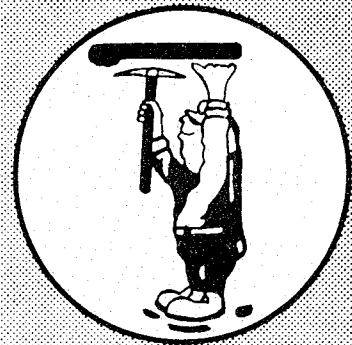
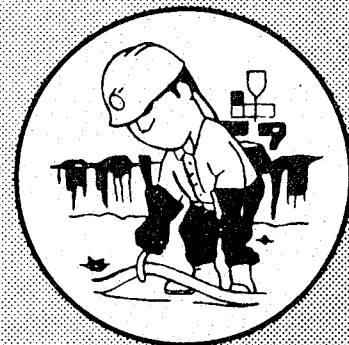


JANUARY 1981

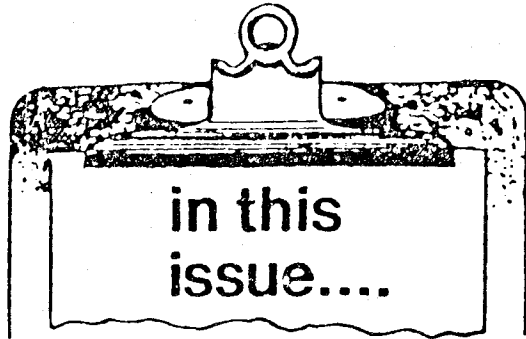


BULLETIN



United States Department of Labor
MSHA
Mine Safety and Health Administration

HOLMES SAFETY ASSOCIATION



January 1981

1. Safety Topic, "Mine Safety Insurance Policy"
2. Safety Topic, "Electrical Injury"
3. Abstract, "Fatal Electrical Accident"
4. Safety Topic, "Fires Caused by Arcs and Sparks"
5. Abstract, "Fatal Haul-of-Material Accident"
6. Safety Topic, "On-the-Job Hazards"
7. Safety Topic, "Part 55.6--Sensitized Ammonium Nitrate Blasting Agents"
8. Safety Topic, "January"
9. Poster, "Good Supervision"
10. Meeting Report Form (chapters only)



January 1981

HOLMES SAFETY ASSOCIATION MONTHLY SAFETY TOPIC

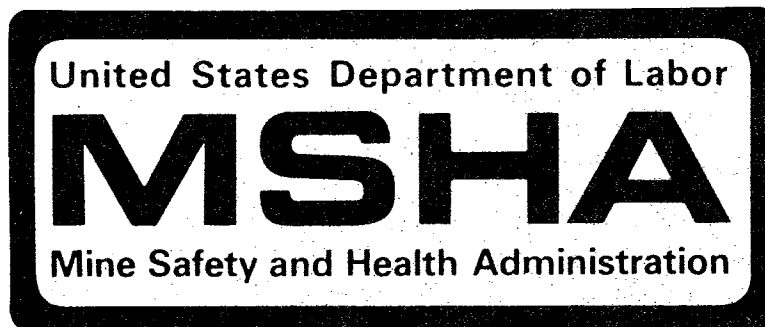
Mine Safety Insurance Policy

"This mine is cooperating in the 1981 National Campaign to prevent accidents and injuries from falls of roof, face, and ribs. We need your help to assure the success of the campaign. Each underground employee knows the hazards of mine roof, and also knows how sudden and unexpected falls can be prevented. All that is asked of you is to take the steps that you already know when they are needed--without delay.

"The company supplies the roof-support materials. It is up to the employees to use these materials promptly--when and where they are needed. The 1981 Holmes Safety Association campaign to prevent roof-fall accidents was not organized for anyone's 'glory.' It was originated by all segments of the industry to eliminate the greatest cause of mine fatalities. Success of the campaign will be measured by the effort you, personally, put into this accident-prevention endeavor.

We are counting on you to help in protecting yourself from injury from any cause--especially from falls of roof, face, and ribs.

"RESOLVE TO WORK SAFELY--MAKE SAFETY #ONE IN 1981"



WATCH THE ROOF



SAFETY IS EVERYBODY'S BUSINESS

(For use in all underground mining operations)



January 1981

HOLMES SAFETY ASSOCIATION MONTHLY SAFETY TOPIC

Electrical Injury

Investigation of low-voltage electrical accidents show that their causes often can be traced to failure to understand the hazards of low-voltage circuits.

Much research and experimental work has been done on the effects of electrical current on the human body. The severity of electric shock is determined by the amount of current flow through the victim. Since current flow depends on voltage and resistance, these factors are important. Other factors affecting the amount of damage done in case of shock are the parts of the body involved, the time of current flow through the victim, and the frequency of the current, if it is alternating current.

Resistance to current flow is mainly to be found in the skin surface. Callous or dry skin has a fairly high resistance, but a sharp decrease in resistance takes place when the skin is moist. Once the skin resistance is broken down, the current flows readily through the blood and through body tissues.

Whatever protection is offered by skin resistance decreases rapidly with increase in voltage. High-voltage alternating current of commercial frequency (60 cycles) causes violent muscular contraction often so severe that the victim is thrown clear of the circuit.

Although low voltage also results in muscular contraction, the effect is not so violent. The fact, however, that low voltage often prevents the victim from freeing himself from the circuit makes exposure to it dangerous.

Current flow is the factor which causes injury in electric shock. Experimental and field data from authoritative sources indicate that, in general, an alternating current of 1/10 ampere at commercial frequency may be fatal if it passes through the vital organs. Similarly, it is estimated that a current value of 0.02 ampere is the limit at which individuals can still release themselves from an object held by the hand. Such current flow may readily be obtained on contact with low voltage sources of the ordinary lighting of power circuit.

Death or injury by electric shock may result from the following effects of current on the body:

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(For use in underground and surface mining operations)

1. Contraction of the chest muscles which may interfere with breathing to such an extent that death will result from asphyxiation when the exposure is prolonged.
2. Temporary paralysis of the nerve center which may result in failure of respiration, a condition which often continues until long after the victim is free from the circuit.
3. Interference with normal rhythm of the heart, causing fibrillation. In this condition, the fibers of the heart muscles, instead of contracting in a coordinated manner, contract separately and at different times. Blood circulation ceases and death ensues, since apparently the heart cannot spontaneously recover from this condition. It has been estimated that 0.1 ampere is sufficient to cause ventricular fibrillation.
4. Suspension of heart action by muscular contraction (on contact with heavy current). In this case, the heart may resume its normal rhythm when the victim is freed from the circuit.
5. Hemorrhages and destruction of tissues, nerves, and muscles from heat due to heavy current.

In general, the longer the current flows through the body the more serious the result. On high voltage sources considerable current is likely to flow and in general only very short exposure can be tolerated if the victim is to be revived.

(Note this month's fatal electrical accident abstract)

ABSTRACT FROM FATAL ACCIDENT

January 1981

HOLMES SAFETY ASSOCIATION
MONTHLY SAFETY TOPIC



FATAL ELECTRICAL ACCIDENT

General Information; An electrical accident occurred at a transformer station near a preparation plant resulting in the death of an electrical repairman. He had 33 years mining experience 12 years of which were as a repairman.

Description of Accident; The repairman reported to work under the supervision of the chief electrician who instructed him and a coworker to go to the training room for an hour of retraining.

After completing the retraining, they were instructed by the chief electrician to examine the transformers supplying 220-volt, 3-phase power to the truck garage. These transformers had been struck by lightning on the previous day. The repairmen were instructed to examine the transformers and not to attempt to make repairs to them.

Later in the morning, the chief electrician went to the transformer station to check on the progress being made by the two repairmen; he again cautioned the workmen not to attempt to make repairs if major damage had occurred to the transformers.

After examining the transformers and finding lightning damage, the repairmen decided to attempt to utilize one transformer to provide a 120-volt A.C. lighting circuit to the truck garage. While attempting to make this change, the victim contacted a 4,160-volt A.C. energized conductor.

Causes of Accident:

1. Work was being performed on the three transformers supplying 110-220 volt alternating-current power to the truck garage and the 4,160-volt incoming power circuit had not been disconnected to the lineside of the transformer disconnects. A violation of Section 77.500.
2. Disconnecting devices were not provided at the beginning of the 4,160-volt branch circuit extending to the truck garage transformers. A violation of Section 77.808.

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(For use in surface mines)

3. The frames of the truck garage power transformers and their supporting structure were not effectively grounded. The grounding conductor extending from the source transformers substation was not connected to the above equipment and structures. A violation of Section 77.810.

4. The 4,160-volt energized-power conductor extending two inches below the conduit enclosing the conductor extending to the truck garage transformers was not enclosed to prevent a person from unintentionally or inadvertently contacting energized parts. A violation of Section 77.509(b).

5. Safe means of access was not provided where work was being performed on the truck garage transformers. A violation of Section 77.205(a).

Conclusions: The accident and resultant fatality occurred when the victim contacted an exposed energized power conductor while working on a transformer station. Contributing factors to this accident were:

1. Work was being performed on an electrical installation that had not been deenergized.
2. Electrical disconnects were not provided for a branch circuit.
3. The victim was performing unauthorized repairs.
4. Management failed to provide a safe means of access to perform work on the transformers.
5. Management failed to remove or guard the unused power conductor.



January 1981

HOLMES SAFETY ASSOCIATION MONTHLY SAFETY TOPIC

Fires Caused by Arcs and Sparks

Although electric arcs and sparks are types of open flames, we have another tool that produces sparks - the burning and welding torch. Either one may ignite methane which in turn may result in fires or may directly ignite flammable material.

Electricity is undoubtedly responsible for most mine fires under present operating conditions. It is estimated that 80-90 percent of all mine fires are caused by electricity. This indicates that the use of electricity is often accompanied by considerable carelessness and suitable precautions are not always taken to guard adequately against fire from these causes. Mine fires by electricity may be caused by any of the following happenings:

1. Defective permissible equipment or open type, nonpermissible.
2. Defective electrically-operated pump.
3. Fall which causes short circuit.
4. Defective installation of insulators on trolley and feed lines.
5. Arc from rail joint where doors are in use.
6. Defective bonding or single rail bonding of tract or no bonds.
7. Defective storage battery equipment.
8. Mining machinery cables.
9. Electric drills.
10. Open-type controllers or openings in permissible controllers.
11. Over fusing of electric equipment.
12. Using resistance for heating.
13. Stray electric current.
14. Sparks from trolley wheels or shoes.
15. Transmission wires in isolated or abandoned territory.
16. Defective cut-out switches.
17. Automatic or hand-operated breakers blocked in with short on the line.
18. Blocking automatic breakers to prevent opening under peak loads.
19. Overloaded oil switches.

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(Underground coal-mining operations)

20. Out of the way sections where small pumps are in use.
21. Fall of trolley wires on supply trip.

These are not all of the causes but it goes to show that electricity causes a number of fires. So let's all check up a little and see if we don't have a few places in our mines where more precaution or safe guards can be applied. We have no records of the fires we have prevented so let's all get together and not have a fire on record that we failed to prevent.

Also, let's take a good look around at this time and see if all precautions are taken to prevent these fires and that fire fighting equipment is at hand for use just in case.

ABSTRACT FROM FATAL ACCIDENT

January 1981

HOLMES SAFETY ASSOCIATION
MONTHLY SAFETY TOPIC



FATAL HAUL-OF-MATERIAL ACCIDENT

General Information: A lead miner was fatally injured when he was crushed by an unsecured explosives magazine door that he was improperly transporting into the mine. He had been employed eight months with the last two months as lead miner at the mine.

He previously had been employed at a nearby mine in the mechanical department for about three years. His total known mining related experience was four years with eight months of that time classified as a miner.

The mine was an underground tungsten mine which had been inactive prior to the company restarting mining operations approximately two months before the accident.

Description of the Accident: The lead miner (victim) along with a coworker (nipper) began their shift at the regular starting time. The crew worked without incident until the nipper observed the lead miner lying on the ground approximately ten feet from the portal.

Prior to this time, the lead miner had been constructing a 32- by 60-inch magazine door out of lagging. Once completed, he loaded the door on top of a 19-cubic foot rocker bottom car and then proceeded to push the car with the door unsecured on top of it into the mine with a one-and-one-half ton air trammer. The clearance between timbers for the door at this height was at the most 11 inches on each side.

The car had advanced four sets beyond the portal when the door apparently slipped and caught against the drift timber and crushed the lead miner in the chest between the door and the air supply tank. He then managed to somehow leave the motor and get back out of the mine where the nipper observed him lying down outside the portal.

The nipper realized the victim was seriously injured and went into the mine to get aid. When they returned, they found the victim still on his back and turning blue. They proceeded to give the victim artificial respiration to no avail.

SAFETY IS EVERYBODY'S BUSINESS

(For use in underground metal and nonmetal mines)

Cause of the Accident: A number of relevant facts concerning the fatality made it difficult to separate the apparent cause of the fatality and the cause of the accident. The following conditions and practices caused this fatality:

1. Employing an unsafe method to transport the magazine door into the mine.
2. The air trammer brakes were not working properly in the direction of travel that the victim was headed,
3. Employees at this company were not sufficiently indoctrinated in safety rules and safe work practices,
4. Lack of a definite, effective, and continually functioning safety program for this mine.

Recommendations:

1. Equipment operating speeds shall be consistent with conditions of roadways, grades, clearance, visibility, traffic and type of equipment used.
2. Equipment which is to be hauled shall be loaded and protected so as to prevent sliding or spillage.
3. Equipment defects affecting safety shall be corrected before the equipment is used.
4. The employer should establish a definite, effective, and continually functioning safety program and make every attempt to prevent accidents and increase safety. Employees should actively participate in the safety program.



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HOLMES SAFETY ASSOCIATION MONTHLY SAFETY TOPIC

Excerpts from Code of Federal Regulations

Subchapter N--Metal and Nonmetal Mine Safety

Part 55.6--Sensitized Ammonium Nitrate Blasting Agents

All of the standards are mandatory; violation of a standard will subject the mine operator to an order or notice of violation as required by Section 8 of the Act.

55.6-190 through 55.6-192 (Reserved).

55.6-193 Mandatory. Where pneumatic loading is employed, before any type of blasting operation using blasting agents is put into effect, an evaluation of the potential hazard of static electricity shall be made. Adequate steps, including the grounding and bonding of the conductive parts of pneumatic loading equipment, shall be taken to eliminate the hazard of static electricity before blasting agent use is commenced.

55.6-194 Mandatory. Pneumatic loading equipment shall not be grounded to waterlines, air lines, rails, or the permanent electrical grounding systems.

55.6-195 Mandatory. Hoses used in connection with pneumatic loading machines shall be of the semiconductive type, having a total resistance low enough to permit the dissipation of static electricity and high enough to limit the flow of stray electric currents to a safe level. Wire-countered hose shall not be used because of the potential hazard from stray electric currents.

55.6-196 and 55.6-197 (Reserved).

55.6-198 Mandatory. Plastic tubes shall not be used as hole liners if blasting agents are loaded pneumatically into holes containing an electric detonator.

55.6-199 (Reserved).

55.6-200 Mandatory. Vehicles used to transport blasting agents shall have substantially constructed bodies, no zinc or copper exposed in the cargo space and shall be freely vented. Blasting agents shall not be piled

SAFETY IS EVERYBODY'S BUSINESS

(For use in surface metal and nonmetal mines)

higher than the side or end enclosures of open-body vehicles. If an enclosed screw conveyor is used to discharge blasting agents from the vehicle the conveyor shall be protected against excessive internal pressure and excessive frictional heat.

55.6-201 through 55.6-249 (Reserved).

Miscellaneous

55.6-250 Mandatory. Smoking and open flames, except for the use of suitable devices for igniting safety fuse or the use of approved heating devices, shall not be permitted within 50 feet as measured by the line of sight of explosives, blasting agents, or detonators, or within 25 feet when out of line of sight and separated by permanent noncombustible barriers in underground active workings.



January 1981

HOLMES SAFETY ASSOCIATION MONTHLY SAFETY TOPIC

On-The-Job Hazards

Falling and Moving Objects

Let's start out the new year by focusing in on things that can strike you and cause injury. One out of seven workers injured on the job gets hit by something moving or falling. That something can be as big as a heavy crane load or it can be as small as a chip from a chisel. Regardless of what the object may be that hits you, it can be trouble.

There are several ways to help reduce the possibility of this type of accident. Remember to stay out from under cranes, overhead work, and suspended loads. Also, stay out of the way of moving loads, trucks, and people using tools.

To further protect you from this type of injury, many protective devices have been perfected. Let's take a look at each of these.

Head Protection--hard hats and bump caps offer protection against falling objects and bumps against obstructions. Turtles have survived through the ages protected from life's knocks by their hard shells. So, take a tip from the turtle and protect yourself with a shell - wear your hard hat on the job.

Foot Protection--safety shoes have a hidden steel cap to protect your toes from crushing injuries. Many of your coworkers can testify that the safety shoe has saved them from severe injury. If you are in an area where injuries may happen to your foot above the toe, use the shoes with a built-in metatarsal guard.

Eye Protection--eye protection keeps flying material from blinding you. Each eye accident is a potential loss of sight. The ability to see is one of the greatest gifts we have. Don't take a chance on losing it by not wearing your eye protection.

Noise

Probably the most well used of our senses, other than our sight, is that of hearing. It is unfortunate, but it also is one of the senses that is mostly taken for granted. Take a little time and think about how important your hearing can be.

SAFETY IS EVERYBODY'S BUSINESS

(For use in all mining operations)

If you like to fish, do you enjoy the sound of the water rushing by? How about the sound of the meadowlarks in the fields on a summer morning? Do you enjoy listening to a stereo while sitting in your living room or driving down the road in your car? What would it be like not to be able to hear the laughter of your children as they play or to hear their cries when they are hurt? We all like to think it will never happen to us, but the sad story is, it can and does happen.

Anytime you find yourself in an area where you have to raise your voice to be heard, there is a need for hearing protection. There are a lot of different types of ear protection available. One of them will do the job for you. More importantly, have your hearing checked every year. To have a good test, your ears should not have been subjected to loud sounds for at least 14 hours. It only takes 10 minutes for the test and it can help you.

For example, there was a person who for over 20 years had a hearing problem that was thought to be uncorrectable. In taking the hearing tests at the plant where he worked, he was advised to see a competent ear doctor. He did and with an operation that only lasted less than 30 minutes he now has normal hearing. Imagine, twenty years without proper hearing for no reason. So, have your hearing tested soon. But most of all, when you are on the job wear your hearing protection. It's your hearing and only you can take care of it.

You and Your Eyes

This is probably one of the most critical areas of injury on the job and yet, is one of the most neglected. Most of us probably say that we have never had any eye injuries except for maybe a little dust in an eye once in awhile or a little splash of solution of some kind. Did you know that under the right conditions you can lose the sight of your eyes from just a little thing like dust in your eyes? A sharp particle can create an infection in the eye and the sight can be eventually lost. Are your eyes really important to you? That is a question that you will have to answer for yourself. Stop and think for just a minute. What would it be like to sit down at the table for dinner and not be able to see the food or your family sitting there? How about your favorite television show or that movie you really enjoyed?

I know what you are thinking. It will never happen to me. I'm careful. I don't take silly chances. I'd never gamble on losing my eye sight. Nevertheless, every time that you start to work

without using eye protection, you are doing just exactly that-- gambling that your name will not be added to the already 500,000 legally blind in the United States today.

So, think about it seriously. Don't you think there are good reasons to wear eye protection on the job every minute of the day? I won't say that you won't be inconvenienced by wearing glasses, goggles, or face shields. There will be times when they will be bothersome, but I think it would be better to be bothered a little than not to be able to see.

There are all kinds of good eye protection equipment available and there are new items coming on the market all the time. Think about it the next time you see someone without their eye protection or wearing a face shield just barely tipped down on their eyes. Like they say: "A glass eye may look good, but you can't see anything with it."



January 1981

HOLMES SAFETY ASSOCIATION MONTHLY SAFETY TOPIC

January

More than 150 years before the Christian era, January was the first month of the year in the Roman Calendar. It was named from Janus, the "two-faced" god who in Roman mythology presided over the beginning of things, and was the door-keeper (janitor) of Heaven. The so-called temple of Janus which was simply a gateway in the Roman Forum, was open in war and closed in peace.

During the middle ages, the year began at various dates in different times and places. In England, it was not until 1751 that January was restored to its place as first month.

Our anticipation and hopes again are exalted that with the beginning of the new year a perfect safety record may be established for 1981. This task can be realized only by a more intensified effort than practiced in the past. We know what to do, so let us put forth the extra effort to establish this goal.

Random Thoughts for the New Year

Cherish your friends...without them you would be a stranger.

Doing nothing is the most tiresome job in the world because you can't quit and rest.

Be careful of your thoughts. They may break into words at any time.

You can't push yourself ahead by patting yourself on the back.

Those who try to do something and fail are much better than those who try to do nothing and succeed.

Heads Up

It's not the wrench that slips
and strikes,
Or the circuit you thought
was dead;
It's not the machine that grabs
your hand,
Or the stairs with the slippery
tread;
It's not the hole that you fell
into,
So please don't be misled;
The thing that causes the
accident,
Is YOU not using your head.

People come in three classes;
the few who make things happen,
the many who watch things happen,
and the majority who have little
or no idea what happened.

Safety Is A Lifetime Job

Safety is a lifetime job. With care and thoughtfulness every day we can build up an impressive number of days without an accident. The numerous recipients of the 40-year awards have proven that it can be done.

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HOLMES SAFETY ASSOCIATION



"IT GETS RESULTS"

POSTAGE AND FEES PAID
U.S. Department of Labor

LAB 441

MSHA, Office of Holmes
Safety Association
Education and Training
P.O. Box 25367
Denver, Colorado 80225



HOLMES SAFETY ASSOCIATION
MEETING REPORT FORM

For the month of _____

TOTAL meetings held this month _____

TOTAL attendance this month _____

Chapter Number _____ (See address label, if incorrect, please indicate change.)

(Telephone No.)

(Signature)

(Title)

FILL OUT - FOLD AND STAPLE - FREE MAIL-IN

NOTE: BE SURE OUR ADDRESS SHOWS

For uninterrupted delivery, please include any change of address
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