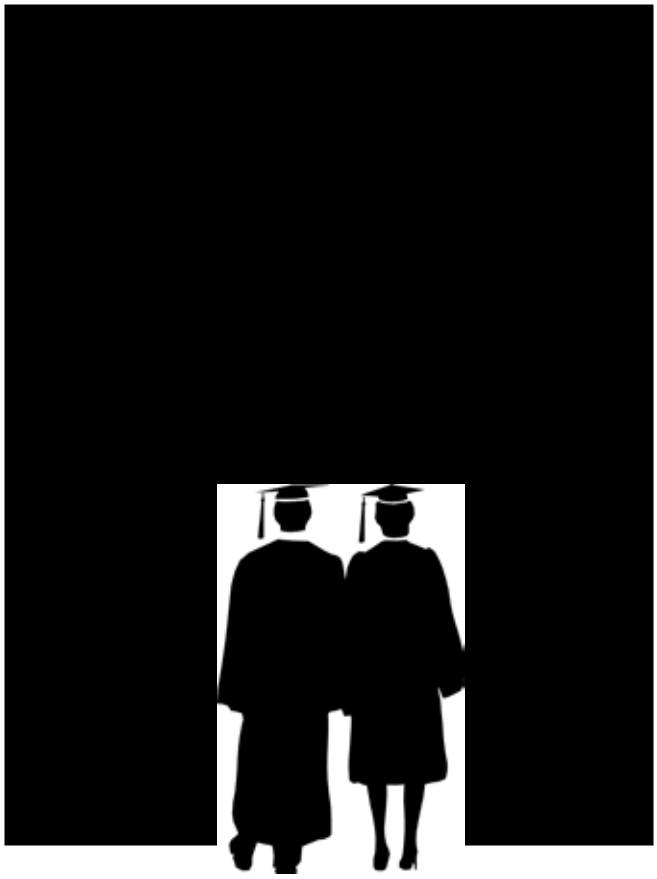
The Department of Labor, Mine Safety and Health Administration and Joseph A. Holmes Safety Association Bulletin contains safety articles on a variety of subjects: fatal accident abstracts, studies, posters, and other health and safety-related topics. This information is provided free of charge and is designed to assist in presentations to groups of mine and plant workers during on-the-job safety meetings. For more information, visit the MSHA home page at www.msha.gov.

Please Note: The views and conclusions expressed in Bulletin articles are those of the authors and should not be interpreted as representing official policy or, in the case of a product, representing endorsement by the Mine Safety and Health Administration or National Institute for Occupational Safety and Health.

Cover page: Design by the IM/Graphics. If you have a potential cover photo, please send an 8"x10" print or digital image on disk at 300 dpi resolution to Donald Starr, Joseph A. Holmes Safety Association Bulletin, National Mine Health and Safety Academy, 1301 Airport Road, Beaver, West Virginia 25813-9426.



Joseph A. Holmes Safety Association Scholarship Program

The primary goal of the Joseph A. Holmes Scholarship Program is to promote health and safety within the mining industry. This scholarship program was created to recognize and encourage the development of leadership skills in students preparing to enter the field of mining or related fields. We strongly believe that providing financial aid to students in pursuit of education related to mining will result in a much safer and healthier environment to all miners.
Strong leadership qualities are important for future miner leaders to exemplify and promote the development of safe mining throughout the United States. Emerging leaders of all backgrounds are encouraged to apply for this scholarship. The scholarship program is open to persons who are pursuing careers in safety or health-related fields related to the mining industry.

Who can apply or qualify for such a program? If you are currently employed at a mine, if you are related to someone who works at a mine, if you are pursuing a career in the mining industry or any health-related field you may qualify for this scholarship. The process for the application is very simple. Just fill out the short application, mail it in with all the required documents before the deadline of April 1, 2007, and you should have an answer from the scholarship committee by July 1, 2007. If for some reason you were denied this time around, you can always submit your application again later.

Scholarship awards are available to the following:

1. High school graduates (or "graduating seniors").
2. Undergraduate students currently enrolled in a college or university.
3. Graduates of a college or university.

HOW TO APPLY:
Online applications are not accepted. However, you may download the Joseph A. Holmes Safety Association Scholarship application from either of the following web sites: www.msha.gov *or* www.utexas.edu/cee/txmshp. *If you need additional information, please contact Sylvia Ortiz, Chairperson of the Joseph A. Holmes Scholarship Committee at* www.utexas.edu/cee/txmshp.

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2007
National Meeting and Training Seminar of the Joseph A. Holmes Safety Association

The 2007 National Meeting and Training Seminar of the Joseph A. Holmes Safety Association will be held in San Diego, California, June 5 through 7, 2007. This meeting will provide a variety of safety and health workshops presented by experts from around the U.S. and representing all sectors of mining.

The meeting will be held at the Bahia Resort Hotel. To make reservations and receive directions, call 1-858-488-0551. Please mention **Holmes Safety Association** to receive a discounted reservation rate. The hotel will only honor discounted rate on reservations received by May 1, 2007. The hotel address is Bahia Resort Hotel, 998 West Mission Bay Drive, San Diego, CA 92109.

Business meetings scheduled:

Monday, June 4, at 4 p.m. – NASMITA Meeting

Tuesday, June 5 at 10 a.m.
JAHSA Executive Committee Annual Meeting

Thursday, June 7, at 2:15 pm – JAHSA General Meeting

Planned Workshops will be held June 5 through 7:

- MSHA rulemaking
- Self-Contained Self Rescuers
- Safety for the Aging Workforce
- New Miner Training
- Blasting Safety
- Compressed Gases Safety
- Crane Training Programs
- Electrical Safety
- Emergency Planning
- Independent Contractor Safety
- Loss Control
- Part 46 Safety Training
- Powered Haulage Safety
- Welding Safety
- Substance Abuse in Mining
- Train the Trainer
- Preventing Identity Theft

More information can be found at our website:

www.holmessafety.org

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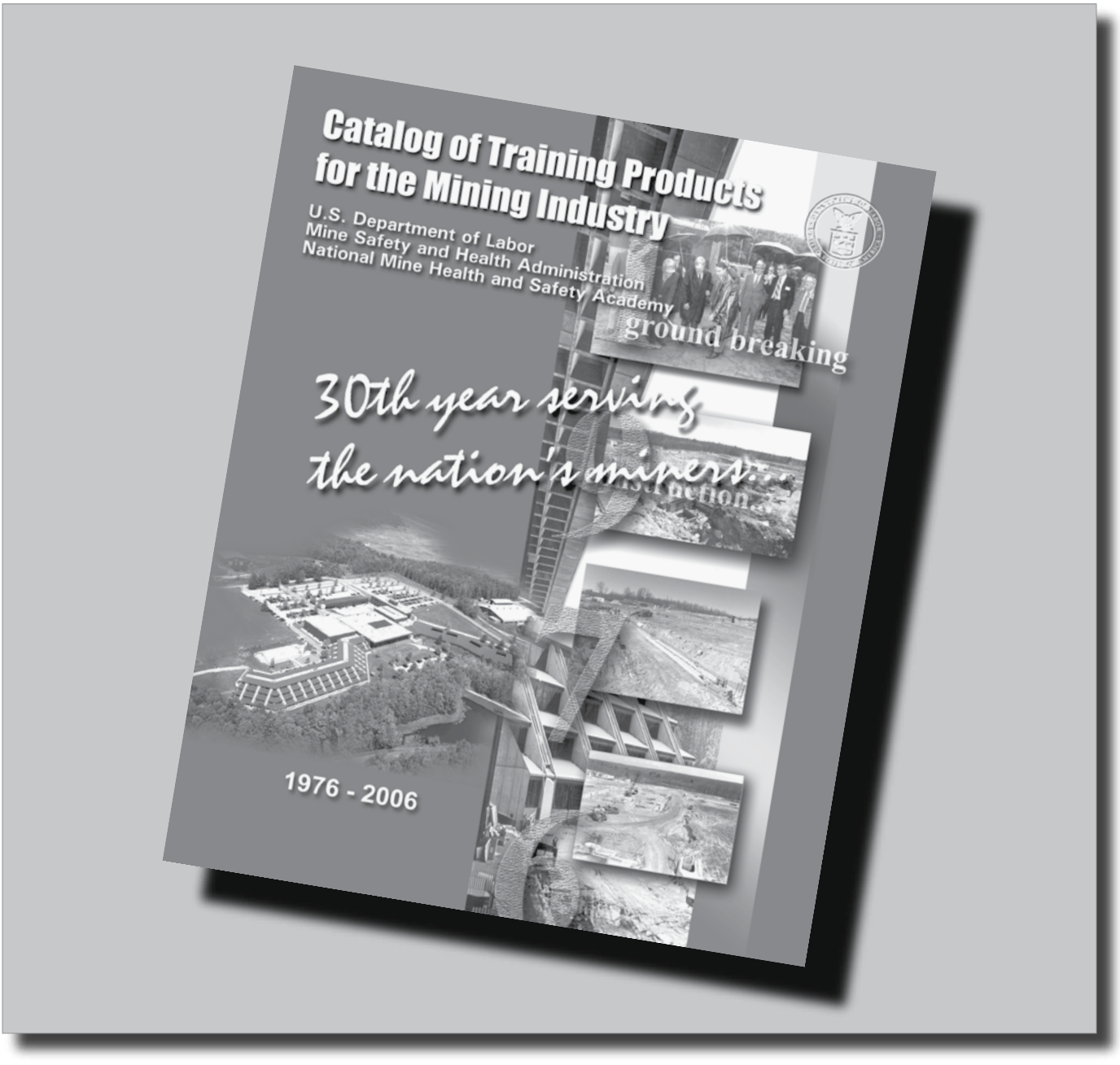
Catalog of Training Products for the Mining Industry

The National Mine Health and Safety Academy published a new catalog of training products. As you can imagine it is constantly growing and changing as new products are developed. Stay up to date on the new products as they become available. For more information on the new catalog and new products, call 304-256-3257 or visit our website (http://www.msha.gov/TRAINING/prodintr.htm)

Here are some new DVDs available:

DVD 576 – Arc Flash Awareness
DVD 006 – Precious Metals Refining (p. 23)
DVD 013 – The Inspection, Care, and Use of Self Contained Self Rescuers (p. 26)
DVD 567S – SLAM Risks the SMART Way – Equipment Guarding (English & Spanish) (p. 28)
DVD 566 – Supervising the Unimaginable (p. 30)



Mine Construction, Maintenance & Repair Safety Workshop

Mine Safety and Health Administration
International Union of Operating Engineers
International Association of Bridge, Structural, Ornamental and Reinforcing Iron Workers

September 4-6, 2007

National Mine Health and Safety Academy

This tuition-free workshop is designed for the mining construction industry, related support groups, mining regulatory agencies, and others involved in the planning, design, and application of mine construction and maintenance activities. This professionally coordinated conference will award education credits for attendance.

Workshops are carefully tailored to meet the needs of construction, maintenance, and repair specialists.

(See next page)

2007 Programs

- **Fall Protection presentation/demonstration**
- **Rigging presentation/ demonstration**
- **Crane Safety**
- **Firefighting Demo**
- **Trenching Rescue**
- **Hand Tools**
- **Tire Management**
- **And many more . . . .**

A wide range of hands-on training opportunities will be available.
A complete listing of the programs will be available when the agenda is completed.

Exhibits highlighting training products and materials developed by MSHA, State Grants recipients and the mining industry will be on display throughout the conference.

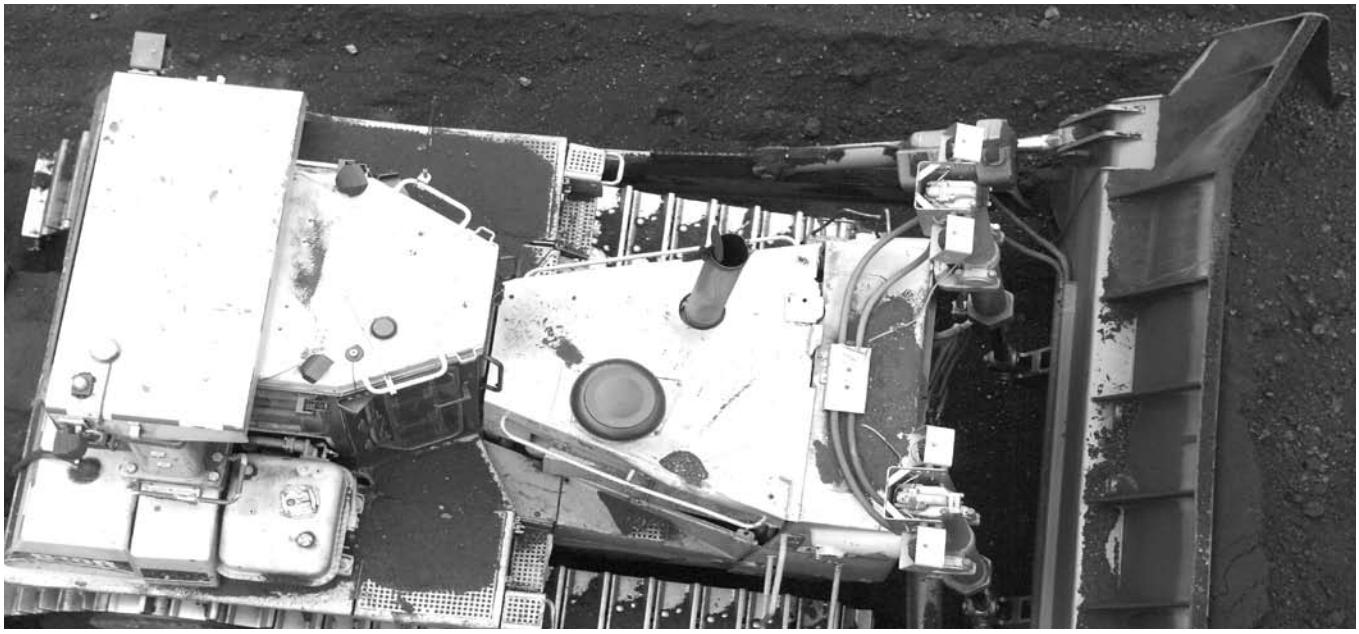
For further information contact the following:

Presentations & Exhibits:

Tom Bonifacio	**(304) 256-3357**	**bonifacio.thomas@dol.gov**
Melody Bragg	**(304) 256-3556**	**bragg.melody@dol.gov**

Conference Registration

Kim Spencer	**(304) 256-3252**	**spencer.kimberly@dol.gov**

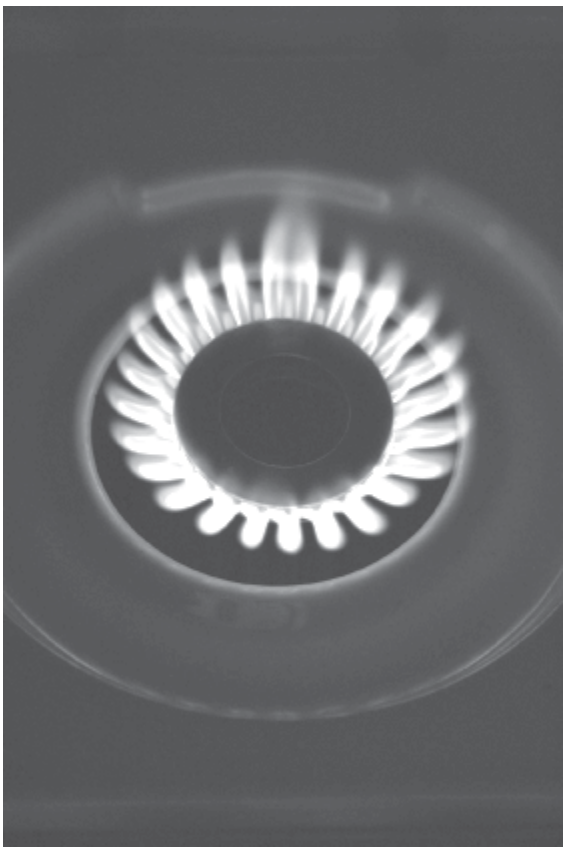


CO – The Invisible Killer

by Janet Williams

Carbon monoxide (CO) is a colorless, odorless, toxic gas. CO is often called the silent killer because it is impossible to see, taste, or smell the toxic fumes that can cause sudden illness or death. Each year, unintentional carbon monoxide poisoning claims more than 500 lives and sends thousands more to hospital emergency rooms for treatment.

Even though the use of CO detectors is becoming more prevalent, it cannot be assumed that everyone understands the hazards associated with CO. This article is intended to raise awareness by providing some basic information about CO,



presenting some facts and figures about the dangers of CO, reviewing some of the symptoms of CO exposure, and suggesting steps that can be taken to prevent CO poisoning.

What is CO?

Carbon monoxide is an odorless, colorless, tasteless gas or liquid. It is created from the incomplete burning of fuels such as coal, charcoal, gasoline, natural gas, oil, propane, and wood. Furnaces, wood stoves, gas ranges, charcoal grills, fireplaces, water heaters, automobile exhaust, and tobacco smoke are all sources of CO. Improper installation, maintenance, and/or inadequate installation can lead to problems.

Facts and Figures

Even though CO is a colorless, odorless, tasteless substance, it is one that needs to be taken seriously. The hazards associated with CO become apparent when reviewing the current literature. Numerous governmental agencies have conducted studies and released information on this topic. A brief review of some of their findings is outlined below.

According to the Department of Health and Human Services, Centers for Disease Control and Prevention, and the National Center for Health Statistics—

- Carbon monoxide poisoning is the number one cause of all deaths by poisoning.
- Carbon monoxide is to blame for 3,500 accidental deaths and suicides in the United States each year.
- More than 500 people in this country die each year from unintentional CO poisoning.
- An estimated 15,200 are treated annually in hospital emergency departments for CO poisoning.
- Carbon monoxide exposures and poisonings occur more often during the fall and winter months.

(See next page)

The National Fire Protection Association and the U.S. Fire Administration report—

- Carbon monoxide poisoning can result from exposure to a small amount of CO over a long period of time or from a large amount of CO over a shorter period of time.
- While everyone is at risk for CO poisoning, unborn babies, infants, children, seniors, and people with heart disease, anemia, or respiratory problems are at an even greater risk.

What are the Health Effects?

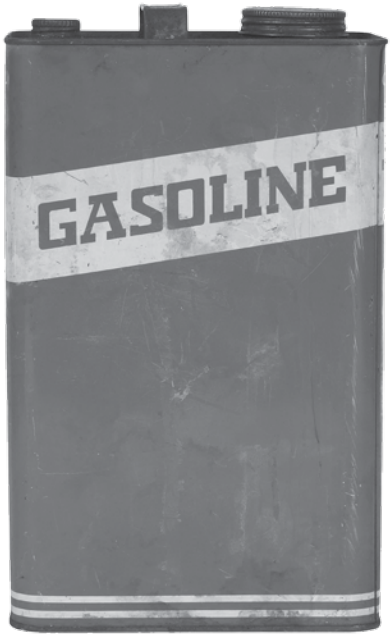
As the information above indicates, we are all at risk of carbon monoxide exposure and poisoning. The effects of CO vary from person to person depending upon age, overall health, and the concentration and length of exposure.

- CO enters the body through breathing and interferes with the delivery of oxygen in the blood to the rest of the body.
- CO poisoning can be confused with other illnesses such as food poisoning or the flu.
- At low levels of exposure, CO causes mild effects including headaches, dizziness, disorientation, nausea, shortness of breath, and fatigue.
- High levels of CO exposure can cause loss of consciousness and death.

Steps to Reduce Exposure to CO

There are steps you can take to protect yourself and your family from this potentially deadly substance. The following checklist provides some safety measures you can take to reduce your risk of exposure to or poisoning from carbon monoxide:

- ✓ Install carbon monoxide detectors in your home to provide warning of CO accumulation. Test detectors at least once each month and replace according to the manufacturer's instructions.
- ✓ Ensure that appliances are properly adjusted and working to manufacturers' instructions.
- ✓ Have heating equipment (e.g., water heaters, furnaces, fireplaces, wood stoves, etc.) serviced by a trained professional every year.
- ✓ When using a fireplace, open the flue to allow for adequate ventilation.
- ✓ Do not heat your home with a gas range or oven.
- ✓ Do not use gasoline- or charcoal-burning devices (e.g., generator, charcoal grill, camp stove, etc.) inside your home or near an open window.
- ✓ Choose properly sized wood stoves that are certified to meet EPA emission standards.
- ✓ Make sure stoves, heaters, fireplaces, and dryers are vented to the outside.
- ✓ Use only vented gas or kerosene space heaters in enclosed spaces.
- ✓ Never leave a vehicle, lawn mower, or other fueled engine running in a shed or garage, even if the door is left open.
- ✓ Make sure your furnace has adequate intake of outside air.



If your CO alarm sounds:

- ✓ Make sure it is the CO detector and not the smoke alarm.
- ✓ Check to see if anyone in the household is experiencing symptoms of CO exposure (e.g., dizziness, nausea, headache, shortness of breath, etc.).

If no one is experiencing symptoms:

1. Silence the alarm.
2. Turn off all potential sources of CO (e.g., gas appliances, furnace, fireplace, etc.).
3. Open doors and windows for ventilation.
4. Call a qualified professional to investigate the source of possible CO accumulation.

If someone is experiencing symptoms:

1. Turn off fuel-burning appliances and leave the house immediately.
2. Call the appropriate emergency number for assistance. (Contact your local fire department for this number.)
3. Seek medical attention promptly. Make sure to inform the physician that CO poisoning is a possible cause of the symptoms.
4. Call a qualified professional to repair the source of the carbon monoxide.
5. Do not reenter the house until you receive clearance from appropriate authorities.

For more information on the dangers of carbon monoxide and ways you can reduce your risk of exposure, visit the web sites listed below.

References

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National Fire Protection Association. (2006). Carbon monoxide poisoning. (http://www.nfpa.org/search.asp?query=carbon+monoxide).

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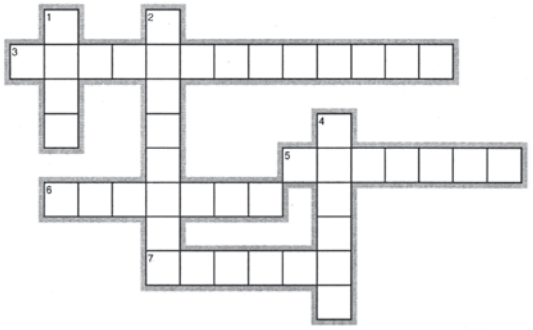
PUZZLE TIME

Professional Miner Recognition Levels

Created with EclipseCrossword — www.eclipsecrossword.com



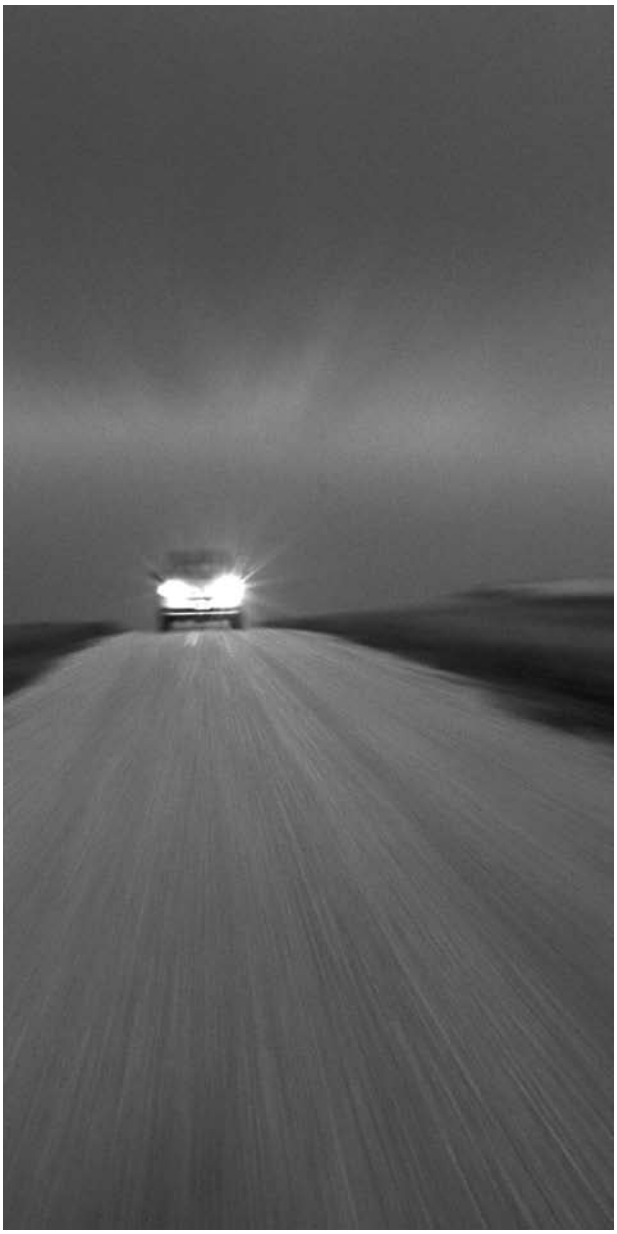
Across

3. 40 Years without a Lost Work-Day Injury
5. 30 Years without a Lost Workday Injury
6. 20 Years without a Lost Work-Day Injury
7. 10 Years without a Lost Work-Day Injury

Down

1. 3 Years without a Lost Work-Day Injury
2. 5 Years No Reportable Injuries
4. 3 Year No Lost Time Injuries

Answers on the back inside cover...



Shift Workers and Drowsy Driving

by Janet Williams

This article is the second in a series on drowsy driving. The first article in the series provided general information on the dangers of drowsy driving, as well as tips for staying awake and alert while driving.

In this article, we take a closer look at drowsy driving and its impact on individuals who are considered to be at a particularly high risk of experiencing a drowsy driving accident: those who work long hours, rotating shifts, or nontraditional work schedules.

A Brief Review of the Facts

Drowsiness and driving is, without question, a dangerous combination. Sleepiness slows reaction time, decreases awareness, and impairs judgment, increasing the risk of an accident. The National Highway Traffic Safety Administration (NHTSA) estimates that each year more than 100,000 people are injured or killed in accidents attributed to drowsy driving. These accidents can be particularly dangerous due to the high speeds and lack of avoidance maneuvers often involved.

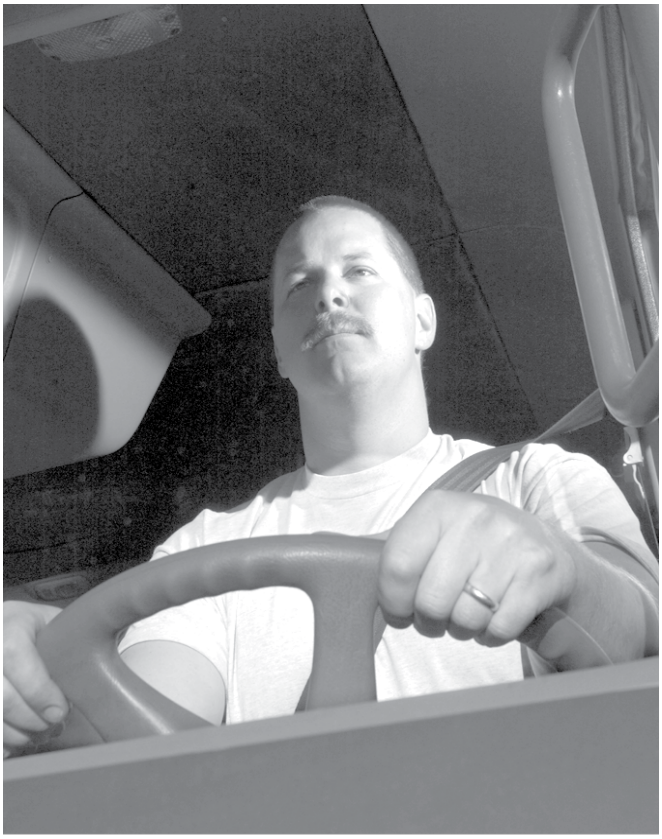
While *all* drivers may be susceptible to drowsy driving accidents, those who work beyond the typical 9 to 5 workday (e.g., long hours, nights, rotating shifts), run an even greater risk because their natural sleep patterns are disrupted by their irregular work schedules.

What Makes a Shift Worker's Commute Dangerous?

According to the NHTSA, the most dangerous part of a shift worker's day is the late night and early morning drive. Research reveals three factors associated with this phenomenon:

1. **Lack of sleep.** Shift workers sleep an average of 5 hours. This is 1 to 1½ hours less sleep than non-shift workers. Sleep deprivation is a major risk factor in falling asleep at the wheel.

2. **Time since sleeping.** Another critical factor is the time an individual is awake. The shift worker who sleeps until 1:00 p.m., goes to work, gets off work at 7:00 a.m., and then gets behind the



wheel of a vehicle, is driving after being awake for 18 hours. This is almost twice as long as a traditional daytime worker who sleeps until 7:00 a.m. and leaves work at 5:00 p.m.

3. **The Circadian Factor.** The human body's internal clock, the Circadian Rhythm, is responsible for our urges to sleep when it is dark and be awake when it is light. This internal clock also causes periods of sleepiness in the mid-afternoon and again between midnight and 6:00 a.m. This may explain why night shift workers have difficulty staying awake at work, especially during the second half of the shift.

What Can Be Done?

According to the NHTSA, the most important key to eliminating most problems caused by shift work is to make sleep the number one priority. Getting more and/or better sleep may not only reduce the chance of falling asleep behind the wheel of a vehicle, but may also improve a shift worker's productivity on the job and overall quality of life. Here are ten tips for shift workers to help combat sleepiness and drowsy driving:

1. Make your bedroom dark like nighttime and sleep at the same time every day.
2. Block or mask outside sounds.
3. Lower your thermostat before going to bed.
4. Unplug the telephone in your bedroom.
5. Avoid caffeine several hours before bedtime.
6. Avoid alcohol several hours before bedtime.
7. Know the side effects of your medications.
8. Close the bedroom door and hang up a "Do Not Disturb" sign.
9. Maintain or improve your overall health.
10. Develop a relaxing sleep ritual.

Following these tips should lead to improvements in the quality of ones sleep. This may not happen immediately, but within a few weeks there should be positive changes such as feeling more alert on the job and behind the wheel of a vehicle. These tips are not intended to replace the advice of a medical professional. If you continue having trouble staying awake or experience difficulties sleeping, consult your doctor.

Sleep is a preventative measure against drowsy driving. Do not attempt to drive if you are feeling sleepy. Here are some things that will NOT keep you awake while driving:

- Turning up the volume on the radio.
- Singing loudly.
- Chewing gum or eating food.
- Getting out of the vehicle and running around.
- Slapping yourself.
- Sticking your head out the window.

Again, avoid driving if you are sleepy. However,

(See next page)

if you must get somewhere when you are feeling less than alert, try these tips to help you arrive safely:

- Consume caffeine. Some experts recommend drinking two cups of coffee and taking a 15-20 minute nap to maximize the benefits of both.
- Avoid alcohol or any medications that could cause drowsiness.
- Carpool if possible. Drive with someone else awake in the car (i.e., someone to talk with and to share the driving).
- Take a taxi or utilize public transportation.
- If you hit a rumble strip, you need to pull off the road immediately. Find a safe place to take a nap or get some coffee.

Much of the information in this article was borrowed from the NHTSA. This organization, along with the National Center on Sleep Disorders Research, developed an educational program to raise the awareness of shift workers about the dangers of drowsy driving. Businesses and organizations that employ workers beyond the typical 9 to 5 workday are advised to provide information to assist employees and their families in an effort to reduce the incidence of drowsy driving and associated accidents. For additional information associated with shift workers and drowsy driving, visit the NHTSA website at (http://www.nhtsa.dot.gov).

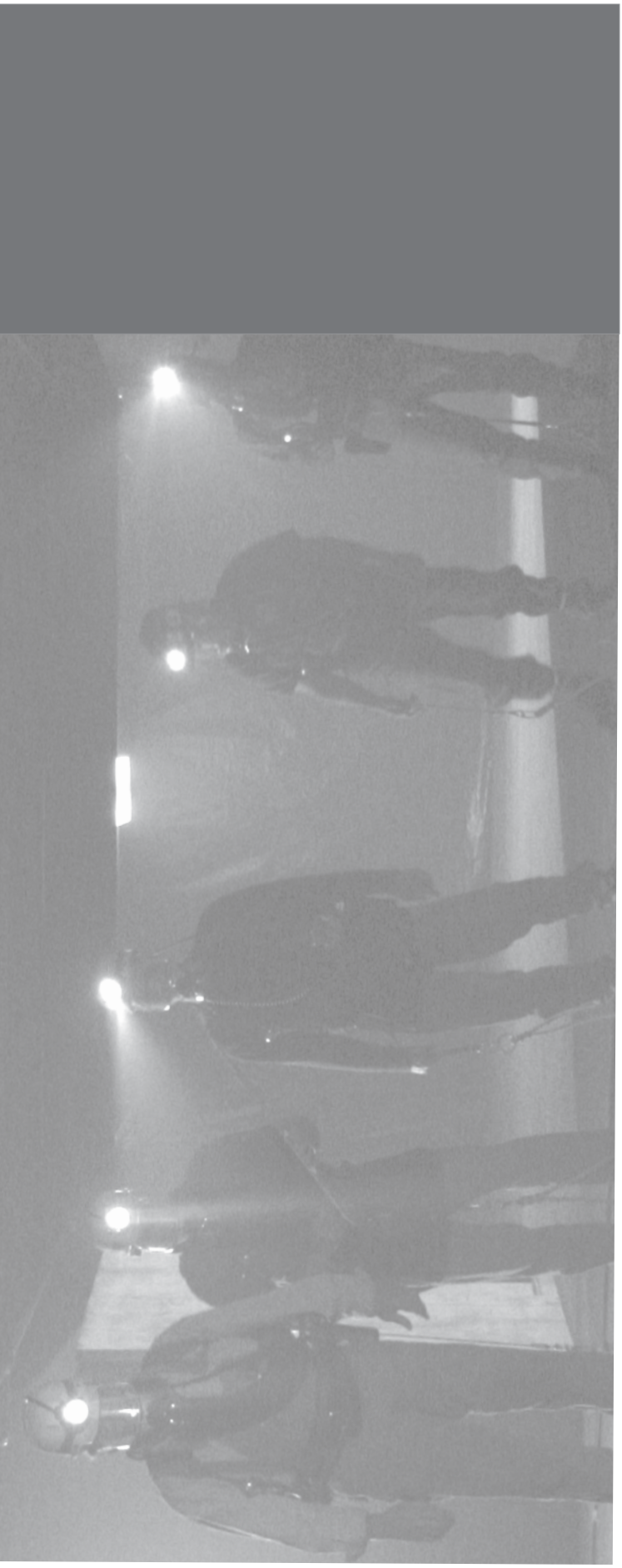
References

AAA Foundation for Traffic Safety. (2005). *Danger signals: How sleepy are you?* (http://www.aaafoundation.org/projects/index.cfm?button=drowsy).

The National Safety Council. (2005). *Drowsy driving*. (http://www.nsc.org/library/facts/drowsy_driving.htm).

National Sleep Foundation. (http://www.sleepfoundation.org/hottopics/index.php?secid=10).

National Highway Traffic Safety Administration. *Wake up and get some sleep.* (http://www.nhtsa.dot.gov/people/injury/drowsy_driving1/human/drows_driving/index.html).



MSHA to Host 3rd International Mine Rescue Conference in August

By Tiane A. Johnson

The U.S. Department of Labor's Mine Safety and Health Administration (MSHA) will serve as host of the third International Mine Rescue Conference from August 29 through September 1, 2007, at the Gaylord Opryland Resort and Conference Center in Nashville, Tenn. This is the first time the conference will be held in the United States since it was established.

The conference's 2007 theme is "Effective Mine Emergency Operations." Participants will discuss issues including mine emergency command center operations, responsibilities during mine emergency operations, the effects of stress and fatigue on emergency decision-making, on-site management of mine rescue teams, and mobilizing rescue teams.

"We are honored to host the 3rd International Mine Rescue Conference for mining professionals from around the world who share our goal of efficient, safe and successful mine rescue," said Richard E. Stickler, assistant secretary for mine safety and health. "The conference provides a unique opportunity for American mine rescue experts and their international counterparts to discuss improvement of mine rescue techniques and other issues relevant to the enhanced safety and health of working miners everywhere."

The first International Mine Rescue Conference was held in South Africa in October 2003. The second conference was held in November 2005, in Sydney, Australia, where 117 delegates attended. Mine rescue representatives who attended those events came from Australia, Canada, China, the Czech Republic, Germany, India, New Zealand, Norway, Poland, Romania, South Africa, United Kingdom, and Ukraine. MSHA employees, John Radomsky of Metal and Nonmetal and Allen Dupree of Coal Mine Safety and Health, attended the 2005 conference as representatives for the United States. Dupree will serve as the chairman of this year's conference.

"The International Mine Rescue Conference is an important and significant forum which will allow mine rescue experts from around the world to exchange ideas pertinent to improving mine rescue as well as mine safety and health, in general," said Dupree. "These conferences serve as a valuable conduit for the exchange and distribution of vital mine rescue information to mining communities worldwide."

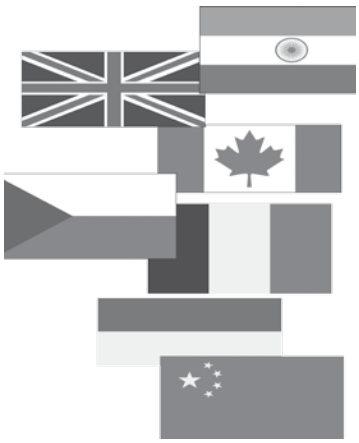
This year's International Mine Rescue Conference coincides with the biennial National Coal Mine Rescue, First Aid and Bench Competition, which will be held concurrently with the Rescue Conference at the Nashville resort. Attendees of the International Mine Rescue Conference will have the opportunity to observe the First Aid and Bench Contests on August 27 and 28. In addition to meetings and workshops, the international visitors are also scheduled to tour an underground coal mine and other related mining sites.

"In addition to the international mine rescue conference, the National Mine Rescue Contest will provide an excellent forum for U.S. teams to exchange ideas through the spirit of competition," said Dupree.

Also at the conference, mine rescue representatives will give oral presentations pertaining to mine rescue. Each presentation is scheduled for 20 minutes, followed by a question and answer session. Each presentation must be in the English language but the presenter may have an interpreter if needed. The presentations will be compiled into a booklet for each attendee to take home.

On May 29, 2001, mine rescue representatives from the United States of America, United Kingdom, France, Germany, the Czech Republic, Romania, Slovakia, South Africa, and Australia held a meeting in Bytom, Poland, and agreed to appoint an International Mine Rescue Body (IMRB). The IMRB's primary objective is "to promote the Mine Rescue Operations in the international platform and initiate as well as support the co-operation aiming at the progress in the mine rescue area." Also, the IMRB agreed that each country will have a coordinator to attend the meetings, and the meetings will be held every two years in a different country.

MSHA is honored to host mine rescue representatives from all around the world who will be gathering to continue efforts to improve the practice of mine rescue and related issues, concerns and techniques.

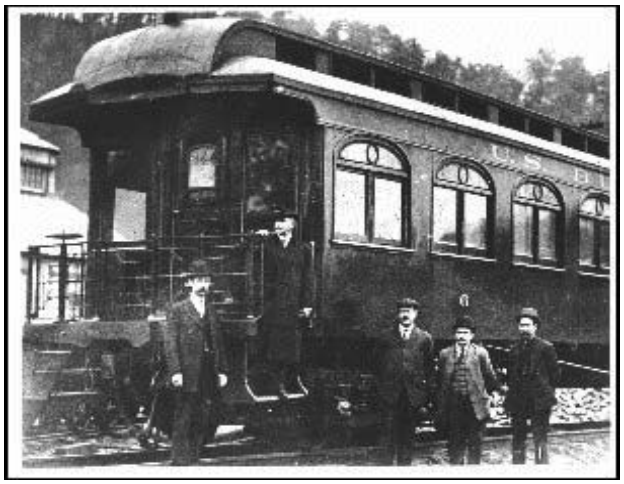


In the Beginning ... The Early Days of Mine Rescue

Article from DOL/MSHA Mine Rescue Web Site

MINE-RESCUE CARS AND STATIONS

In the pioneer studies of mine disasters and their causes, it was found important and necessary to examine conditions in a mine as soon as possible after an explosion or fire. This need led to establishing mine-safety stations and railroad cars. Although the original purpose of these stations and cars was to aid in technical studies, the courageous rescue work performed was so humanitarian and spectacular that the stations and cars soon were referred to as "mine-rescue" stations and cars.



Inspection party, composed of Secretary of the Interior, Ballinger; Director of the Bureau of Mines, Dr. Joseph A. Holmes; Dr. J. J. Rutledge and two others; with a Bureau of Mines rescue car in the background at Marianna, PA. (Rachel & Agnes Mines of the Pittsburgh Buffalo Company - December 1907).

When the Bureau was created there were four stations in the coal fields -- at Pittsburgh, PA, established in 1908; Urbana, IL, in 1908; Knoxville, TN, in 1909; and Seattle, WA, in 1909. During 1910, stations were added at McAlester, OK, and Birmingham, AL. In 1913, a motor-rescue truck was provided at the Birmingham station to speed up the work, and in 1915 another was added at the Pittsburgh, PA, station.

"Towards the end of an era ..."

During the Panama-Pacific Exposition in San Francisco in 1915, miners were trained at a temporary rescue station. Seven mine-rescue cars were operated during the first 2 years; car No. 8 was added on Nov. 25, 1912. The distribution of cars was as follows:

Car No. 1, in the anthracite field, with headquarters at Wilkes-Barre, PA.

Car No. 2, in the coal fields of New Mexico, Colorado, and Utah, with headquarters at Trinidad, CO, Salt Lake City, Utah, and finally with permanent headquarters at Burnham, CO, a suburb of Denver.

Car No. 3, in the coal fields of western Kentucky, Indiana, and Illinois, with headquarters at Evansville, IN.

Car No. 4, in the coal fields of Wyoming, northern Colorado, and Utah, with headquarters at Rock Springs, WY; this car finally was assigned permanent headquarters at Pittsburgh, KS, in the Missouri, Kansas, Oklahoma, and Arkansas coal fields.

A pair of mine rescue specialists standing a "full-dress inspection" for Holmes himself, left.

Car No. 5, in the coal fields of Montana and Washington, with headquarters at Seattle, WA, and later at Billings, MT.

Car No. 6, in the coal fields of western Pennsylvania and northern West Virginia, with headquarters at Pittsburgh, PA.

Car No. 7, in the coal fields of southern West Virginia, western Virginia, eastern Kentucky, and eastern Tennessee, with headquarters at Huntington, WV.

Car No. 8, in the Lake Superior metal-mining region at Ironwood, MI.

Stations and cars were equipped both with mine-rescue and first-aid equipment, much of which in the beginning came from England and Germany. The railroad cars were former Pullman sleeping cars purchased by the Government. Interiors were remodeled to include an office, training and workroom, and cooking, eating, and sleeping quarters. Each station or car was directed by a mining engineer of practical miner trained in rescue- and first-aid methods. Personnel of Car No. 8 included a mine surgeon in 1914, and later Public Health surgeons were assigned to most cars. Work of the stations and cars was under the immediate supervision of James W. Paul, mining engineer. For administration purposes the work was divided in July 1911 among various mining areas of the United States, first into 6 sections; in October 1912 into 9 districts; and in 1915 into 10 districts. These 10 districts were: the anthracite, the Pittsburgh, PA, Southern, Lake Superior, Southwestern, Central, Southeastern, Rocky Mountain, Northern Pacific, and California-Nevada.

The chief work of station and car personnel was to investigate as quickly as possible the cause of a mine disaster, assist in the rescue of miners, and give first aid; and as ordinary routine, to train miners in safety, in rescue- and first-aid equipment and methods, and to examine safety conditions at mines and recommend improvements. The cars continuously visited mining centers in all states to present demonstrations, lectures, and training. When a mine disaster occurred near a station, the employee in charge, with available help and equipment, proceeded at once by train or other transportation to the mine. When a rescue car was used, it was moved by a special locomotive or connected to the first appropriate train available. In the initial 5 years, 300 mine accidents, including explosions, fires, and cave-ins, were

(See next page)

investigated. In approximate totals, 290,000 people visited the stations and cars; 230,000 attended lectures or demonstrations; 34,000 were given training in rescue- and first-aid methods, and 11,700 training certificates were issued, increasing continuously from 509 in 1911 to 4,258 in 1915.

"Early Mine Rescue Team"

During the first five years, three of the five men who lost their lives while wearing oxygen breathing apparatus were Bureau of Mines employees.

Many mine operators were induced to operate under a system in which safety was considered of first importance. In 1915 more than 170 mining companies (out of a total of some 3,000 large coal mining companies and 12,000 smaller coal mining companies) had individually, or through the association of two or more companies, established 76 mine-rescue stations at which there were some 1,200 sets of oxygen breathing apparatus besides the auxiliary equipment for first-aid and fire-fighting work. By then, there were also 12 mine-rescue cars operated by individual mining companies about their own properties. The Bureau of Mines endeavored to stimulate similar action by other companies.

The miners also began taking up safety work and appointing safety committees, particularly in regions that had been visited by Government mine-rescue cars.

Representatives of States, mine operators, and miners all cooperated with the Bureau of Mines in safety work, and this cooperation, from year to year, became more and more an important factor in the progress of the safety movement.

MINE SAFETY DEMONSTRATION AND INTERNATIONAL SAFETY CONFERENCE

The first national mine-safety demonstration was held at Forbes Field, in Pittsburgh, on October 30, 1911. The demonstration was planned and managed by engineers of the Bureau, with the aid of miners and coal operators of the Pittsburgh district. It embraced exhibits that demonstrated the character of nearly every branch of the Bureau's investigative work in relation to mine accidents, including first-aid and mine-rescue work, coal-dust explosions, and also special coal-dust explosions at the Bureau's experimental mine at Bruceton, PA. Approximately 15,000 persons attended the demonstration. The principal field exhibits were witnessed by President William H. Taft and many officials of both the National and State governments. Teams of miners trained in first-aid and rescue work from every coal-mining state took part in this stimulating demonstration.

An international conference of representatives of mining experiment stations was held in Pittsburgh, Sept. 14 to 21, 1912, to discuss plans and methods of carrying on experiments relating to mine safety and the interpretation and comparison of the results obtained, to suggest special experiments that could be made to most advantage at a particular station, and to form a permanent organization to promote the exchange of information. In response to invitations sent to those countries having mine-experiment stations or contemplating the establishment of such stations, delegates present were as follows: Austria-Hungary, Julian Cxaplinski, royal mining engineer; Belgium, Victor-Wattayne, inspector general of mines; Germany, Carl Beyling, bergassessor, director of the Dortmund experiment station. Charles E. Munroe, consulting explosives chemist, and George S. Rice, chief mining engineer of the Bureau of Mines, represented

the United States. William O'Conner, a mining engineer of Wales, was invited to take part in the meeting as an unofficial representative of Great Britain. J. Taffanel, director of the Lievin experiment station, who was to have represented France, was unexpectedly recalled just before the conference on account of a mine disaster. Most of the time allotted to the conference was spent in giving papers, discussing investigations at the Pittsburgh experiment station, and in observing coal-dust explosions at the experimental mine. The delegates agreed that it was desirable to form a permanent organization; that approval by the various nations to forming of the organization, and the appointment of delegates be affected through regular diplomatic channels; and that the next meeting be held in 1914 in England or Belgium. However, owing to the outbreak of war in Europe, the meeting had to be postponed for an indefinite period.

FIRST-AID AND MINE-RESCUE CONTESTS

In the third year of the Bureau, interest among mine officials, operators, and miners in first aid led to a number of public first-aid contests in various states. The most important of these was the anthracite intercollieries contest at Valley View Park, PA, held under the auspices of the American Red Cross, and the contests held at Greensburg, PA, Birmingham, AL, Knoxville, KY, Gary, WV, and Toms Creek, Mich. Such contests began to be held annually as a regular event; company and intercompany contests were followed by state and interstate contests. Most intercompany contests and all state and interstate contests were held under the auspices of the Bureau, which supplied personnel to take care of the arrangements and do the judging. In 1915, the Bureau aided in 47 contests. The hope of being first in these contests caused miners of each competing team to maintain their first-aid skill at its peak. These contests aided materially in creating interest in first-aid. Another result was the Bureau's work on preparation of regulations for mine-rescue maneuvers and first-aid and mine-rescue contests in which breathing apparatus, safety lamps, and other safety appliances were to be used. The plan was to rate the men according to their proficiency and give prizes.

From September 23 to 26, 1912, a conference on methods of conducting mine-rescue operations and of administering first aid to the injured was held at the Pittsburgh Experiment Station. A number of prominent mine operators, mine surgeons and physicians, heads of safety and mine-inspections departments, State mine inspectors, and various members of the Bureau were present. The conference covered first-aid methods, mine hospitals and their equipment, rescue training and safety devices, and resolutions regarding approved apparatus, equipment, and methods were adopted. An outgrowth of the conference was the organization of the American Mine Safety Association, the purpose of which was to cooperate with the Bureau of Mines and aid in the introduction of such safety methods as were officially approved by the Bureau and adopted by the Association.

Competitions

2007 Metal/Nonmetal Regional Contest Schedule

Contest	Date and Location	Contact Information
Southwestern Regional Mine Rescue Association	April 11 – 13, 2007 Carlsbad, NM	Buddy Webb buddy.webb@wipp.ws
Nevada Mine Rescue Association	April 19 – 21, 2007 Carlin, NV	Ken Groves kgroves@barrick.com
Southern Mine Rescue Association	May 2 – 4, 2007 New Iberia, LA	Henry Charpentier hcharpentier@mortonsalt.com
Kansas Regional Mine Rescue Contest	May 22 – 24, 2007 Hutchinson, KS	Dawn Carmody CarmodyD@hutchcc.edu
Colorado Regional Mine Rescue Contest	June 26 – 28, 2007 Golden, CO	Bill York-Feirn bill.york-feirn@state.co.us

2007 Coal Mine Rescue Contest

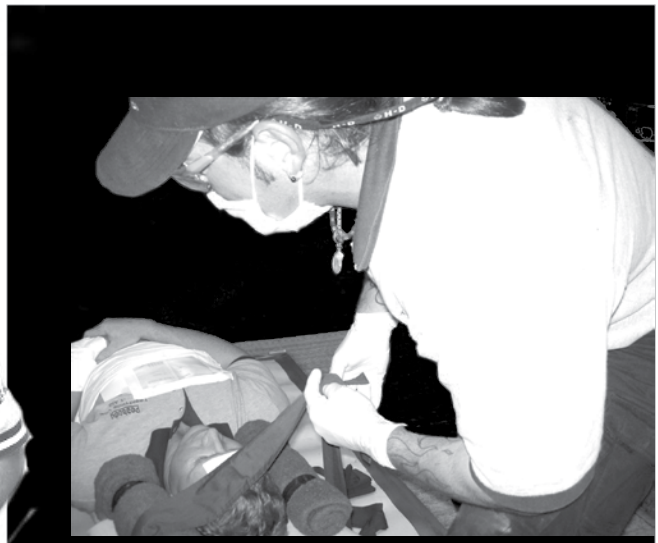
Contest	Date and Location	Contact Information
Icebreakers First Aid and Bench (BG-174A, BG-4, and Biopack) Contest	March 27-28, 2007 Grand Junction, CO	Dianna Ponikvar-Scott 970-870-2735
2007 Mine Rescue, First Aid, Bench and Preshift Rules Training Contest	April 10-12, 2007 Beckley, WV	Carolyn S. Archer: 276-679-0230 Loretta Roark: 606-546-5123
Smokeaters Post 2 Bench (BG-174A & BG-4) Contest	May 11-12, 2007 Lexington, KY	Jim W. Langley 606-546-5123
State of Alabama Mine Rescue, First Aid, Bench (BG-174A) and Preshift Contest	May 16-17, 2007 Birmingham, AL	David Roberson 205-871-3734
Western Kentucky Mining Institute Safety Days Mine Rescue, First Aid, Bench (BG-174A) and Preshift Contest	May 23-24, 2007 Madisonville, KY	Polly Wilson 270-821-4180 (ext 226) Wilson.polly@dol.gov
West Virginia Mine Rescue Alliance Rescue, First Aid, Smoke Firefighting Competition	May 23-24, 2007 Beckley, WV	Don King tdking@frontiernet.net
Governor's Cup Mine Rescue & Preshift Contest	June 1, 2007 Claypool Hill, VA	Mike Willis 276-523-8231

Contest	Date and Location	Contact Information
Colorado Coal Association Mine Rescue, First Aid, Bench (BG-4 and Biopak) and Preshift Contest	June 5-7, 2007 Craig, CO	Basil Bear: 970-929-5258 Diane Ponikvar: 970-870-2713
Indiana Mine Rescue, Bench (Biopak) and Preshift Contest	June 6-7, 2007 Vincennes, IN	Mark Odum 812-882-7617
Tri-State Post 6, Ohio Valley Mine Rescue, First Aid, Bench (BG-174A & BG-4) and Preshift Contest	June 12-14, 2007 St. Clairsville, OH	Allen McGilton 740-695-2297
Manchester Safety Days Mine Rescue (2 Day), Bench (BG-174 & BG-4) First Aid and Preshift Contest	June 19-21, 2007 Manchester, KY	Charles Weaver: 606-598-3451 Jim W. Langley: 606-546-5123 Ron Burns: 606-439-2396
Southern West Virginia Mine Rescue Association Mine Rescue, First Aid, Bench (BG-174A & BG-4), Preshift & Electrical Troubleshooting Contest	June 19-21, 2007 Beckley, WV	Mike Rutledge 304-469-8100
Eastern Kentucky Holmes, Mine Rescue, First Aid, Bench (BG-174 & BG-4), and Preshift Contest	July 18-19, 2007 Allen, KY	Stewart Bailey 606-447-3234
Coal River / Aracoma Mine Rescue, First Aid, Bench (BG-4) and Preshift Contest	July 25-26, 2007 Logan, WV	Brian Keaton 304-664-4017
Rocky Mountain Association Mine Rescue, First Aid, Bench (BG-4 & Biomarine) and Preshift Contest	July 30 – August 3, 2007 Price, UT	Kevin Tuttle 435-687-6642
Morgantown 10th Annual Post 5 Mine Rescue, Bench, Preshift & First Aid Contest	August 1-2, 2007 Morgantown, WV	Jerry W. Johnson 304-225-6837
Virginia Mining Institute Safety Day– Mine Rescue (2 Day), rst Aid, Bench (BG-174A & BG-4) and Preshift Contest	August 7-9, 2007 Blacksburg, VA	Mike Willis: 276-523-8231 Diane Crouse: 276-679-0230
Kentucky State Mine Rescue, Bench, Preshift and MET Contest and Kentucky Mining Institute	August 15-16, 2007 Lexington, KY	Geaunita Caylor 859-257-2820
Illinois Mine Rescue and Bench (BG-174 & Biopak) Contest	August 21, 2007 Spring eld, IL	Steve Kattenbraker 618-439-4355

(See next page)

Contest	Date and Location	Contact Information
Pennsylvania State Mine Rescue, Bench and Preshift Contest	August 22-24, 2007 Carmichaels, PA	Tom Todd 724-925-5150 (ext 117)
Wyoming's 26th Annual Surface Mine Rescue Competition	August 23-25, 2007 Gillette, WY	Charlie Messenheimer cwmessen@wyodak.com
2007 National Mine Rescue, First Aid, Bench and Preshift Contest	August 27-30, 2007 Nashville, TN	Allen Dupree & Carolyn Archer 246-679-0230 Loretta Roark: 606-546-5123

Bench



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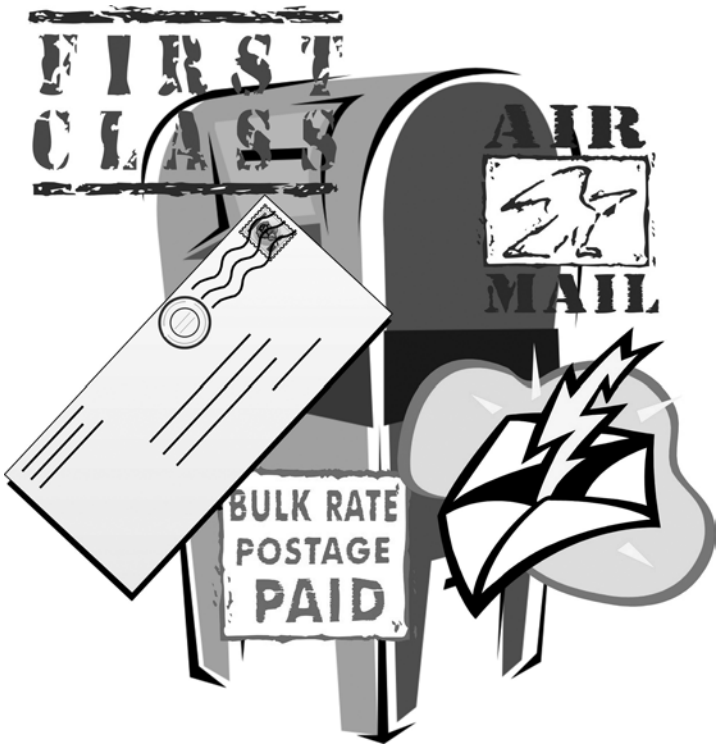

Reminder: The District Council Safety Competition for 2006 is underway—please remember that if you are participating this year, you need to mail your quarterly report to:

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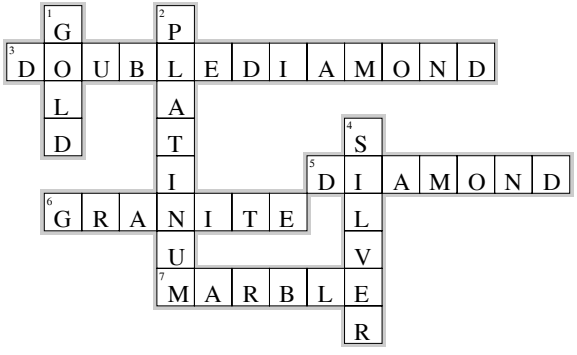
Educational Policy and Development
Joseph A. Holmes Safety Association Bulletin
P.O. Box 9375
Arlington, VA 22219



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Puzzle answer

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