

# BULLETIN

September - October 2006

*Paramont crew ready for work ...*



## CONTENTS

2006 Joseph A. Holmes Joint National Meeting in Clearwater, Florida. . . . .	3
Joseph A. Holmes Safety Association Professional Miner Program to Reach New Levels. . . . .	10
2006 Training Resources Applied to Mining (TRAM) Held at the National Mine Health and Safety Academy . . . . .	13
Call for Entries . . . . .	14
Personal Safety & Well-Being Series: Understanding Stress. . . . .	16
MLCO, Bloomsdale Excavating Honored . . . . .	19
Prevent Slips, Trips, and Falls Adapted From: “MSHA Hazard Alert - Slips, Trips & Falls” . . . . .	20
Some Tips for Household and Yard Safety . . . . .	21
Thunderstorms and Lightning Safety . . . . .	23

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](http://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: Photograph of a Paramount Coal Crew entering the coal mine, was taken by John T. Schoolcraft, Human Resources Manager at the Paramount Coal Company Virginia, Coeburn, VA. 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.

MSHA and NIOSH are Federal government agencies, and materials that we publish, both in hard copy and electronically, are in the public domain, except for materials bearing copyright attribution. You are free to use public domain materials without specific permission, so long as these uses are not deceptive, and we do ask that you cite “MSHA Joseph A. Holmes Association Bulletin” as the source. Use of materials identified as copyrighted must be approved in writing, except as otherwise provided under applicable copyright law. Please direct requests for use of copyrighted materials to Steve Hoyle, 304-256-3264. You do not need to obtain special permission from MSHA to link to our Web site. The Agency will not provide reciprocal linking or endorsements of external Web sites.



# 2006

## Joseph A. Holmes Joint National Meeting in Clearwater, Florida



More than 250 mine safety and health professionals from across the nation gathered in Clearwater, Florida, June 6th – 8th to attend the 2006 Joseph A. Holmes Joint National Meeting. The meeting was a combined effort of the Joseph A. Holmes Safety Association, the Mine Safety Institute of America, and the National Association of State Mine Inspection and Training Agencies. Attendees took advantage of the opportunity to attend some of the more than 30 safety workshops offered by the leading specialists in mine safety and health nationwide. Workshops covered a wide variety of topics dealing with cutting-edge problems in both the coal and metal/nonmetal mining industries.

The highlight of the annual meeting each year is the awards banquet, during which new officers are introduced and outstanding safety personnel are recognized for their contributions. The 2006 keynote address was given by Jeffrey Duncan, Director of Educational Policy and Development for MSHA. Mr. Duncan provided an overview of MSHA's new Emergency Temporary Standard and discussed ongoing initiatives to deal with recent tragedies in the coal mining industry.

Following his keynote address, Mr. Duncan unveiled the new awards that will be offered as part of MSHA's highly successful Professional

Miner Program, which has recognized more than 20,000 miners for working safely for extended periods of time. In October 2006, the program, which currently recognizes miners who have worked from three to five years without injury, will be expanded to include recognition for miners who have worked safely at the 10, 20, 30 and 40-year levels.

Mr. Duncan also expressed his deep appreciation to outgoing JAHSAs President, Doug Conaway, and welcomed the new President, Chuck Edwards. President.



*Jeff Duncan addressing the attendees.*

(See next page)

Current JAHS officers are as follows:

- President..... Chuck Edwards,CSE, Vendor
- 1st Vice President ..... Irwin T. Hooker, MSHA, Federal
- 2nd Vice President ..... John Riggi, United Mine Workers of America (UMWA), Labor
- 3rd Vice President ..... Glen Hood Texas Utilities (TXU), Management
- 4th Vice President ..... Rebecca Boam, New Mexico Bureau of Mine Inspection, State
- Secretary-Treasurer ..... Patrick Hurley, MSHA, Federal



The awards banquet also featured the announcement of the winners of the JAHS Council Competition and Merit Awards.

The 2006 Woman of the Year Award for outstanding service and contributions to Mine Safety was presented to Sharon Cook, Mine Safety and Health Specialist with the Educational Field Services in Madison, West Virginia.

The 2006 Man of the Year Award for outstanding service and contributions to Mine Safety was presented to Tom Joyce of the Maine Department of Labor.

The Ival Van Horn Award and the William Hoover Award are recognized as the most prestigious offered by JAHS each year. The purpose of these awards is to recognize individuals who have made significant contributions to mine safety and health with industry throughout the year. The Ival Van Horn Award was presented to Frances Petty of TXI, and the William Hoover Award was presented to Don Conrad, MSHA’s Educational Field Services, Johnstown, Pennsylvania.

**2006 Woman of the Year Award  
Sharon Cook-MSHA EFS-Madison, WV**



**2006 Man of the Year Award  
Tom Joyce-Maine Department of Labor**



**Ival Van Horn Award Winner:  
Frances Petty-TXI**



**William Hoover Award  
Don Conrad-MSHA EFS-Johnstown, PA**

(See next page)

# NATIONAL DISTRICT COUNCIL SAFETY COMPETITION AWARDS

## Coal

*Lowest Incidence Rate reported by District Councils in surface coal mines for calendar year 2005*

### **Group I**

Powder River Basin District Council 8,325,602 work hours

### **Group III**

Somerset District Council 589,992 work hours

*Lowest Incidence Rate reported by District Councils in contractor surface coal mines for calendar year 2005*

### **Group III**

Powder River Basin 746,412 work hours

*Lowest Incidence Rate reported by District Councils in underground coal mines for calendar year 2005*

### **Group III**

Somerset District Council 444,965 work hours

*Lowest Incidence Rate reported by District Councils in contractor surface metal/nonmetal mines for calendar year 2005*

### **Group II**

Southeast Missouri Mine Safety Association District Council 1,413,410 work hours

*Lowest Incidence Rate reported by district councils in surface metal/nonmetal mines for calendar year 2005*

### **Group I**

Southeast Missouri Mine Safety Association District Council 2,507,441 work hours



*The Powder River Basin District Council representatives receiving awards for Group I and Group III.*



*Somerset District Council representative receiving awards for Group III.*



*Southeast Missouri Mine Safety Association District Council representative receiving award.*

# NATIONAL DISTRICT COUNCIL SAFETY COMPETITION AWARDS (Continued)

## **Group II**

Central Indiana District Council 1,905,260 work hours

## **Group III**

Natural Building Stone – Joseph A. Holmes  
Safety Council 504,193 work-hours

## **Metal and Nonmetal**

*Lowest Incidence Rate reported by district  
councils in underground metal/nonmetal mines  
for calendar year 2005*

## **Group I**

Southeast Missouri Mine Safety Association  
District Council – 3,366,442 work hours

## **Group III**

Central Indiana District Council 290,740 work hours



*Central Indiana District Council representative receiving their Group awards.*



*Natural Building Stone–Joseph A. Holmes Safety Council representative receiving their award.*

# MERIT AWARDS



*Subash Sethi – Washington TRU Solutions – Carlsbad, NM*



*Larry Harshbarger – Heritage Group Safety – Indianapolis, IN*



*Larry Rattliff – Safety Manager – Cement – TXI Texas*



*Donald Starr – MSHA National Mine Health and Safety Academy*



*Melody Bragg – MSHA National Mine Health and Safety Academy*



*Wyatt Andrews – MSHA receiving award for Michael Davis – MSHA Southeast District – Birmingham, AL*



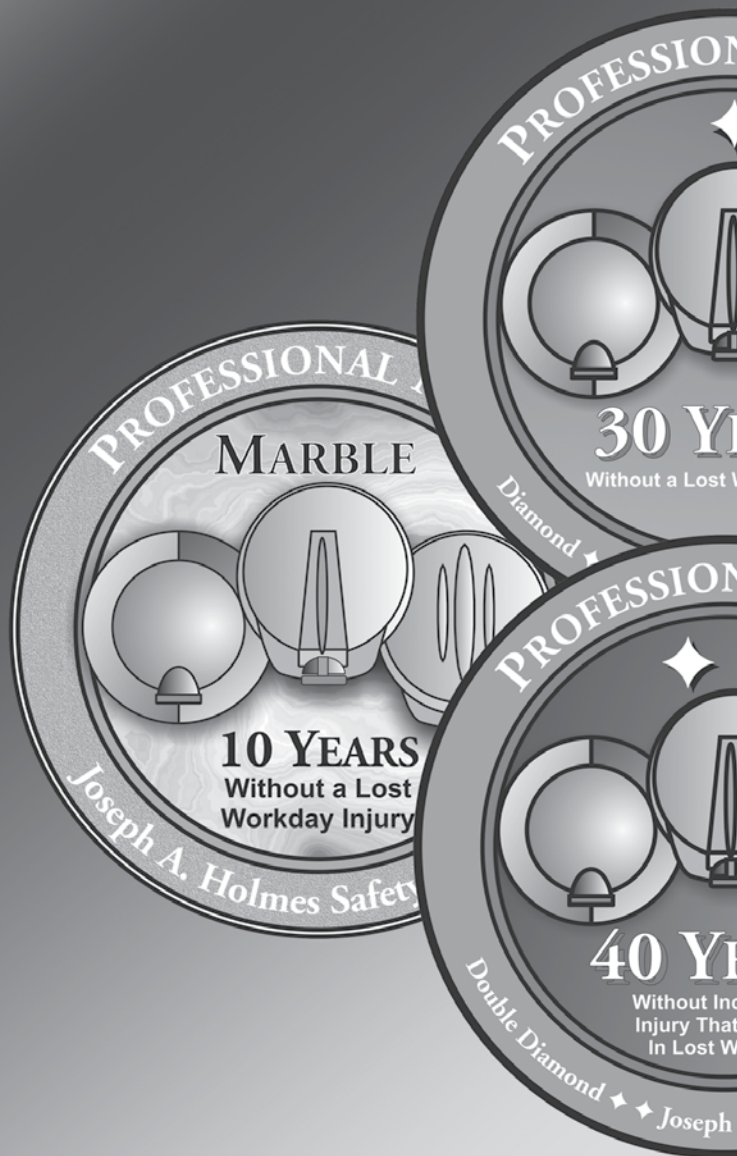
# Photo Gallery of the National Meeting...





## Joseph A. Holmes Safety Association Professional Miner Program to Reach New Levels

The Joseph A. Holmes Safety Association recently announced an expansion of its highly successful Professional Miner Program to include recognition at the 10, 20, 30 and 40-year levels. The Professional Miner Program, which recognizes individual miners who have worked injury free for various periods of time, has grown to include over 20,000 members since its inception. The program is designed to recognize the high level of skill, knowledge, and professionalism that miners bring to their job. Miners participating in the program can receive recognition for their years of accident-free work. As members, they will also receive information and tools to help them maintain their leadership in safe and healthy workplaces. The JAHS communicates directly with individual miners using mail and E-mail regarding health and safety matters.



To receive recognition as Professional Miners, applicants are required to sign a pledge to serve as a positive work model for other miners and as a mentor for new miners. After the Association receives the miner's pledge, a sticker, patch, certificate and other information is sent to him or her.

The program originally recognized professional miners at three levels:

- Miners with No Reportable Injuries over a 5-year period
- Miners with No Reportable Injuries over a 3-year period
- Miners with No Lost Time Injuries over a 3-year period.

The Professional Miner Program is the first program to offer personal recognition to individual miners for outstanding safety records. Response from the mining community was overwhelming and it soon became apparent that miners wanted the program to expand to recognize accomplishments above the 5-year period. In response to this request from miners, the Association has moved to expand the program beginning in October 2006.

New merit badges, stickers, and certificates have been designed for the program.

If you are interested in applying to be a "Professional Miner," please visit the Joseph A. Holmes Safety Association web site: <http://holmessafety.org> to obtain additional information and an application.



(See next page)



# New Professional Miner Recognition Levels



**Silver**  
3 Year No  
Lost Time  
Injuries

**Marble**  
10 Years  
without a  
Lost Work-  
day Injury



**Gold**  
3 Years  
without a  
Lost Work-  
day Injury

**Granite**  
20 Years  
without a  
Lost Work-  
day Injury



**Platinum**  
5 Years No  
Reportable  
Injuries

**Diamond**  
30 Years  
without a  
Lost Work-  
day Injury



## Professional Miner's Pledge

*As a Professional Miner, I pledge to serve as a positive role model for other miners, and as a mentor for new miners. By recognizing "Safety and Health are Values," I will work to ensure a safe, healthy, and alcohol and drug free workplace for myself and coworkers, and promote and participate in health and safety initiatives.*

**Double  
Diamond 40  
Years without  
a Lost Work-  
day Injury**





## 2006 Training Resources Applied to Mining (TRAM) Conference October 10-12, 2006 National Mine Health and Safety Academy

The 2006 TRAM (Training Resources Applied to Mining) Conference was held at the National Mine Health and Safety Academy in Beaver, West Virginia on October 10-12, 2006.

This tuition-free seminar provides opportunities for health and safety trainers to improve their training programs with new ideas and new materials.

The conference included workshops from more than 60 speakers on topics related to mine safety training such as:

- Underground and surface mine safety
- Innovative instructional techniques
- Regulatory issues related to mining
- Health issues related to mining

Participants selected relevant workshops to attend from among the 60-70 offered. The small group format encourages interaction between the participants and the workshop leaders.

The TRAM Conference included an exhibit area featuring materials developed by MSHA, State Grant recipients, and the mining industry. Most

materials are free to seminar participants.

A highlight of the TRAM Conference each year is the Safety Materials Competition which has fostered a new level of professionalism in the development of training materials. Every year, the Safety Materials Competition provides a unique forum for health and safety professionals to share and compare the efforts they have made during the year.

Entries are evaluated by safety experts using several criteria including purpose, objectives, delivery system, content, and format. Awards are presented for each division and category. An overall Grand Prize Winner is selected from winning entries. The Grand Prize Winner is presented with a traveling trophy provided by MSHA that can be displayed at his or her location until the next competition. Names of winning entries from each year are engraved on a wall plaque kept on permanent display at the National Mine Health and Safety Academy.

Each year the variety and quality of entries in the competition continues to expand. Entries for 2006 included not only written materials, handouts, and posters but also interactive DVDs, websites, videos, and PowerPoint presentations.

All materials entered in the competition are on display at the Academy throughout the conference. Contact information will be provided to assist trainers in sharing and acquiring information.

For information on next year's conference, please contact:

Presentations: Melody Bragg (304) 256-3556 or [bragg.melody@dol.gov](mailto:bragg.melody@dol.gov)

Exhibits: Debbie Worrells (304) 256-3201 or [worrells.deborah@dol.gov](mailto:worrells.deborah@dol.gov)

Safety Materials Competition: Jimmy Shumate (304) 256-3353 or [shumate.jimmy@dol.gov](mailto:shumate.jimmy@dol.gov)



## Call for Entries

### TRAM/National Mine Instructors' Conference Mine Health and Safety Training Material Competition

#### WHO CAN ENTER?

The contest is open to entrants from:

- ▶ Public (State government) and academic institutions ( colleges, universities, vocational programs, etc.)
- ▶ Industry (mining companies, trade associations, labor organizations, and contract trainers)

#### WHAT KIND OF MATERIAL IS ELIGIBLE?

The contest is open for original health and safety training material you have developed since the last TRAM/National Instructors' Conference. Entries cannot include the use of copyrighted materials. You must be willing to share your entry with the mining community.

Entry categories include:

- Videos/DVDs using video
- CDs/DVDs (without video)
- Printed Material
- Mixed Media

#### HOW WILL ENTRIES BE JUDGED?

Contest judges will evaluate each entry by asking the following questions:

- ▶ Purpose/Objectives/Audience
  - Does the entry have a clearly stated purpose or objective?
  - Does the entry clearly state who it is intended for?
  
- ▶ Delivery System
  - Where appropriate, does the delivery system used reflect current educational technology?
  - Is the delivery system used to present the material suitable for the material's intended audience?
  
- ▶ Content
  - Is the content up-to-date and technically accurate?
  - Do visuals help the material meet its objective?
  - Are visuals appropriate for the intended audience?
  - Where appropriate, does the material examine or discuss safety hazards? and suggest practical ways to recognize, reduce, or eliminate these hazards?
  
- ▶ Format/Instructional Assistance
 

Is the material

  - Logically formatted?
  - Legible?
  - Grammatically correct, checked for spelling, etc.?

Are illustrations and graphics

  - Well-organized, clear, and suitable for the intended audience?

If provided, are student materials (texts, charts, diagrams, exercises, etc.)

  - Well-organized, legible, and suitable for the intended audience?

If the program includes tests, progress checks, and evaluation materials, are they

  - Suited to the program's objectives?
  - Understandable to the instructor and the student?

- Well-organized, clear, and suitable for the intended audience?

Where appropriate, does the material include

- Instructions/suggestions to trainers to help them use materials effectively; for example, directions on how to set up and test the program if it is computer-based?
- Instructions/suggestions to instructors to help them tailor materials it to meet training needs at their mine?

### **WHAT HAPPENS IF I WIN?**

Winning entries in Videos/DVD's; CD's/DVD's; Printed Material and Mixed Media, receive awards (plaques). A traveling trophy is presented to the participant judged to have submitted the best entry in the contest. Every entrant who participates in the competition receives a Certificate of Appreciation.

Awards are presented at the TRAM/National Mine Instructors' Conference, and contest results receive national recognition in the State Grants "Newsletter," and the Holmes Safety Bulletin.

Wall plaques maintained at the National Mine Health and Safety Academy are updated with the names of each year's contest winners. A new set of plaques will be displayed for the 2006 winner.

### **ARE ALL ENTRIES EXHIBITED AT THE CONFERENCE?**

All entries will be displayed at the National Mine Health and Safety Academy during the TRAM/National Mine Instructors Conference.

### **HOW DO I ENTER?**

You can enter more than once.

Please include with each entry a brief written abstract telling us about your entry, its intended audience, the category in which you wish it to be judged, and ways that other trainers may use the material in their safety and health programs. Don't forget your name and address and a telephone number or e-mail address in case we need to contact you. If your materials are available on the Internet, please provide us

with the link so that we can post that link on our webpage.

### **Jimmy Shumate**

National Mine Health and Safety Academy  
1301 Airport Road  
Beaver, WV 25813-9426

### **REMINDER**

You may exhibit materials at the conference without entering the competition. You may contact Jimmy Shumate at 304-256-3353 or by e-mail at [shumate.jimmy@dol.gov](mailto:shumate.jimmy@dol.gov). If in addition to your submission of materials you plan to have an exhibit booth, please contact Debbie Worrells at 304-256-3201 or by e-mail at [worrells.deborah@dol.gov](mailto:worrells.deborah@dol.gov).



# Personal Safety & Well-Being Series: Understanding Stress

This is the first article in a series of five dedicated to personal safety and well-being; stress awareness, stress management, stress in the workplace, depression, and sleep disorders.

Stress is a natural consequence of life. It is a common human experience that does not discriminate on the basis of age, gender, race, religion, national origin, or ability. Stress affects all of us in some way, whether it is good or not so good.



The American Institute of Stress (AIS) describes stress as the number one health problem in America. But is stress really a major health problem in this country? What is stress and is it really all that bad? What are some of the causes of stress and how does the body react to it? Read on for answers to these questions and more.

## A Major Health Problem in America?

The AIS describes stress as “the epidemic of the eighties” that has progressively worsened since that time. According to the Institute, numerous surveys confirm that American adults perceive they are under a great deal more stress than ten or twenty years ago.

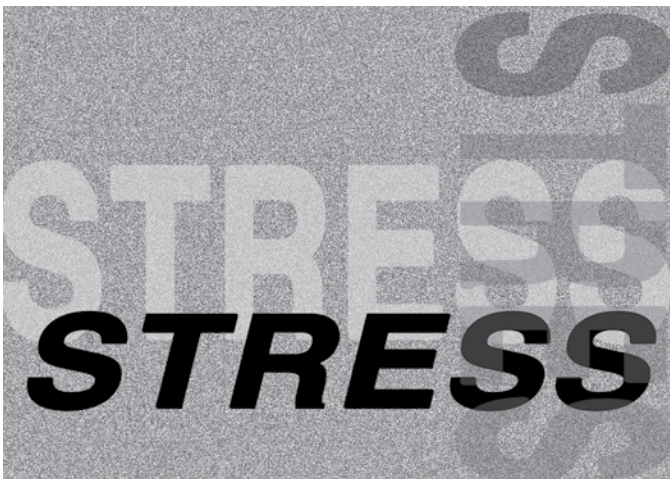
Stress levels have escalated not only in adults, but also in children, teens, college students, and the elderly. Work related pressures have been recognized as the leading source of stress among adults. Increased crime, threats to personal safety, peer pressure, social isolation and loneliness, and the erosion of family values may also account for elevated stress levels among Americans.

## What is Stress?

Stress can be defined in many ways, and means different things to different people.

Merriam-Webster (2002) defines stress as “a state of bodily or mental tension resulting from factors that tend to alter an existent equilibrium.”

According to this definition, stress is the body’s way of reacting to anything that upsets its balance.





This sounds relatively harmless. Yet, more often than not, stress is associated with negative rather than positive feelings and is defined as a phenomenon linked to illness and disease causation.

“a state of bodily or mental tension resulting from factors that tend to alter an existent equilibrium.”

### What Causes Stress?

Sources of stress may come from the outside world (external stressor) or from inside oneself (internal stressor).

The nature of stress can be physical or emotional.

Major life changes, whether they are positive or negative, can cause stress.

Events such as the death of a friend or family member, separation or divorce, personal injury or illness, marriage, pregnancy, change of employment, retirement, trouble with the law, finances, and family vacations are some of life's events that can lead to stress.

Remember, when something upsets the body's balance, it reacts instinctively. Stress is the body's response to change, whether it is good or bad.

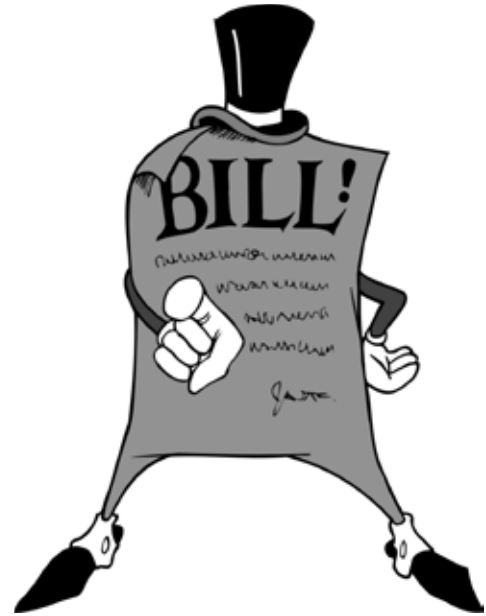
### Is Stress Harmful?

Interestingly, nearly all body systems (e.g., cardiovascular system, immune system, digestive system, etc.) are modified in response to stress. Immediate and automatic responses include things such as:



- Increased heart rate and blood pressure – the body's mechanism to increase blood flow to the brain for improved decision making
- Elevated blood sugar – the body's way of fueling itself
- Blood forced away from the stomach to the muscles of the extremities – the body's way of providing more strength to the arms and legs

With excessive (or chronic) stress, these responses are invoked repeatedly and can contribute to stroke, heart disease, diabetes, ulcers, neck or back pain, and other health problems. Stress can also contribute to decreased immune system resistance, depression, anxiety, stomach and skin problems, and a myriad of other health issues.



of

Given all these physical and emotional responses, stress is not necessarily always harmful. There is such a thing as healthy stress. According to Hans Selye, the father of stress awareness, stress can be good and can even promote wellness. Stress can produce adrenaline, stimulate performance, and fuel creativity. Increased stress can lead to increased productivity – to a point.

When properly regulated, stress can become a positive energy allowing us to perform at our best while promoting an overall sense of well-being. On the other hand, when stress is excessive, extended, and unfocused, it can be harmful. Being exposed to high levels of stress over long periods of time can take its toll on anyone’s physical health and emotional well-being.



Stress is a very personalized phenomenon; it can vary significantly among individuals even in identical situations. It would be difficult, if not impossible, to identify most and least stressful situations, because what one person finds stressful may not bother someone else at all.

Since it is such a highly individualized experience, each of us needs to find the level of stress that is right for us in given situations. Above all, we need to learn to manage stress so that it works for us rather than against us.

Watch for the second article in this series on personal safety and well-being which addresses ways to manage the stress in your life.

#### References

Merriam-Webster’s Medical Dictionary. (2002). Merriam-Webster, Inc.  
Reuters Health. (2001). Stress. New York: Nidus Information Services, Inc.  
(<http://www.reutershealth.com/wellconnected/doc31.html>).  
The American Institute of Stress. America’s no. 1 health problem. Yonkers, NY.  
(<http://www.stress.org/problem.htm>).

## Mississippi Lime Company, Bloomsdale Excavating Honored

From a news release August 4, 2006

STE. GENEVIEVE -- Two Ste. Genevieve County companies are sharing a National Safety Award.

Mississippi Lime and Bloomsdale Excavating are being recognized for their safety performance by the Joseph A. Holmes Safety Association, a non-profit organization started in 1916 to promote health and safety in the mining industry. The Association includes representatives from Federal and state governments, the mining industry, and labor.

The award recognizes the good safety records of companies, contractors, safety organizations, mines, quarries, and groups of mines and plants.



Mississippi Lime Company and Bloomsdale Excavating officials gathered Thursday morning for the safety award presentation. They are (front row, from left), Paul Drury, Bloomsdale Excavating Executive Vice President; Robert Selke, Supervising Mine Safety and Health Inspector, MSHA; Keith Espelien, Mississippi Lime; (middle row, from left), Jeff Weiler, Bloomsdale Excavating Safety Director; Rick Donovan, Mississippi Lime Safety and Health Manager; Mark Flieg, Mississippi Lime Maintenance Specialty Department; Gene Kertz, Mississippi Lime Maintenance Superintendent; (back row, from left), Paul Haug, Bloomsdale Excavating Field Safety Coordinator; Larry Bleckler, Quarry Workers Local 829; Ed Staffen, Mississippi Lime Miners' Representative. (Photo by Michelle Hoog)

# Prevent Slips, Trips, and Falls Adapted From: “MSHA Hazard Alert – Slips, Trips & Falls”

Take this short quiz to see how alert you are to potential slips, trips and falls.

Do I:

Follow established safe work procedures at my mine?

Pay attention to conditions in the work area?

Pay extra attention when climbing, walking, or crawling in unfamiliar areas?

Walk slowly on rough terrain?

Realize that every walking surface is potentially hazardous?

Walk slowly when the weather is bad?

Keep walkways and travelways clear of slipping, tripping, and falling hazards?

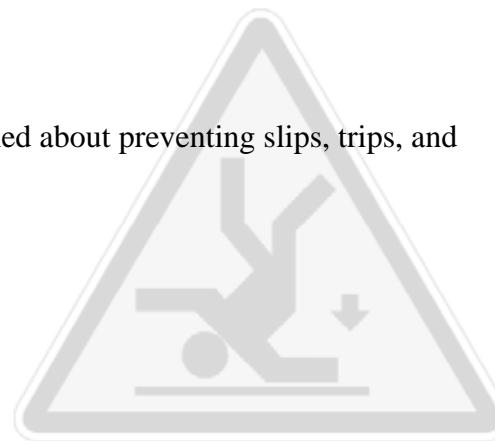
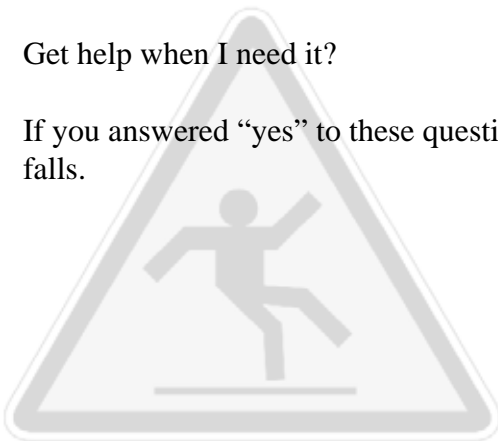
Report unsafe conditions immediately so they can be corrected?

Always wear proper footwear?

Always follow proper lifting and carrying procedures?

Get help when I need it?

If you answered “yes” to these questions, you are actively concerned about preventing slips, trips, and falls.



# Some Tips for Household and Yard Safety

Steve Hoyle

Just about every one of us has a never-ending list of household or yard projects. As soon as one job is done, it seems that something else is added to the list. It's important to remember to take our time and work safely as we do these tasks.

Here are some things you can do to make your residence safer.

Let's start outside:

- ✓ Childproof your house by making sure that swimming pools, playground, and other equipment and toys are properly maintained and that all safety features are in place and in working order.
- ✓ Never let unattended children swim or play around pools.
- ✓ Install child-proof latches on windows if there are small children at your house.
- ✓ Make sure patio doors, picture windows, etc. are made with safety glass.
- ✓ Check stairs and railings on decks, porches, patios, and balconies, and make sure they're in good condition.
- ✓ Make sure your garage door has an automatic reversing mechanism, and test it regularly to make sure it works.
- ✓ Examine the siding on your house and ensure it is in good repair.
- ✓ Check your roof – is it in good repair? Are there any loose shingles, buckles, or visible holes?

Let's look around inside:

- ✓ Have your air conditioning professionally inspected on at least an annual basis.
- ✓ Install smoke and CO detectors, and test them every six months to make sure they work. A good time to test them is each spring and fall, when you reset clocks for daylight savings time.
- ✓ Ensure you have proper fire extinguishers and that they are in working order. Check them when you test the smoke detectors, and make sure everyone in your house knows where they are and how to use them.
- ✓ A clean house is a safe house.
- ✓ Have you stored flammable liquids correctly? Can children get into them?



## DID YOU KNOW?

**Every Year, according to Underwriters Laboratories, Inc.**

- **Ladder accidents are responsible for 220,000 trips to hospital emergency rooms.**
- **Lawn mowers injure more than 87,000 people.**
- **Approximately 76,000 people are injured by power garden tools.**



Here are a few more safety tips:

- ✓ Prevent back injuries, slips, trips, and falls by lifting and carrying properly. Get help when you need it!
- ✓ Reduce the chance of dangerous slips and falls by using ladders correctly – never exceed the weight/design limits of a ladder.
- ✓ Keep from being cut or maimed by operating power tools such as lawn mowers and gardening equipment correctly. Take time to read, understand, and follow manufacturer’s instructions, always use personal protective equipment, and always use common sense.

Check out these web sites for additional information.

About, Inc.

[http://seniorhealth.about.com/cs/prevention/a/cleaning\\_safety\\_p.htm](http://seniorhealth.about.com/cs/prevention/a/cleaning_safety_p.htm)

Janesville – Wisconsin’s Park Place

<http://www.ci.janeville.wi.us>

University of Texas Southwestern Medical Center at Dallas

<http://www8.utsouthwestern.edu>

Underwriters Laboratories Inc.

<http://www.ul.com>

West Bend Mutual Insurance Co.

<http://www.westbendmutual.com>

# Thunderstorms and Lightning Safety

Steve Hoyle



Thunderstorms occur all over the world in all seasons. They can occur as single storms, as clusters of storms, or as lines of storms. Sometimes multiple storms affect the same area over a few hours. It all depends upon atmospheric conditions.

## Did You Know That

- ✓ **At any given moment, nearly 1,800 thunderstorms are in progress over the surface of the earth.**
- ✓ **On average, the U.S. gets 100,000 thunderstorms a year.**
- ✓ **Florida is the state with the highest number of thunderstorms.**

You can often see a thunderstorm approaching, but they sometimes develop without warning. The general warning signs of thunderstorms include darkening clouds, high winds, and rainfall.

### Did You Know That

- ✓ **Straight-line winds are responsible for most thunderstorm wind damage.**
- ✓ **Straight-line winds can exceed 100 miles per hour.**

Most thunderstorms are relatively small (approximately 15 miles in diameter), end quickly, and are generally mild. However, some can be severe.

A severe thunderstorm is defined by the National Weather Service (NWS) as a thunderstorm with downdraft winds in excess of 58 miles per hour, and/or hail that is  $\frac{3}{4}$ -inch (or greater) in diameter. These winds can damage buildings, uproot trees, and create hazards from wind-blown debris. Mobile homes are especially susceptible to thunderstorm winds if they are not properly anchored.

The NWS issues severe thunderstorm watches and warnings to keep you aware of the weather conditions. Do you know the difference between a severe thunderstorm watch and a severe thunderstorm warning?

A severe thunderstorm watch tells you in advance that conditions are favorable for the formation of severe thunderstorms in your area. You need to pay attention to the weather conditions when a severe thunderstorm watch exists. The weather can change rapidly and you could be caught in a dangerous situation.

Severe thunderstorm warnings tell you to take cover right away because a severe thunderstorm has either been reported or is close by.

Lightning is dangerous. Studies by the National Oceanic and Atmospheric Administration (NOAA) reveal that lightning is more dangerous than hurricanes or tornadoes. In fact, lightning is the second-greatest weather killer in the U.S. Each year, approximately 73 people are killed and 300 injured by lightning strikes.

According to NOAA, lightning is, "...caused by the attraction between positive and negative charges in the atmosphere, resulting in the buildup and discharge of electrical energy." Raindrops acquire "...extra electrons which are negatively charged." These extra electrons look for a positive charge from the ground. "As they flow from the clouds, they knock other electrons free, creating a conductive path." The two charges connect and current follows this path. We see this current as a lightning bolt. Rapidly heating and cooling air produces a shock wave that we hear as thunder.

### Did You Know That

- ✓ **25 million cloud-to-ground lightning strikes occur in the U.S. each year.**
- ✓ **The air within a lightning strike can be as hot as 50,000 degrees Fahrenheit.**
- ✓ **Lightning can heat its path five times hotter than the surface of the sun.**
- ✓ **One ground lightning strike can generate between 100 million and 1 billion volts of electricity.**



The important thing to remember is that if you can hear thunder, the storm is close enough for you to be struck by lightning – take shelter.

Here is a set of lightning safety tips for you.

**If You Can See It, Flee It; If You Can Hear It, Clear It – Personal Lightning Safety Tips**



**PLAN** – in advance your evacuation and safety measures. When you first see lightning or hear thunder, activate your emergency plan. Now is the time to go to a building or a vehicle. Lightning often precedes rain, so don't wait for the rain to begin before suspending activities.

**IF OUTDOORS** – Avoid water. Avoid high ground. Avoid open spaces. Avoid all metal objects including electric wires, fences, machinery, motors, power tools, etc. Unsafe places include underneath canopies, small picnic or rain shelters, or near trees. Where possible, find shelter in a substantial building or in a fully enclosed metal vehicle such as a car (not a convertible), truck, or a van with the windows completely shut.

**IF LIGHTNING IS STRIKING NEARBY WHEN YOU ARE OUTSIDE, YOU SHOULD** – Crouch down. Put feet together. Place hands over ears to minimize hearing damage from thunder. Avoid proximity (minimum of 15 ft.) to other people.

**IF INDOORS** – Avoid water. Stay away from doors and windows. Do not use the telephone. Take off head sets. Turn off, unplug, and stay away from appliances, computers, power tools, and TV sets. Lightning may strike exterior electric and phone lines, inducing shocks to inside equipment.

**SUSPEND ACTIVITIES** for 30 minutes after the last observed lightning or thunder.

**INJURED PERSONS** do not carry an electrical charge and can be handled safely. Apply first aid procedures to a lightning victim if you are qualified to do so. Call 911 or send for help immediately.

**KNOW YOUR EMERGENCY TELEPHONE NUMBERS.**

Reprinted Courtesy of National Lightning Safety Institute

Visit these web sites for additional information about thunderstorms and lightning.

<http://www.bainbridgefire.com/thunders.htm>

[http://www.lightningsafety.com/nlsi\\_pls/lst.html](http://www.lightningsafety.com/nlsi_pls/lst.html)

<http://www.nssl.noaa.gov/edu/storm/>

<http://www.srh.noaa.gov/abq/preparedness/safesvr.htm>

<http://www.skywarn.ampr.org/thunSAFE.htm>

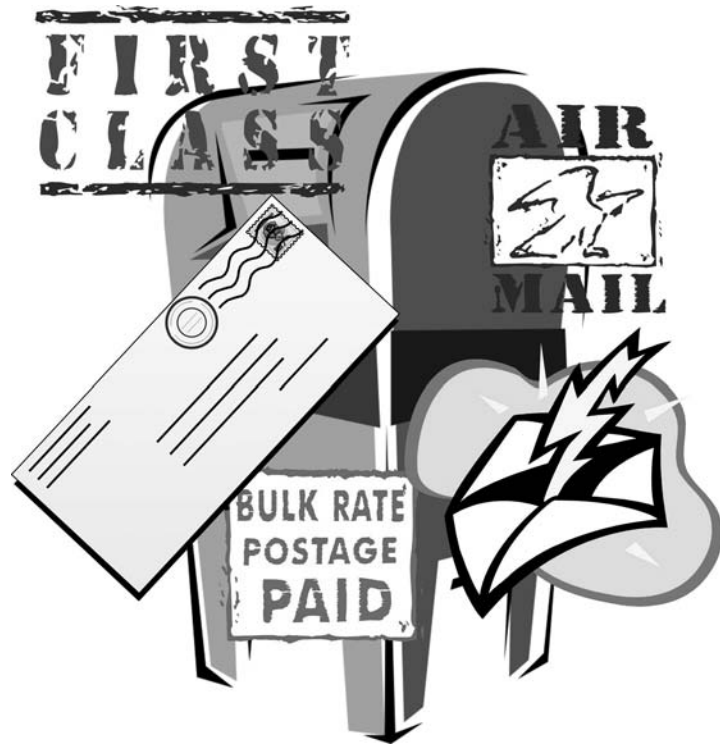
## For address changes, comments, suggestions and new subscription requests:

Contact:

Bob Rhea  
Joseph A. Holmes Safety Association Bulletin  
Mailing List  
MSHA-US DOL  
1100 Wilson Blvd. Rm. 2147  
Arlington, VA 22209-3939  
Tel: 202/693-9574, Fax: 202/693-9571  
E-mail: rhea.robert@dol.gov

Please address any comments to:

Steve Hoyle  
Joseph A. Holmes Safety Association Bulletin  
DOL-MSHA  
National Mine Health and Safety Academy  
1301 Airport Road  
Beaver, WV 25813-9426  
Tel: 304/256-3264, Fax: 304/256-3461  
E-mail: hoyle.stephen@dol.gov



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:

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



**U.S. Department of Labor (MSHA)  
Joseph A. Holmes Safety Association  
P.O. Box 9375  
Arlington, Virginia 22219**

**First-Class Mail  
Postage & Fees Paid  
U.S. Department of Labor  
Permit No. G-745**