

# ABM Enterprises NJ, Inc

## Project Site Safety Meeting Log Volume I

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<b>Electrical</b>		<b>Hazardous (Continued)</b>	
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# **Project Site Safety Meetings**

## **Volume I**

**ABM Enterprises NJ, Inc**

# **ELECTRICAL**

# ABM Enterprises NJ, Inc

## SAFETY MEETING

Note: Our company conducts scheduled safety meetings to focus attention on one major safety topic per meeting. Should an employee have a question on any subject related to safety or job procedure, it will be addressed by the person conducting the meeting.

## EXTENSION CORDS

Extension cords are not a substitute for permanent wiring and, if not needed, it is better not to use them. However, on job sites extension cords are often required and the following safety precautions must be adhered to:

- a. Inspect the cord for cracks and cuts. Worn or frayed cords will not be used.
- b. Make sure the extension cord has a ground (three prong plug). Proper grounding helps to protect against shock, fire, and lightning. Use of a ground fault circuit interrupter will insure the integrity of the ground. If you must use a two prong outlet, connect the male end of the extension cord to a "3-wire to 2- wire" adapter. Make sure the ground wire on the adapter is attached to a ground. Never break off the grounding prong to fit a two (2) hole outlet.
- c. Use the shortest continuous length of cord possible. For example, one (1) 50' cord will be used in lieu of two (2) 25' cords. Cords will not be spliced together.
- d. Make certain the cord does not lay in water.
- e. Make sure the cord is properly rated for the job. Buy only extension cords which bear the UL (Underwriters' Laboratories, Inc.) label. Without a UL approval, there is no assurance of safety. If you make your own extension cords, again, use only UL approved components.
- f. Cords will be secured and out of the traffic flow to prevent tripping and/or damage to the cord. Extension cords will not be fastened with staples, hung from nails, or suspended by wire.
- g. Extension cords shall be at least the gauge of the device to which they are connected. Should a 14-gauge cord (rated for 9-14 amps and 1,080-1,680 watts) be connected to a device requiring a 10-gauge cord (20-amps and 2400 watts), the cord may overheat and even catch fire yet not trip the fuse or circuit breaker. Fuses and circuit breakers are designed to protect the permanent wiring.
- h. Extension cords are to never be used for purposes other than that for which they were designed. They are not tow ropes.
- i. Extension cords should be disconnected by pulling on the male and female ends, not by yanking out of the socket by pulling on the cord itself.

Extension cords are used all the time on job sites -- use them with care!

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### GROUND FAULT PROTECTION

If you are working on a job site with a properly insulated electrically powered hand tool that has a three 3 prong plug attached to the power source, what is the point of a Ground Fault Circuit Interrupter GFCI? After all, proper insulation and grounding are recognized methods of preventing injury during electrical equipment operation. Furthermore, doesn't the circuit breaker trip or fuse blow before any injury can occur? The answer is no! GFCI's are required by all 120-volt, 15-, 20-, and 30-ampere receptacle outlets that are not a part of the permanent wiring of a building. GFCI's provide employee safety by detecting lost current resulting from a short, overheating, and/or ground fault and "tripping" or cutting off the current. Because extension cords into which electrical devices are plugged are not part of the permanent wiring, they require GFCI's.

A GFCI will "trip" when the amount of current amperes going to an electrical device in the hot conductor and the amount of current returning from an electrical device differs by approximately 5 milliamps. The current that is missing is being lost through a ground fault, whether it is in the actual grounding or a short in the equipment or electricity going through the worker to the ground. The GFCI can interrupt the current within as little as 1/40th of a second.

A milliampere is one thousandth of an ampere and the effects of electric current on the human body are as follows:

1 milliamp	A faint tingle.
5 milliamps	Slight shock felt; disturbing, not painful. Average individual can let go. Involuntary reactions can lead to injury.
6-30 milliamps	Painful shock; muscular control lost. The point where it is difficult, or impossible, to let go.
50-150 milliamps	Extreme pain; respiratory arrest; severe muscular contractions; cannot let go; possible death.

A GFCI **will not** protect an employee who comes in contact with two hot wires or a hot wire and a neutral wire. A GFCI **will** provide protection against fires, overheating, damage to insulation, and, the most common form of electrical shock hazard -- the ground fault. Always **test** a GFCI before use.

A safety note: Ohm's law states that Amperes = Volts ÷ Ohms. If resistance is increased and the voltage remains the same, the amperes current will decrease. This relationship between "resistance" (such as rubber gloves, rubber boots, insulators, insulation on electrical cords) and the flow of current (Amperes) indicates that properly grounded electrical devices will accept the flow of current as opposed to your body. Should a fellow employee be in contact with a live electrical source, disconnect the power source, trip the fuse, or unplug the electrical cord before touching him/her.

# EQUIPMENT

# ABM Enterprises NJ, Inc

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## CRANES

Cranes, as all pieces of heavy equipment, if not properly operated, inspected and maintained, have a potential of causing major bodily injury or property damage. Care must be taken in all facets of crane operation.

Not only do cranes require a thorough annual inspection (a record of the dates and results of these inspections must be maintained), they require inspection prior to each use and even during use by a competent person.

All rated load capacities, recommended operating speeds, special hazard warnings or instructions must be readily visible to the operator of the crane.

While cranes easily have the lifting ability to hoist employees on a personnel platform, this is absolutely prohibited except in very special cases, i.e., when the erection, use, and dismantling of conventional means of reaching the worksite, such as a personnel hoist, ladder, stairway, aerial lift, elevating work platform or scaffold, would be more hazardous or is not possible because of structural design or worksite conditions.

Dangers associated with cranes include numerous moving parts. These dangers can be minimized or eliminated through ensuring that all guards are in place and not tampered with.

Care must be taken to ensure that areas within the swing radius of the rear of the rotating superstructure of the crane be barricaded to prevent a person from being struck or crushed.

It almost goes without saying that all employees must keep clear of loads that are about to be lifted as well as suspended loads.

Hand signals used to guide the crane operator will be consistent with the ANSI standard for the type of crane in use and an illustration of the signals must be posted at the job site.

Care must be taken while actually operating the crane in hoisting applications as well as when relocating the crane superstructure.

If you are not directly involved with crane operations, keep clear!

Keep in mind that a mistake around an active crane could be your last -- stay alert!

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### HAND & PORTABLE POWERED TOOLS

Hand tools make your work easier. In fact, without hand tools, most jobs could not be accomplished at all. They are an extension of your body and they are absolutely vital on the job site.

However, even the most simple of hand tools, when not properly maintained or when used improperly can cause injury.

When using hand tools, select the right tool for the job and when you are finished using the tool, store it in its proper place having assured yourself it is "fit" for continued use.

Hand tools shall be used only for the purpose for which they are designed. For example, do not use a wrench as a hammer or a screwdriver as a chisel.

Hand tools should be inspected before use and damaged tools repaired, tagged out of service, or discarded. Tools should be kept clean and, where appropriate, oiled. Cutting tools will be kept sharp and will be sheathed when not in use. Proper personal protective equipment will be used when appropriate -- for example when using a striking tool such as a chisel, safety glasses or goggles will be used.

Portable electric 110V power tools should be grounded and, if appropriate, guarded. If not using permanent wiring or if using an extension cord on the job site, a ground fault circuit interrupters (GFCI) must be used.

On a job site, there is the possibility of seeing or using many types of portable power tools such as circular, saber, scroll, and jig saws, hand held drills, grinders, belt and vibrating sanders, fasteners and a variety of compressed air tools. Each tool item has its own special safety features and proper procedures for use. Each tool has the potential for causing serious injury if not properly used. It is good idea to keep the owner's manual with the power tool for ready reference.

Portable powered hand tools require specific personal protective equipment such as safety glasses or goggles, gloves, or ear protection.

Safety around portable powered hand tools extends beyond the operator and the specific tool. Care must be taken to avoid injury to others. By the same token, you should keep clear of persons operating these tools. Remember, a piece of debris may strike your eye, for example, even if you are not operating the tool. Stay clear.

If you are unfamiliar with the proper procedure for using, maintaining, or inspecting any tool, ask your supervisor for instruction.

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### LADDERS

How easy it is to overlook ladder safety. After all, who hasn't used a ladder? All persons using ladders are required to receive training and understand proper procedures for ladder use before using a ladder on the job site.

All ladders will meet the applicable national consensus standards. ANSI and NIOSH approval labels should never be covered with paint or tape. Having ladders that are constructed to standard will prevent collapse and resultant falls.

Some important operational procedures for ladders are listed below:

- a. Ladders will never be overloaded.
- b. Ladders will not be tied or fastened together unless they are so designed.
- c. Portable ladders used for gaining access to an upper level will extend at least 3 feet above the upper landing surface; or the ladder will be secured at its top.
- d. Ladders must be free of oil, grease, or other slipping hazards.
- e. Ladders shall only be used for the purpose for which they are designed.
- f. Non-self supporting ladders will be used at an angle that the horizontal distance from the top support to the foot of the ladder is approximately  $\frac{1}{4}$  of the working length of the ladder.
- g. Ladders will only be used on stable and level surfaces unless secured to prevent displacement.
- h. Ladders shall not be used on slippery surfaces unless secured or provided with slip-resistant feet to prevent accidental displacement.
- i. Ladders placed in any location where they can be displaced by workplace activities or traffic will be secured to prevent accidental displacement; or a barricade will be used to keep the activities or traffic away from the ladder.
- j. The area around the top and bottom of the ladder shall be kept clear.
- k. Portable ladders with structural defects will be immediately marked in a manner that readily identifies them as defective and removed from service until repaired.
- l. When going up or down a ladder, face the ladder and use at least one hand.
- m. Do not to carry any object that could cause loss of balance and a resultant fall.

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## PILE DRIVING

The most common use of piles is to transfer the weight of a load to a depth where it can be supported (point resistance). This is generally accomplished by either driving a bearing pile through poor material into a stratum of good bearing capacity or driving a friction pile deep into a stratum of limited supporting ability and the friction on the side of the pile provides the carrying capacity (skin resistance). Often the load capacity of piles is the result of both point resistance and skin resistance.

Pile driving is a very complex, technical procedure that requires the expertise of engineers, pile and pile driving equipment manufacturers, and operators. Personnel involved with pile driving know their specific job duties and it would be impossible to even scratch the surface of the complexities of pile driving in a short safety meeting. However, there are some basic safety rules that are found in 29 CFR 1926.603, *Pile Driving Equipment*.

- a. Overhead protection must be provided that is the equivalent of 2-inch planking and this protection must not obscure the vision of the operator.
- b. Stop blocks must be provided for the leads to prevent the hammer from being raised against the head block.
- c. A blocking device, capable of safely supporting the weight of the hammer, must be provided for placement in the leads under the hammer at all times while employees are working under the hammer.
- d. Guards must be provided across the top of the head block to prevent the cable from jumping out of the sheaves.
- e. When the leads must be inclined in the driving of batter piles, provisions must be made to stabilize the leads.
- f. Fixed leads must be provided with ladder, and adequate rings, or similar attachment points, so that the loft worker may engage his safety belt lanyard to the leads. If the leads are provided with loft platforms, the platforms must be protected by guardrails.
- g. Guys, outriggers, thrustouts, or counterbalances must be provided as necessary to maintain the stability of pile driver rigs.
- h. Engineers and winchmen shall accept signals only from the designated signalmen.
- l. All employees must be kept clear when piling is being hoisted into the leads.
- j. Steam line controls shall consist of two shutoff valves, one of which must be a quick-acting lever type within easy reach of the hammer operator.
- k. Safety chains, or equivalent means, must be provided for each hose connection to prevent the line from thrashing around in case the coupling becomes disconnected.

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## SCAFFOLDING

Scaffolding, by definition, is a temporary structure. Because scaffolding must support people and equipment at a raised elevation, certain precautions must be taken to protect the persons actually using the scaffold as well as those erecting and dismantling the scaffold and those on the ground near the scaffold. Failure to follow basic safety rules can lead to serious injury and/or death. Properly used, scaffolding provides an enormous benefit to job accomplishment. Improperly used, scaffolding can be deadly. All scaffolding shall be erected, moved, dismantled or altered under the supervision of a competent (by training or experience) person. Before using scaffolds, you must receive training that addresses the hazards associated with scaffold use, specifically:

- a. Electrical hazards.
- b. Fall hazards.
- c. Falling object hazards.

Additionally, prior to any scaffold use, you must receive training that explains:

- a. The correct procedures for dealing with the above hazards.
- b. The proper use of scaffolds and the proper handling of materials on the scaffold.
- c. The maximum intended load and the load-carrying capacities of the individual scaffolds being used.
- d. The availability of OSHA standards pertaining to scaffold use.

When working under a scaffold, hard hats are required, and, when working on a scaffold more than ten (10) feet above a lower level, fall protection must be provided. Guardrails and/or a personal fall arrest system are the most common types of fall protection, however, certain special types of scaffolds may require a unique type of fall protection such as a grabline. Fall **prevention** is equally important as fall **protection**. Accumulated debris, ice, high winds, overloading, improper erection, extending one's reach by standing on boxes or loose ladders, etc., all contribute to the strong possibility of falling.

Within the broad categories of suspended and supported scaffolds, there are many specific types of scaffolds -- each with its own limitations and special characteristics. Further, each job site has its own unique ground composition on which a supported scaffold is erected or unique attachment points for suspended scaffolds. Prior to using any scaffold, you will be instructed on any unusual or unique item of instruction that must be known about a specific circumstance. Of course, you are encouraged to ask your supervisor if you have any questions or concerns about the scaffold system you are using on a particular job site.

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## WELDING

Only authorized and trained personnel are permitted to use welding, cutting, and/or brazing equipment and those persons will use appropriate personal protective equipment.

Extreme care must be taken when welding containers such as tanks or drums. They must be thoroughly cleaned to eliminate the possibility of explosion or the release of toxic vapors.

An appropriate fire extinguisher will be readily available for immediate use. A fire watch will be assigned when there is potential a fire might develop. When welding, cutting, or brazing near a fire hazard and the fire hazard cannot be isolated, shields will be used to confine the sparks, heat, and slag.

The welding operator will insure there is adequate ventilation where he is working.

All cylinders of compressed gas will:

- a. Have valve protectors in place when not in use or connected for use.
- b. Be legibly marked to identify the gas contained therein.
- c. Will have the valves closed before the cylinder is moved; when the cylinder is empty; and at the completion of each job.
- d. Will be stored in areas that are free from intense heat, electric arcs, and high temperature lines.
- e. Will be securely chained when in a portable dolly; in storage; or in transportation from tipping, falling, rolling, and damage from passing or falling objects.
- f. Will be marked: "EMPTY", when appropriate.
- g. Will be used only for the purpose for which they are designed. For example, cylinders will not be used as rollers or supports.
- h. Will be kept away from stairs.

All cylinders, cylinder valves, couplings, regulators, hoses and apparatus will be kept free of oily or greasy substances.

Welding is a special skill. If you are working around welding operations use caution with emphasis on eye protection and hot projectile protection.

# **GENERAL SAFETY**

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## SAFETY MEETING

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## ACCIDENT INVESTIGATION

Job site accidents do not happen in a vacuum. There is a reason, or more accurately **reasons**, for every accident. The five (5) W's must be answered by the accident investigator: Who; What; Why; When; and Where. The purpose of Accident Investigation is to prevent the same type of accident from reoccurring.

Apparently simple accidents may actually be caused by many complex and overlapping reasons. For example, a worker accidentally drops a hammer from a ladder and it strikes a co-worker who is holding (securing) the ladder. The co-worker is not wearing a hard hat. Certainly, the initial finding would blame the co-worker for not wearing a hard hat. Case closed. Wrong!

In the above scenario, why was the co-worker not wearing a hard hat? Were they available? Was it company policy to wear hard hats? Was this policy enforced? Had this violation of safety procedure been overlooked by supervisors to the point where it became standard operating procedure? Were shortcuts taken because someone put a higher premium on production than on safety? Why did the hammer fall in the first place? Did the hammer have a proper grip or was it extremely cold and the worker had no gloves? If so, were warm, non-slip gloves available? Could engineering controls (a net) or changes in procedure be devised to prevent the reoccurrence of this accident and like accidents? (Objects falling from above.)

To get the answer to these and other questions, as soon as possible, statements should be taken from all witnesses to an accident. All relevant factors should be considered. Was the accident preventable by a change in work methods? (Physically securing the ladder.) Was the accident preventable through redesign of the hammer? (A non-slip handle.) Was the accident preventable by increased safety training? (Emphasis on the reasons for, and the requirement to, wear hard hats.) Was the accident preventable through stronger management supervision? (Not letting slipshod safety practices become standard operating procedures.)

The primary focus of an accident investigation, after gathering all the facts, is to determine how to prevent the accident from reoccurring. It is not to find fault with any particular individual. However, the results of an accident investigation may indicate that additional safety training is necessary.

It is easy to overlook near-miss accidents (a hammer drops and no one is hit) or minor accidents such as a worker falling off a ladder and not getting hurt at all. This is a mistake because near-miss and minor accidents have the same causes as serious accidents and each time they reoccur, it is just a matter of luck whether or not an injury develops.

# **ABM Enterprises NJ, Inc**

## **SAFETY MEETING**

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## **ACCIDENT PREVENTION**

How can we prevent accidents on the job site? First and foremost, there must be a commitment to safety from both management and employees. Part of management's commitment to safety is to assess and reassess the job site environment to determine what hazards exist and what training, engineering controls, job procedures, and/or personal protective equipment is required to eliminate the hazards.

These scheduled Safety Meetings are designed to keep all of us thinking about safety concepts in general as well as focus on specific topics that are applicable on the job site. You must think in terms of safety at all times because one lax moment can cause a lifetime of pain, suffering, or even death to yourself or a co-worker.

Do not take chances or attempt any job you are not trained to do. Understand what risks are involved and what methods are appropriate for eliminating the risks. Knowledge is your first line of defense in accident prevention. Are you aware of labels and Material Safety Data Sheets? Do you know where to find them? Do you use the appropriate personal protective equipment? Does it fit properly? Are you aware of the dangers of falling from any height? Do you know how to prevent falls? Do you know how to eliminate fire hazards? Do you know where the fire extinguishers are and how to use them? Do you check ladders, extension cords, and equipment before using? Do you know what to do if they are faulty? This line of questioning could go on and on, but, it boils down to this: do you know how to perform your job in a safe manner and do you know where to find the answers to your safety related questions?

If you have questions, ask! If you are unsure of a procedure, ask!

Do not be lulled into complacency. Because an accident does not happen when an unsafe act is committed does not mean an accident will not happen in the future. In fact, over time, disregard for safety rules will lead to an accident -- its almost a sure bet!

Basically, one must always be alert and aware.

Safety rules and procedures are generally easy to understand. Why are they repeated over and over? The answer is simple. Accidents on the job site can be prevented only if all persons think and act in terms of "safety" all the time. During our Safety Meetings, a specific safety subject will be covered in depth. However, should any employee have a safety concern about any subject, this will be addressed immediately. If the answer to a specific question is not known, it will be researched and the answer given to all employees as soon as possible.

Remember: Think Safety!

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## BACK INJURIES

Occupational back injuries are generally caused by falling or improper lifting such as lifting an object that is too heavy and/or bulky; not having a good grip; and/or improper bending or twisting. If you cannot comfortably lift an item, get help!

If your spine were perfectly straight, which it isn't, and the object you were carrying were placed on your head, the weight on your lower spine would be the weight of your upper body plus the weight of the object. The load on your back increases at a tremendous rate the farther out from your spine the object is carried due to mechanical disadvantage. Keep objects as close to you as you can when lifting them. Lift with your legs, not your back.

Take shorter strides when carrying loads to lessen the strain on your muscles and back. To increase your stability and balance, your feet should be at a wider stance than normal, approximately the width of your shoulders.

Wear proper footwear for maximum traction. Be aware of the condition of the surface on which you are walking. Ice, mud and damp surfaces are slippery.

Types of accidents that can lead to back injury include:

1. slips, trips, and falls (the most common of accidents and preventable by close attention to your surroundings and maintaining a clear line of sight). Slips, trips, and falls can be prevented by something as simple as seeing where you are going. Maintain a clear line of sight when carrying an object.
2. falling from height on a job site.
  - a. employees on a walking/working surface with an unprotected side or edge which is 6 feet or more above a lower level must be protected from falling by using a guardrail system, a safety net system, or a personal fall arrest system.
  - b. employees on a scaffold more than 10 feet above a lower level must be protected from falling by the use of a guardrail system and/or personal fall arrest system (depending of type of scaffold being used.)
3. vehicular accidents (wearing a seat belt/shoulder harness will greatly reduce the likelihood of injury).

There isn't one type of fall or accident noted above that can't be prevented through exercising care, good judgment, and foresight.

Should a back injury occur, particularly as a result of fall or accident, be aware of these symptoms: pain, tingling, numbness, or inability to move arms or legs. Should these symptoms occur, an ambulance should be called and the injured employee should **not be moved** unless there is a greater immediate life threatening hazard. If the injured employee must be moved, keep the head, neck and back together as a unit; avoid bending or twisting the body; and do not let the head fall forward or backward. Improper movement could injure the spinal cord and cause permanent paralysis.

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## EMERGENCY PROCEDURES

There are many types of emergencies that can occur on the job site -- fire, medical emergencies, natural disasters (primarily weather related), and man made disasters (chemical spills and utility failure). Each type of emergency requires a specific response.

Should an emergency situation develop, you should be aware of the proper procedures for being alerted and for alerting others. You should know your escape route from a building or outside work area. You should know what methods are to be employed to account for all personnel. All employees must know where available safety equipment is located and how to use it. Certainly, you must know the location of fire extinguishers, first aid kits, and the Material Safety Data Sheets.

Stay calm during any emergency!

The primary goal of our Emergency Procedures is the protection of all employees from harm. If harm occurs, the prompt application of proper medical care becomes the goal.

The protection of company equipment and property is second. People **always** come first.

Ask yourself these questions:

Do you know the location of job site first aid kits?

Do you know the proper evacuation route?

Do you know how to alert others of danger?

Do you know the chain of command?

Do you know your notification responsibilities, if any?

Do you know where to find emergency phone numbers?

Do you know where to find information on chemicals in the workplace?

Do you know where to meet after an evacuation of a job site?

These are just some of the questions to which the answers should be second nature.

If you don't know the answers to the above, ask! It could save your life.

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## ERGONOMICS

Ergonomics is a relatively new field which will have a greater and greater impact on our work environment as time goes on.

Ergonomics is a word derived from the Greek word *érgon* which means work. Ergonomics involves the design of tools, personal protective equipment, machinery, and even physical layout to reduce the amount repetitive motion, lessen vibration, and to lessen the strain on the muscles and skeletal system of the body. Ergonomics also involves redesigning the way tasks are performed. Ergonomics, properly employed, makes work easier and results in less injuries.

You may have noticed how much easier it is to see, reach, and grasp the various controls in newer automobiles compared with older vehicles. This is applied ergonomics. Obviously, there are trade-offs. A car which has a perfectly designed seat, for example, can not be low and sleek. The trade off is style and aerodynamic efficiency (fuel mileage) versus no back strain.

Who hasn't heard of Carpal Tunnel Syndrome which is caused by pressure being exerted on the median nerve at the wrist. While Carpal Tunnel Syndrome may apply mainly to typists and computer operators, the identification and reduction of this syndrome is an example of where applied ergonomics has made an impact. Ergonomics will affect the construction industry with improved tool design and work methods.

Tools are being redesigned to make them more user friendly and personal protective equipment is being used to provide back support, reduce wrist motions, and provide padding while kneeling.

Repetitive wrist motions should not exceed 30° of flexion or extension. A wrist restraint can keep your wrist from exceeding 30° extension. Vibration can be reduced to a minimum by machine design and something as simple as proper gloves. Your work environment should not have temperature extremes. Temperature extremes can be directly controlled by you without interfering with your work assignment. For example, protect yourself from extreme cold with proper clothing, gloves and ear protection. How about a back support belt when lifting heavy objects? Use proper lifting techniques, keeping the back straight and the weight of the object close to your body. Wear ear protection in the event of continuous loud background noise (this is actually an OSHA requirement). Good posture and exercise (to warm up and loosen muscles before starting work) can reduce the chance of developing cumulative trauma disorders.

Be aware of ergonomics and look for ways to improve job performance and cut down on repetitive motions. No one knows your job better than you do. You may have an idea for redesigning your tools, your work methods, and your safety equipment. If you have a suggestion, present it!

# ABM Enterprises NJ, Inc

## SAFETY MEETING

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## FIRE EXTINGUISHERS

Portable fire extinguishers are available on each job site. You should know their location and have an understanding of what types of fire extinguishers put out what types of fires. You should know how to operate each type of fire extinguisher on the job site **before** it may be needed. Instructions for proper use are printed on the extinguishers and should you have any questions, ask your supervisor. Extinguishers shall be routinely inspected.

Fire extinguishers will be serviced and certified by qualified personnel at least annually.

All fire extinguishers are identified by type of fire they will put out as noted below:

Types of Fire:

Class A: (Extinguisher has an "A" on a green triangle.)

Example: Wood, Paper, and Cloth.

Location: Within 75' of employees.

Class B: (Extinguisher has a "B" on a red square.)

Example: Combustible liquids, greases, flammable gasses.

Location: Within 50' of potential fire.

Class C: (Extinguisher has a "C" on a blue circle.)

Example: Electrical fires.

Location: Within 50' of potential fire.

Class D: (Extinguisher has a "D" on a yellow star.)

Example: Combustible metals such as potassium and magnesium.

Location: Within 75' of potential fire.

Not all fire extinguishers can put out all types of fire. In fact, using the wrong fire extinguisher on some fires can actually spread the fire. An example of this would be using a Type A extinguisher on an oil fire. An oil fire should be put out with a Type B extinguisher. Not only that, but using Type A extinguisher on an electrical fire (for example) could cause serious injury. An electrical fire should be put out with a fire extinguisher that has a "C" on a blue circle. Make sure the proper fire extinguisher is used for the type of fire you are dealing with.

Know routes of egress, whom to contact in the event of fire, where the fire extinguishers are located, and how to use them.

Finally, and most importantly, people are more important than property. If a fire cannot be easily controlled by fire extinguishers, get away! Warn others and get away! Call the Fire Department.

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## HAZARD ASSESSMENT

Determining and evaluating job site hazards that exist, or are likely to exist, is "hazard assessment" and it is the initial step in the selection process designed to protect our employees from possible eye, hand, foot, limb, or head injury through the use of appropriate personal protective equipment (PPE).

Impact; penetration; compression; chemical; heat; harmful dust; light radiation -- what do these items have in common? They are basic hazard categories which must be identified and their dangers negated through engineering controls and/or PPE selection. If feasible, engineering controls are preferable to PPE because they are passive and do not take active involvement by the affected employee.

If engineering controls are ruled out, PPE selection is made by analyzing and evaluating the type of risk, the level of risk, the potential for injury and the possible seriousness of that injury and matching those factors with PPE which is compatible with the risks and work situation.

Once hazard assessment and PPE selection have been made, all affected employees are informed of the proper PPE to be used during specific jobs on the job site.

Employees will be given training which explains:

- 1) When PPE is necessary
- 2) What PPE is necessary
- 3) How to properly put on, take off, adjust, and wear PPE
- 4) The limitations of the PPE
- 5) The proper care, maintenance, useful life and disposal of the PPE.

Should new hazards be introduced to the job site such as new equipment or procedures, additional PPE and training may be necessary.

Because PPE is required by virtue of an identified hazard that exists due to the physical layout of the job site, the specific work that must be accomplished on the job site, or the required method of accomplishing that job, the requirement for PPE will apply to all persons exposed to that hazard whether they be management, visitors, or employees.

The requirement for a PPE Program which would include hazard assessment and PPE selection; documented training; and the written certification of hazard assessment applies specifically to General Industry. However, there is nothing to preclude an employer whose operations are governed by the Construction standards from taking advantage of the many benefits of having a PPE Program which consolidates the various individual PPE requirements required of the Construction Industry and places them into one workable, comprehensive program.

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## HOUSEKEEPING

What in the world does good housekeeping have to do with working on a job site? Weren't you employed to accomplish certain tasks during your work shift and isn't that all that matters?

Housekeeping is not an additional duty -- it is part of your job. A clean and organized job site creates a positive image of our company to our clients. In addition to providing a more productive setting for work, housekeeping and general cleanliness have a direct effect on safety and health and therefore they are mandatory. Below listed are general housekeeping guidelines some of which, as a matter of interest, are actually required by OSHA standards:

- a. All floor surfaces shall be kept clean and dry.
- b. Tools shall be properly cleaned and put away after use.
- c. Work areas shall be kept clean and orderly.
- d. All stored materials will be neatly stacked.
- f. As far as practical, all work areas shall be kept neat and orderly.
- g. All containers, when not in use, will be sealed.
- h. All containers shall be properly labeled.
- i. No objects will be left unattended on stairways.
- j. Entrances and exits will be properly marked and shall not be blocked.
- k. Fire extinguishers will be readily accessible.

Housekeeping and general cleanliness are an indication of pride in yourself and your work. The results of good housekeeping and general cleanliness spill over into all areas of safety such as the reduction of fire hazards and the reduction of the likelihood of slips, trips, and falls (nationally, a major safety problem).

Everybody gains -- it is easier to find items and the possibility of accident is reduced while the work production is increased.

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## INCLEMENT WEATHER

One would have to have been living in a cave for the past year to not know the possible devastation of inclement weather. Year and year, hurricanes, tornadoes, and unending rain have struck parts of the United States causing death, destruction and misery.

Fortunately, for most areas of the country, with the exception of brief periods of high winds or an occasional thunderstorm, our weather is rather benign. However, what would you do if a blizzard or ice storm developed? How would you protect yourself in the event of a tornado? What about a driving rain storm? What precautions should you take in an electrical storm?

Use common sense during inclement weather. Stay indoors, if possible, stay off ladders and scaffolds. Stay away from wires and trees. Stay tuned to the radio for warnings and alerts, maintain a functioning flashlight with extra batteries, and, most of all, do not go out in inclement weather just to experience it -- that may be the worst decision of your life.

Just as a point of information, tornadoes contain the most violent winds on earth. They can exceed 200 MPH. Winds of this speed can drive a piece of straw into a tree, lift houses off their foundations, pick up automobiles, uproot trees, and tips over trucks. They certainly can lift a person up and toss him/her like a piece of paper. A tornado is very localized and can be several hundreds yards in diameter. Seek shelter in a storm cellar, basement, under a table on the side of the building from which the storm is approaching (tornadoes generally travel toward the Northeast), away from windows. If caught outside, lay flat in a ditch. This will help prevent you from being hit by flying debris.

An ice storm occurs when the temperature is just below freezing and falling rain freezes as it hits the below freezing temperatures of the ground, trees, roads, wires, and structures. A buildup of ice occurs. The dangers are not always obvious. First, because it is not particularly cold, there may be a tendency to ignore or not even notice the problem of slippery walking/working surfaces. Your boots offer absolutely no traction on smooth ice. Secondly, there is the problem of weight. The buildup of ice on ladders, scaffolds, roofs, wires and trees can cause breakage and the resultant damage and danger as they collapse.

A blizzard involves 35 MPH winds, heavy snow, temperatures to 10°F, and visibility of less than 500'. In a severe blizzard, temperatures are less than 10°F, winds are more than 45 MPH and visibility is zero. Dangers involve being stranded, lost, cold, loss of power, and so on.

Heavy rains and lightning each have their own hazards. Lightning tends to go toward the highest point so it is important to stay away from trees and tall objects. Lightning can strike a tree, travel across the ground and strike a person. Being on a scaffold or ladder when lightning is near is just plain foolish.

# **ABM Enterprises NJ, Inc**

## **SAFETY MEETING**

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### **JEWELRY, LONG HAIR & LOOSE CLOTHING**

Jewelry, particularly rings (hard and electrically conductive), can cause injury on the job site for two primary reasons: electrical or mechanical mishaps. Accidents involving jewelry are not commonplace occurrences and the results generally would not involve a fatality. However, burns, severe lacerations, and finger loss is quite possible.

Rings are often so hard that you could easily hang by a ring caught on something without damaging the ring. In this situation, assuming your finger is not pulled off, your body will automatically initiate an inflammatory response -- a painful swelling of your finger that will make the removal of the ring impossible without a jeweler's saw at the local hospital emergency room.

Should you inadvertently get a chemical on your hands, be sure to wash under the ring to prevent irritation and possible infection. Necklaces, if worn, on the job site should hang inside your shirt or blouse to prevent snagging and placing you in harm's way. Because it is a good conductor, metal jewelry can be particularly dangerous around electrical current.

Loose clothing and long hair can instantly suck part of your body into machinery with devastating results. Loose clothing can get caught on switches and levers and inadvertently start or stop a machine. Loose clothing can get caught on ladders or scaffolds, for example, causing a loss of balance and resultant fall. The problem with loose clothing catching on something isn't the force of the pull so much as the unexpected suddenness of the event -- you are caught off guard. Certainly you could easily yank your sleeve out of a machine in an effort to save your arm if you were prepared.

Long facial hair is expressly forbidden by OSHA standards when wearing a negative pressure respirator because it prevents a tight seal and thereby defeats the purpose of the respirator.

Long hair is more susceptible to fire from sparks and is a natural trap for contaminants (hazardous or not) in the air if it is not contained under a cap or hard hat. It is obviously more dangerous around open flame than shorter hair.

Sometimes it is the small details that actually prevent an accident. Anything you can do to lessen the possibility of having an accident is worth doing. Consider the risks involved with jewelry, long hair and loose clothing on the job site and take appropriate precautions.

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### MULTI-CONTRACTOR WORK SITES

Multi-Contractor Work Sites present special safety concerns that must be addressed by both management and employees.

At the management level, the major question is: "Who has overall responsibility for safety compliance on the total job site?" This question is answered in 29 CFR 1926.16, Rules of Construction, which basically states that the prime contractor is responsible for all compliance at the site while the subcontractors are responsible for complying with standards that are applicable to his employees specific work situations as well as additional standards to which he agreed to comply with in agreement between himself and the prime contractor.

Additionally, each subcontractor is responsible for sharing hazard information applicable to his operations and learning about the hazards that are created by other subcontractors particularly if those hazards may affect his employees. A classic example of this is the requirement in the Hazard Communication standard which deals with sharing chemical hazard information with others.

At the employee level, multi-contractor work sites often require an additional level of safety awareness due to increased activity, worker interaction, and traffic flow. It is important to remember that the four leading hazards found at multi-contractor work sites are:

1. Falls.
2. Being struck by something.
3. Being caught in or caught between something.
4. Electrical mishaps.

Multi-contractor work sites may also require a higher level of security for equipment with emphasis on safety equipment (PPE for example) and possible damage to job performance equipment such as ladders and scaffolds.

One advantage of having scheduled Safety Meetings is to have the opportunity to address some of the safety issues which may be applicable to a specific multi-contractor work site. Certain safety hazards or concerns may arise that are unique and all employees should feel free to raise any safety question at any safety meeting regardless of the scheduled topic. If the question can not be answered immediately, it will be researched and the answer will be provided not only to the person who asked the question, but all persons who attended the meeting.

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### PERSONAL PROTECTIVE EQUIPMENT (PPE)

You should not rely on personal protective equipment (PPE) alone to protect you from job site hazards. Exercising care and safe work practices while performing your job tasks is always your first line of defense from hazards.

The word “personal” in the phrase “personal protective equipment” correctly implies that the equipment is for a specific person. As such, sizing and fitting are important for a variety of reasons.

- a. **Function:** an improperly fitted piece of PPE may not do its job. For example, eye protection against dust must have an excellent face seal.
- b. **Comfort:** the likelihood of continued use is increased if the PPE selected is comfortably fitted. Example: gloves that fit poorly and, over time, make your hands hot and clammy are likely to be removed exposing you to the hazard for which the gloves were required in the first place.
- c. **Safety:** ill-fitting PPE may actually cause an accident. Example: loose hard hat may slip and block one’s vision.

Most PPE come in a variety of sizes and within those size groups adjustments may be made to affect a perfect fit. It is important to understand the procedures for donning, adjusting, using, and removing PPE. If you are required to use any type of PPE, you will be taught, before initial issue, the specific procedures for properly donning, adjusting, using, and removing the specific PPE. When available, the manufacturer’s instructions will be issued with the PPE.

In addition to sizing and fitting, you must understand:

- a. When to use your equipment.
- b. How to inspect it.
- c. How to clean it.
- d. The PPE limitations.
- e. How, if necessary, to dispose of it.

You will be informed of the PPE requirements on the job site. The actual PPE required is determined after data from a complete hazard assessment of the work area and work methods are analyzed.

It is absolutely vital that PPE identified as necessary is used because it may well prevent injury to your various body parts such as eyes, head, hands, feet, or limbs.

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## SAFETY PROGRAMS

In theory and actual practice, the manner in which safety is handled on our job sites should be consistent from one day to the next. Most important in any safety program is its effectiveness. Are physical hazards eliminated to the greatest extent possible? Are procedural hazards eliminated by proper work methods? Is there an appreciation of the importance of safety by all personnel, including management and workers? Are personnel trained to recognize unsafe situations, and either properly deal with them, or ask for guidance from a supervisor?

A safety program is more than just a list of rules. A safety program requires active employee involvement and management commitment.

Safety programs are not static. They change as new technologies are brought on line; as new hazards are introduced or discovered; as new directions are taken; as new procedures are developed; and as individual job assignments change and grow. Worksite analysis and hazard assessment point the way to what types of training are needed, what types of personal protective equipment are required, and what types of engineering controls can be implemented to limit occupational hazards.

The primary purpose of a safety program is to reduce and/or eliminate health risk and injuries.

In our organization, as in all organizations, our people are our most valuable asset. Your skills are needed and we certainly do not want you to suffer pain from injury or loss of income from disability. However, as a business, we can not be completely altruistic. A good safety program saves money, increases productivity, and improves quality of work.

The benefit to the individual who follows good safety practices is immediate -- no injuries. Unfortunately, there is no real way to tell what specific accident did **not** happen. However, accident rates do go down. The advantage to our organization is costs go down and profits go up. Increased profits benefit all of us in many ways, not the least of which is job security.

No reasonable person would expect anyone to know every safety rule or practice for every situation. However, it is reasonable, and expected, that you know the proper safety procedures for your specific job and that, if, thrust into a new situation, you know the need to learn the appropriate safety procedures before proceeding. If you don't know how to accomplish a task safely -- ask! It's that simple.

There is a safe way to accomplish every task. Do it the safe way!

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### SLIPS, TRIPS, AND FALLS

This Safety Meeting deals not with falling from height which is covered in the Fall Protection Safety Meeting. Here we are talking about plain, ordinary, run of the mill, it happens all the time, it's a fact of life, no big deal slips, trips, and falls. Not!

All slips, trips, and falls are potentially very serious and **all** slips, trips and falls are preventable through adherence to company safety policies, common sense, and awareness of potential dangers on the job site. The most common job site accident is actually the easiest to prevent.

On the job site:

Walk, don't run.

Maintain a clear line of vision particularly when carrying a large object.

Use hand rails.

Keep your work area clean of debris.

Wear the proper work shoes/boots and make sure they are laced or buckled.

Pay attention to what you are doing and be aware of what is going on around you.

Clean up spills -- liquids are slippery.

Firmly set your ladder and ensure the rungs are clean.

Never engage in horseplay.

Ensure you have adequate lighting.

The list can go on and on, but in the final analysis, it is up to you to prevent slips, trips, and falls.

If you reflect on the last time you tripped, slipped, or fell, you would probably conclude that it was preventable.

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## STAIRWAYS

The requirement for stairways is more common at job sites than you would imagine and the lack of stairways is an easy violation to spot. Stairways are often needed to gain entrance into job site office trailers as well as job site storage trailers. Further, on the job site, itself, stairways are often needed as part of the overall fall protection safety.

If the installation of temporary stairways is required on a job site, training will be provided to our employees concerning the proper construction, use, placement, of stairways. Employees will also be instructed on the requirements for handrails, mid-rails, and platforms. Properly constructed stairways are part of our effort to eliminate unnecessary falls.

A stairway must be provided at all personnel points of access where there is a break in elevation of 19 inches or more, and no ramp, runway, sloped embankment, ladder, or personnel hoist is provided. The key height is 19 inches.

Stairways must be of sturdy construction and the riser height and tread depth must be uniform within each flight of stairs. Temporary stairways must have a landing of at least 30 inches in the direction of travel and extend at least 22 inches in width for every 12 feet of vertical rise. Where doors or gates open directly on a stairway, a platform must be provided and the swing of the door or gate must not reduce the effective width of the platform to less than 20 inches. Stairways and platforms must be level and should have a non-slippery surface.

There must be no hazardous projections such as nails or splinters which could snag a person's hands or clothing.

The most common violation dealing with stairways has to do with the lack of handrails. Handrails must be between 30 and 37 inches from the upper surface of the handrail and the surface of the tread. Handrails must have at least a three (3) inch clearance and be capable of supporting without failure a downward and outward force of 200 pounds. Stairrails shall at least 36 inches from the upper surface of the stairrail system to the surface of the tread, in line with the face of the riser at the forward edge of the tread. Stairways having four or more risers or rising more than 30 inches must have at least one handrail. If there is a fall hazard of 6 feet or more along an exposed side of the stairway, then a guardrail system must be provided. This could include a handrail as the top of the guardrail system with midrails added.

The top and bottom of stairways, as well as platforms, must be kept clear of unattended objects.

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## **TRENCHES AND SHORING**

The general thrust of this safety meeting is for all workers involved in trenching operations to realize that there are specific rules and regulations designed, developed, and implemented for their safety. As always, safety is a prime concern.

A trench, by OSHA definition, is: "a narrow excavation (in relation to its length) made below the surface of the ground. In general, the depth is greater than the width, but the width of a trench (measured at the bottom) is not greater than 15 feet (4.6 m). If forms or other structures are installed or constructed in an excavation so as to reduce the dimension measured from the forms or structure to the side of the excavation to 15 feet (4.6 m) or less (measured at the bottom of the excavation), the excavation is also considered to be a trench."

Shoring, by OSHA definition, is: "a structure such as a metal hydraulic, mechanical or timber shoring system that support the sides of an excavation and which is designed to prevent cave-ins."

Prior to the digging of a trench, utility companies must be contacted to identify the location of sewer, telephone, electric, water lines, or any other underground installation that may be reasonably expected to be encountered.

For the safety of workers, trenches over four (4) feet deep will have a means of egress such as a stair, ramp or ladder. Measures will be taken to protect workers from falling loads, vehicular traffic, and dangerous atmospheres. In fact, if the atmosphere in a trench is dangerous or likely to be dangerous, testing will be done as often as needed and emergency rescue equipment will be available such as breathing apparatus, safety harness and line, or a basket stretcher.

Shoring is not required for trenches less than five (5) feet deep if an examination by a competent person determines the soil has no potential for a cave-in. In this situation, vertical sides are allowed.

Once a trench is over 20 feet deep, protective systems, which may include shoring, must be designed by a registered professional engineer.

The whole idea behind shoring is to protect workers from cave-ins. There are other methods of protection from cave-ins such as sloping or benching the adjacent ground according to specific criteria dependent on the soil conditions, weather, and adjacent structures. The total number of cave-in accidents is relatively small, however, when they do occur, they are generally very serious and are much more likely to be fatal than other types of accidents in the construction industry. The fatality rate for trenching work was estimated by OSHA to be 112 percent greater than the rate for construction in general.

**HAZARDOUS**

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## ASBESTOS

The purpose of this Safety Meeting is to provide awareness about asbestos. Surprisingly, on many job sites you are around asbestos and don't even know it. Asbestos can be found in older tile flooring, pipe and mechanical insulation, plaster, fireproofing, and roofing materials. Undisturbed, it is perfectly safe.

Asbestos is not a specific mineral, but rather a fibrous form of various minerals. It is a remarkable product because it is resistant to corrosive chemicals, it is a nonconductor of electricity, it has a high tensile strength (equal to that of steel wire), and is resistant to heat (it will not burn, but will disintegrate at extremely high temperatures). Some forms of asbestos, such as chrysotile, can be spun into thread. In fact, one pound of chrysotile can produce 30,000 feet of thread -- it is that fine. Other types of asbestos have fibers which can not be spun, but are excellent for their frictional properties (brakes) and their insulation and sound deadening properties. The actual minerals found in asbestos include iron, magnesium, silica, and water. A truly remarkable product which has been serving mankind since the ancient Greeks and Romans.

Unfortunately, asbestos has a down side that has been discovered and statistically documented in recent years -- it is hazardous to your health.

Workers who deal with asbestos on a regular basis are familiar with the OSHA standards which deal with asbestos. They are familiar with the exposure limits, the types of respiratory protection, the disposable clothing, medical surveillance programs, the containment procedures, the training programs, the certifications, the air monitoring, and so on. Workers who do not work with asbestos probably will fall into one of two groups: 1) those who read the papers and accept the scare headlines as total fact and have an unreasonable fear of asbestos, and 2) those who have no knowledge of asbestos and its dangers and could care less. The truth is, asbestos and the associated health hazards are something to be aware of and respect, they are not something to panic about.

Undisturbed, an asbestos product is perfectly safe. Asbestos found in floor tiles and mastic will not harm anyone. The problem with asbestos is the microscopic fibers which, when released, enter the deepest portion of the lung (past your natural defenses such as hairs, mucus, cilia, and macrophages). Scar tissues can develop and the lung stiffens thus reducing gas exchange. This is called asbestosis. Another disease associated with asbestos is lung cancer. High exposure levels of asbestos increases one's chance of lung cancer by a factor of five. Mesothelioma, a disease caused primarily by exposure to amosite and crocidolite, can be fatal.

The health hazards associated with asbestos are chronic and, as such, present themselves after a long period of time.

If you believe the materials you will be working with contain asbestos, do not disturb the material and contact your supervisor.

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### CHEMICAL SPILLS (GENERAL)

There are over 1,000,000 organic compounds alone. The total number of known and unknown chemical compounds can not even be imagined. Therefore, for obvious reasons, specific cleanup procedures for each chemical or chemical compound would be impossible to list in a short Safety Meeting. On the job site you must know, from individual training, labels, and Material Safety Data Sheets, the proper cleanup procedures for the chemicals (chemical products) with which you are working.

There are certain general themes which must be considered when a spill occurs. They include, but are not limited to:

- a. Should there be an immediate warning or evacuation of other employees?
- b. What are the acute and/or chronic health hazards?
- c. Will there be an undesirable reaction with other chemicals?
- d. Will protective clothing and safety equipment be required (including respirators)?
- e. Will explosive or poisonous vapors be produced? Is it possible for them to spread to an ignition source?
- f. How will contaminated clothing be properly disposed of?
- g. How will the cleaned-up chemical be properly disposed of?

The answers to the above questions must be known before there is a spill or accident and they should be second nature.

Most chemicals used on the job site have some undesirable health effects if inappropriate exposure occurs. Chemical products that get on your skin or in your eyes may cause damage if not properly dealt with. Both the label and the Material Safety Data Sheet will provide information for medical treatment and clean-up.

Even if a chemical were completely inert, as part of good housekeeping on the job site and to prevent additional accidents (such as slipping and falling), chemical spills should be cleaned up immediately.

When working with benign chemicals such as latex paint, for example, the immediacy is not as apparent (though messy and slippery conditions may result) as when working with stronger chemicals which are acids or strong bases. An awareness of the characteristics of vapors must be known -- flammable, reactive, or heavier than air. There are exposure limits for certain vapors which must not be exceeded.

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## CONFINED SPACE

You see a fellow worker unconscious in a confined space such as a tank, silo, pit, etc.. What do you do? Your first instinct may be to rush in and either give first aid or, at least, pull your co-worker out of danger. Wrong! In such a situation do not enter the confined space! Get help immediately. An emergency rescue is required. Rescue personnel must have, at the minimum, certification in first aid and CPR. They would bring to the scene the proper safety equipment to protect themselves and help insure a rescue.

### DANGER

#### PERMIT REQUIRED-CONFINED SPACE---AUTHORIZED ENTRANTS ONLY.

If you see the above warning sign on a job site, do not enter the designated confined space without proper training and authorization. In fact, if you see the above warning during permit entry work operations, you would not be able to enter the designated space because it would be sealed off, barricaded, or have a person at the entrance guarding against unauthorized entry. Why? Because permit required confined-space is extremely dangerous and requires special training and education before a worker is allowed to enter and requires special safety measures to protect the worker.

Exactly what is a confined space? A confined space, as its name implies, is a space which has limited access and is not designed for continuous occupancy. There are many confined spaces which do require special measures for working. However, a confined space which has one (1) or more of the below listed characteristics is a **permit-required** confined space:

- a. an actual or potential hazardous atmosphere.
- b. a material that has the potential of engulfing the entrant.
- c. an internal configuration that might cause an entrant to be trapped or asphyxiated by its shape.
- d. contains any serious safety or health hazard.

Be aware of the potential danger of any confined space. If you were to enter a confined space with an atmospheric oxygen concentration of 15%, you would not be able to come out. You might get in, but you would have a strong chance of dying. It's that simple! It's that tragic! 19.5% to 23.5% oxygen is the acceptable limit. Confined spaces are dangerous. One last note to think about -- some materials such as fluoride gas or cadmium vapor may produce transient effects which may pass without medical attention. Twelve to 72 hours later, you may collapse and die.

# ABM Enterprises NJ, Inc

## SAFETY MEETING

Note: Our company conducts scheduled safety meetings to focus attention on one major safety topic per meeting. Should an employee have a question on any subject related to safety or job procedure, it will be addressed by the person conducting the meeting.

### CONTROL OF HAZARDOUS ENERGY (Lockout/Tagout)

You would not work on a toaster, for example, without unplugging it from the wall. The danger of electrical shock is obvious. People who would practice essentially the "lockout/tagout" procedures at home often take chances at work doing basically the same thing.

It is not likely that you will, on the job site, be servicing fixed mechanical or electrical equipment (the major condition for the use of lockout/tagout procedures). However, it is likely that you will see lockout/tagout devices (locks and tags). You should have a general knowledge and awareness of what lockout/tagout is all about. Whenever anyone works on a piece of powered machinery or equipment, either mechanical or electrical, for servicing or maintenance it must be disconnected from its power source. Furthermore, stored energy must be released and there must be a method to prevent other people from reconnecting the power source while the item is being worked on.

Generally, the power source is physically "locked out". Under certain circumstances, the power may be tagged out. Both methods require standardized procedures and have specific requirements.

Unplugging a machine whose only source of energy is electricity and having control of the plug during maintenance does not require either lockout or tagout.

What is important for all employees to understand is that "lockout/tagout" procedures exist, the reasons for their existence, and, most importantly, to be aware that if there is a lockout or a tagout device in place on an energy-isolating device, it must be left alone and no attempt to operate the equipment should be made.

"Tagout" the least desirable method of energy isolation is not just the simple procedure of putting a tag on a fuse box. Tagout requires the attachment of a non reusable, attachable by hand, self locking, non releasable (at least 50 pounds of force to release) standardized tag. The color, shape or size as well as the print and format must be standardized.

OSHA estimates that adherence to the requirements of the Control of Hazardous Energy Lockout/Tagout will prevent about 122 fatalities a year.

In the construction industry, you should be aware of the lockout and tagout procedures in the facilities in which we work. Should a piece of machinery need to be locked out, it should be done by the company having responsibility for that machine using that company's procedures.

# **ABM Enterprises NJ, Inc**

## **SAFETY MEETING**

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## **FALL PROTECTION**

Mention "Fall Protection" and one can easily conjure up images of workers bravely risking life and limb 20 feet, 30 feet or higher above solid ground -- their safety guaranteed only by a few buckles, a lanyard and body harness. Of course, the above does not reflect the realities of fall protection. A properly implemented fall protection program limits the risk of falling from a walking/working surface six (6) feet or higher to a lower level by providing appropriate training in recognizing fall hazards and the using fall protection systems and equipment.

Fall hazards may exist at any given job site. In fact, falls are the leading hazard on job sites. Because all job sites are not the same and working conditions vary, OSHA has provisions within their standards allowing contractors to create a Fall Protection Plan for a specific site. This plan would then become part of our Fall Protection Program. It is important to note that a Fall Protection Plan can only be used when conventional systems provided within the standard (guardrail systems; personal fall arrest systems; safety net systems; positioning device systems; warning line systems; controlled access zones; and safety monitoring systems) are not feasible.

Fall protection also concerns the falling of objects from any height. The mandatory wearing of hard hats, toeboards on scaffolds, and controlled access zones aid in the protection of workers where falling objects present a potential hazard.

It is interesting to note that fall protection standards do not apply directly to ladders and scaffolds. Scaffolds and ladders have their own safety requirements which, when followed, prevent falls.

You must be aware that on multi-employer work sites, fall hazards (primarily falling objects) may be created by other employers. Stay out of controlled access zones and wear a hard hat at all times. Understand that when working at a height of six (6) feet or over, a fall protection system must be used.

Safety equipment such as harnesses, ropes, and lanyards used as personal fall protection devices must be used for no other purpose such as lifting materials.

It should be noted that effective January 1, 1998, body belts are not acceptable as part of a personal fall arrest system. However, they are acceptable as part of a positioning device system.

Falls from a height of six feet or more can result in very serious injury. Be aware of fall hazards and never work without fall protection if a fall hazard exists.

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## HAZARD COMMUNICATION

Hazard Communication is basically a worker's "right to know" program to ensure that all our employees who utilize chemicals on the job site are aware of their potential hazards. Furthermore, it is incumbent on us, as a company, to ensure that those with whom we work or with whom we come in contact be informed of chemical dangers associated with our work.

Awareness is the key to any Hazard Communication Plan. Each employee must be aware that most chemicals have a downside. While chemicals are crucial to accomplishing our jobs, there is a safety and health risk associated with improper use. There is always the possibility of spill or chemical escape and knowing the proper procedure for cleanup is vital. Some chemicals are susceptible to fire and/or explosion if not properly handled or stored. Many chemicals can cause acute or chronic health problems if inhaled, sprayed in the eyes, come in contact with skin, or ingested. Practically all chemicals have a danger associated with them if improperly used.

What exactly is a hazardous chemical/chemical mixture? OSHA defines a hazardous chemical as "any chemical which is a physical hazard or a health hazard." Our Hazard Communication Plan explains in detail how to recognize and avoid chemical hazards.

All chemical products used on our job sites will have labels and Material Safety Data Sheets (MSDS) which provide a wealth of information concerning health hazards of the product. On an MSDS, you will also find procedures for handling emergencies such as spills, leaks, fire, etc.. Information on exact chemical makeup and First Aid treatment is given. Proper storage and disposal is covered. The reactivity, if any, is noted. The list goes on and on, but the point is, a proper Hazard Communication Plan provides general and very specific information concerning chemicals and the hazards associated with them.

Furthermore, a proper Hazard Communication Plan provides some method of documenting training. For example, after initial training, employees must be given training when a new chemical hazard is introduced into the work place. This does not mean every time a chemical is introduced. There is a difference between a chemical hazard and a chemical.

A Hazard Communication Plan contains a list of all the chemicals used by the company and a compilation of all the MSDSs.

Understand the hazards associated with the chemicals you are using.

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### LEAD

The purpose of this Safety Meeting is merely to provide some interesting information about lead. Surprisingly, on many job sites you are around lead and don't even think about it. Lead can be found in older paint and piping systems. Undisturbed, it is perfectly safe.

Lead, like asbestos, has been used by mankind since the earliest times. The Romans used lead in drinking cups and in their water systems. Of the common metals, only gold is heavier, yet lead is soft and can be scratched by a fingernail.

In more recent times, lead has been used (as a metal, chemical, or alloy) in pipes for water, tank linings, cable coverings, roof sheeting, storage batteries, solder, insect poison, gasoline, glass, and paints. Lead-containing paints inhibit rusting and corrosion of iron and steel. Lead has served mankind well in all of its uses but with one major, very serious, downside -- it can kill!

Workers who deal with lead on a regular basis are familiar with the OSHA standard which deals with exposure to lead. They are aware of the exposure limits, the types of respiratory protection, the engineering controls, the need for sanitation and good hygiene practices, the blood tests, the medical surveillance programs, the containment procedures, the training programs, the certifications, the air monitoring, and so on. The actual knowledge of lead as it relates to health is expanding at such a rate, individual company lead programs must be updated every six (6) months.

The amount of lead that is dangerous to your health is a minute quantity. The action level (the exposure limit over which the OSHA standard kicks in, is only 30 micrograms per cubic meter averaged over an 8-hour work day. A microgram is one millionth of a gram. A cubic meter is 1.3079 cubic yards. The amount we are talking about is, approximately, .000000066138 pounds per 1.3079 cubic yard of air. That's not much!

Lead is a heavy, toxic metal which can be absorbed into your body by ingestion and by inhalation. It is a cumulative poison which can stay in your bones for decades. While your body excretes some of the lead that gets into it, some of it is stored in your various organs and tissues. Eventually, you absorb more than you excrete. Heavy metals (lead, arsenic, mercury, copper, and gold) are all toxic to living tissues. They tie up vital living tissue chemicals that must be free for normal cell function. When these substances (sulfhydryl or thiol groups, carboxyls, phosphoryls and others) are bound by the metals, certain cellular enzyme systems are inactivated, cellular functions fail, and, the cells die.

Large doses of lead can kill in a matter of days by causing acute brain damage which in turn causes seizures, coma, and death from cardio-respiratory arrest. Chronic problems can develop after a period of years.

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## SAFETY MEETING

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### MATERIAL SAFETY DATA SHEETS (MSDS) & LABELS

Of all the safety materials on the job site, one of the most important is the Material Safety Data Sheet (MSDS). Chemical products that are used every day can be very dangerous should an accident occur such as a fire, spill, puncture, splash to the eye, etc.. An accurate, readily available MSDS could stop a minor problem from becoming a major catastrophe.

MSDS are maintained on the job site for all chemical products we use and are readily available for: all our employees; other contractors with whom we are working; Emergency First Aid Responders; and doctors and hospitals in the event of a serious problem.

If a chemical is found to not have an MSDS, it will not be used. The supervisor will be notified and appropriate steps will be taken to correct the situation.

The MSDS will include, among other things, such items as:

- a. a list a hazardous ingredients.
- b. physical data.
- c. first aid procedures.
- d. special precautions and/or personal protective equipment requirements.
- e. procedures to follow in case of spills.

All employees must know the location of our MSDS and become familiar with the potential hazards of the chemical products used on the job site. It is conceivable that knowing where to find an MSDS and the types of information found on an MSDS could actually save a life.

Labels, while not as detailed as MSDS, are your first line of information about a chemical product and its proper use, the hazardous ingredients, emergency first aid, temperature requirements for storage, and special precautions such as, "Use with adequate ventilation" or "Avoid breathing vapors".

All containers containing chemical products or mixtures used on the job site will be labeled using the manufacturer's labeling system with the allowable exception that a product may be transferred into an unmarked container for immediate use during the work shift by the person making the transfer. Example: transferring paint from a gallon pail into a paint tray. Labels will not be removed, marred or defaced.

The label will remain on a container even when it is empty because the disposal instructions are listed thereon.

You must know of the existence of labels and the types of information found thereon. Labels provide a wealth of information about the product you are using.

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### STORAGE OF HAZARDOUS CHEMICALS

Improperly stored hazardous chemicals on the job site could have catastrophic results including fire and/or explosion. Common hazardous chemicals found on job sites include gasoline, kerosene, compressed oxygen and compressed acetylene. However, there are an infinite number of possible combinations of chemicals that need to be stored on the job site.

Smoking shall be prohibited at or in the vicinity of operations which constitute a fire hazard and a sign reading: "No Smoking or Open Flame" must be conspicuously posted.

At least one fire extinguisher having a rating of not less than 20-B units shall be located not less than 25 feet, nor more than 75 feet, from any flammable liquid storage area.

At least one portable fire extinguisher, having a rating of not less than 20-B units shall be located outside of, but not more than 10 feet from, the door opening into any room used for storage of more than 60 gallons of flammable or combustible liquids.

Chemicals, as noted on labels and on Material Safety Data Sheets, often have specific storage requirements which may include such items as heat, cold, humidity, light, motion, and reactivity. The MSDS for gasoline, for example contains reactivity data which includes conditions to avoid such as high temperature and materials to avoid such as strong oxidizers.

The fuels and flammables must be segregated from oxidizers. On a job site, oxygen cylinders in storage must be separated from fuel gas cylinders by at least 20 feet.

Chemical containers which have been damaged present a special problem because contamination may result. The entry of a foreign substance into the original chemical can change the chemical properties and the results can be very dangerous.

Flammable or combustible toxics or oxidizing agents not compatible with water should be individually separated and certainly not under the fire protection of a sprinkling system.

Class I flammable liquids can never be stored in a basement area.

Of course, only approved containers and portable tanks are allowed for the storage and handling of flammable and combustible liquids.

Flammable or combustible liquids may never be stored in areas used for exits, stairways, or areas normally used for the safe passage of people.

Up to 25 gallons of a flammable and combustible liquid may be stored in a room outside of an approved storage cabinet.

If you don't know the storage requirements of a particular chemical, ask.

# **MEDICAL**

# ABM Enterprises NJ, Inc

## SAFETY MEETING

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## BLOODBORNE PATHOGENS

Bloodborne pathogens are not something you generally think about when on a job site. However, you should be aware of them because they exist in all environments. Designated First Aid Providers can protect themselves through certified CPR training and following the provisions of an Exposure Control Plan to prevent the introduction of bloodborne pathogens into their system by exposure to skin, eye, mucous membrane or contact caused by piercing mucous membranes or the skin barrier through bites, cuts, needle sticks, or abrasions with blood or other potentially infectious material. Actually, if our job sites are reasonably close to a medical facility, designated First Aid Providers are not required.

Exactly what are bloodborne pathogens? They are pathogenic microorganisms that are present in human blood and can cause disease in humans. These include, but are not limited to, hepatitis B virus (HBV) and human immunodeficiency virus (HIV). Other potentially infectious materials include: human body fluids; unfixed tissue or organ from a human (living or dead); and HIV-containing cell or tissue cultures, organ cultures, and HIV- or HBV-containing culture medium or other solutions. OSHA standard 29 CFR 1910.1030 deals specifically with the reduction of these hazards through awareness, training, engineering controls, work practice controls, and personal protective equipment requirements. Further, all employees exposed by occupation to bloodborne pathogens must be given the opportunity to be vaccinated with the hepatitis B vaccine at no charge to themselves. Should one decide not to have this vaccination, the declination must be in writing and this declination may be revoked by the employee at any time (provided he/she remains at exposure risk).

If exposure occurs, specific procedures are detailed concerning documentation of the incident, the providing of HBV and HIV testing, counseling and safe and effective post-exposure prophylaxis.

All employees that deal with bloodborne pathogens in their assigned job must understand and use Universal Precautions which basically means that all human blood and certain body fluids are treated as if they are known to be infectious for bloodborne pathogens.

Certain procedures apply in all situations. These include good housekeeping, wearing of personal protective equipment, proper disposal of waste, the immediate cleaning up of spills, personal hygiene, and the prohibition of eating, drinking, smoking, applying cosmetics and handling contact lenses in work areas where there is a likelihood of occupational exposure.

One should be aware of the limitations of personal protective equipment. For example, rubber gloves will not protect against the dangers of a needle prick.

Do not expose yourself to bloodborne pathogens -- let the emergency medical responders, who have had appropriate training, deal with them.

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### DETERMINATION OF HEALTH HAZARDS

The health hazards associated with a chemical used on the job site can be found on the chemical product's Material Safety Data Sheet (MSDS). An alphabetical listing of our MSDSs as well as the sheets themselves are part of our Hazard Communication Plan and are readily available on the job site.

You intuitively know that the vapor from a chemical you are using could be dangerous to your health. Fortunately, intuition is not a determining factor in the area of health hazards. Hazard determination must be scientifically justified. What you, as an individual, may consider dangerous may be nothing more than a pleasant odor to another individual. In fact, some chemicals, which are health hazards, have a very pleasant citric odor intentionally placed by the manufacturer. There must be some consistency, some reliable method for the determination of health hazards.

Physical hazards are relatively easier to determine. Chemicals have certain properties which may be measured in the laboratory to determine whether the chemical is a combustible liquid, compressed gas, explosive, flammable, organic peroxide, oxidizer, pyrophoric, and/or unstable or water-reactive.

Health hazards, on the other hand, are often much more difficult to establish. Some health hazards take years to present themselves while others are immediate and fatal. Hazard determination is generally conducted by the manufacturers and importers. Employers must rely on the professional judgment of the evaluator particularly in the area of chronic (long term) hazards.

Carcinogenicity (cancer causing) of a chemical is conclusive if it is so determined by the National Toxicology Program, the International Agency for Research on Cancer, or OSHA.

The results of laboratory tests using animals may be used to predict the possible results in humans. The results of any scientifically acceptable study which indicate a chemical health hazard shall be used for hazard determination. It is also possible that new and more complete studies may refute earlier findings and reverse a health hazard determination.

For other determinations, actual human experience should be considered. For example, if thousands of workers have been exposed to a specific chemical for 50 years without using any personal protection with no ill effects, it would be safe to assume the chemical poses no chemical hazard.

Knowing what the health hazards of a particular chemical product are is vital to determining what personal protective equipment should be utilized when using that product on the job site.

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### FIRST AID

First aid kits are readily accessible on all job sites. Further, in the absence of plentiful amounts of clean water, eye flush, if needed, will be available. First aid kits are worthless if not immediately available and therefore they will not be locked up.

Should a medical emergency occur, other than minor scrapes and bruises, and it is serious enough to call for professional medical assistance, you should call the Emergency Response Number posted on the job site bulletin board. Before the first aid providers arrive, to the extent possible, clear the way so they can reach the injured employee in the most direct way possible.

Unless trained and licensed in CPR/first aid and a designated first aid provider as an additional job as part of the company bloodborne pathogen program, employees will not expose themselves to blood or other bodily fluids of other employees at any time.

Per OSHA, first aid is limited to:

- a. Using a non-prescription medication, such as aspirin, at non-prescription strength.
- b. Cleaning, flushing or soaking wounds on the surface of the skin;
- c. Using wound coverings such as bandages, Band-Aids™, gauze pads, etc.; or using butterfly bandages or Steri-Strips™.
- d. Using hot or cold therapy.
- e. Using any **non-rigid** means of support, such as elastic bandages, wraps, non-rigid back belts, etc..
- f. Using temporary immobilization devices while transporting an accident victim (e.g., splints, slings, neck collars, back boards, etc.).
- g. Drilling of a fingernail or toenail to relieve pressure, or draining fluid from a blister.
- h. Using eye patches.
- i. Removing foreign bodies from the eye using only irrigation or a cotton swab.
- j. Removing splinters or foreign material from areas other than the eye by irrigation, tweezers, cotton swabs or other simple means.
- k. Using finger guards.
- l. Using massages.
- m. Drinking fluids for relief of heat stress.

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## FIRST AID KITS

The three most important things dealing with first aid kits are:

1. They must be readily accessible.
2. They must be appropriate for the job site work involved.
3. Personnel must know how to use the contents of the first aid kits.

Pretty simple concepts, but do you know where the first aid kits are located? Do you know the contents? Do you know how to use the items in the first aid kit? Do you know your limitations?

Have you ever been on a job, needed some first aid supplied, opened the First Aid Kit and found the item you need is missing? Not only is this annoying, it could cause a minor injury to develop into something more serious. First aid kits must be replenished as items are used. Those individual items that must be sterile must be wrapped and sealed and used only once. Other items such as tape or scissors can be reused and should be kept clean.

The number of first aid kits to be found on the job site should be:

### Number of Persons Assigned to Job Site    Minimum First Aid Supplies

1 - 5	10 Package Kit
6 - 15	16 Package Kit
16 - 30	24 Package Kit

Depending on the job site, first aid supplies will generally include: adhesive bandages, bandage compresses, scissors and tweezers, triangular bandages, antiseptic soap or pads, eye dressing, and other items that a consulting physician may recommend. The main purpose of a bandage, the most commonly used item in a first aid kit, is not really to stop the bleeding, but to keep the wound clean.

The supplies consumed in first aid kits can actually be used as a safety tool. For example, if a kit constantly needs replacement of bandages which have been used for minor cuts, there is an obvious problem that the cuts are happening in the first place. Actual trends can be established and corrective procedures initiated such as protective gloves or handling practices.

When dealing with any injury, stay calm and never do anything unless you know what you are doing.

Improper medical treatment can be more dangerous than no treatment at all.

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### FROSTBITE

You have probably experienced some degree of frostbite at one time or another -- possibly on the job site. It generally starts with a light reddening of the ears, nose, chin, fingers, or toes. The sensation of cold is present. The feeling of cold changes to tingling and then to pain as the frostbite becomes more intense. Finally, the redness has turned to pale, grayish blue and the pain has disappeared only to be replaced by numbness. You now have a full blown case of frostbite.

What actually occurs during frostbite and how dangerous is it? Most of your body is made up of water and water is abundantly present in all your cells. When your exposed extremities are subjected to extreme cold, the temperature (heat) flows from your cells to the outside cold. The result is ice! That's right. Ice actually forms in your cells and tissue. The ice crystals within the cells cause cell damage. There is a loss of oxygen to the tissue and, in a worst case, gangrene can set in.

There are three (3) levels of frostbite: incipient, superficial, and deep. You might not even know you have had incipient frostbite until you start warming up and notice a slight tingling. The total cure involves gentle warming. If you don't notice incipient frostbite and remain in the extreme cold, superficial frostbite may develop. In this case, the freezing occurs in the tissue below the skin. Blisters may form and pain may last for several weeks. Deep frostbite is dangerous and the freezing occurs in the subcutaneous tissue. Attempts will be made at the hospital to decrease the oxygen needs of the tissue, improve blood supply, and prevent infection. Some tissue may have to be removed.

Because frostbite involves the loss of oxygen to the tissue, persons with poor circulation are at greater risk. Having very tight shoes can also increase the risk for toes getting frostbite.

Contrary to what you may have heard, never rub snow in a frostbitten area of your body. This will only increase trauma to the injured tissue. Gently soaking in warm water (110°F) is your best bet. Certainly, if it is deep or bothersome superficial frostbite, seek professional medical help.

Several light layers of clothing will offer greater warmth than one heavy layer. Because moisture is a good conductor of heat (the temperature will leave your body and go to the outside air) and dry air is not a good conductor, dry clothing is a must in cold weather.

Frostbite may be a warning that could save your life. Get out of the cold! As your body cools and shivering stops, heat loss will exceed heat production and you will get listless, apathetic, and sleepy. Pulse and respiration will slow. Freezing, unconsciousness, and death may occur.

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### HEAT EXHAUSTION/HEAT STROKE

To lessen the possibility of heat exhaustion or heat stroke, keep your body well hydrated with water; wear light clothing that allows for perspiration; and reduce exertion on extremely hot, moist days, and allow for air circulation.

If the below symptoms present themselves, call for an emergency responder and follow their instructions.

**HEAT EXHAUSTION: Fatigue; weakness; profuse sweating; pale, clammy skin; headache; cramps; vomiting; fainting**

Remove from hot area.

Have victim lay down and raise feet.

Apply cool wet cloths.

Loosen or remove clothing.

Allow small sips of water if victim is not vomiting.

**HEAT STROKE: Dizziness; nausea; severe headache; hot, dry skin; confusion; delirium, coma**

Remove victim from hot area.

Remove clothing.

Have victim lay down.

Cool the body. Cold moist applications applied to the body and air circulation to increase evaporation are recommended.

Do not give stimulants.

If working in an environment likely to product heat exhaustion or heat stroke and the above symptoms are noticed, call for an emergency responder. Unless trained and licensed in CPR/first aid and a designated first aid provider as an additional job as part of the company bloodborne pathogen program, employees will **not:**

- a. expose themselves to blood or other bodily fluids of other employees at any time.
- b. provide any level of care beyond first aid.
- c. fail to call an emergency responder immediately.

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## SMOKING

Even the most adamant of smokers would be hard pressed to put forth a valid argument for smoking. Few smokers would encourage their children to smoke. There is no question that smoking presents a serious health risk.

OSHA has rules about smoking on job sites and they generally relate to the immediate (acute) health risk of fire or explosion. Other times they relate to certain procedures such as asbestos or lead abatement (where smoking is prohibited).

The smoke from cigarettes has three (3) major hazardous ingredients: nicotine, tar, and carbon monoxide. In addition to these elements, there are thousands of other chemicals which are delivered in trace amounts. Tar, produced by the burning of organic matter in combination with air and water, can produce cancer and emphysema by filling the alveoli in the lungs. Carbon monoxide, bound with one's hemoglobin, can starve your body for oxygen. Nicotine reaches the brain within ten seconds of inhalation. Nicotine, which provides a temporary lift, is not as medically dangerous as tar and carbon monoxide, but it is habit forming.

Diseases and medical problems caused or aggravated by smoking include: cancer of the lungs, lips, tongue, palate, larynx, esophagus, kidney and bladder; arteriosclerosis (constricting of the arteries); heart problems; bronchitis; and asthma. For women, smoking affects the unborn child and there is a possibility of increased chance of cancer of the womb.

Due to our current social environment of activism and legalism, smoking restrictions are more and more commonplace. From government buildings, public places, work places, and on and on, smoking is not being tolerated. Most buildings in which we work will have smoking prohibitions. If you must smoke, only smoke in authorized smoking areas. Of course, there will be no smoking in the vicinity of flammable liquids or gases. Respect the smoking policy at each job site. The overall smoking policy may have been set by the owner, other contractors, or ourselves.

All employees are encouraged to not start smoking, reduce their smoking habits, and, preferably, quit smoking altogether. This is much harder than it sounds. It has been said that nicotine is one of the most addictive drugs known to man and it is no easy task to quit. Be encouraged! The more times you try to quit, the greater your chances of success.

Use caution when smoking on the job sites.

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## SUBSTANCE ABUSE

For all practical purposes, when you are talking about substance abuse, you are actually referring to drug abuse. Drug abuse is not limited to marijuana, heroine, LSD, and other common street drugs. It includes laxatives, aspirin, sleeping pills, alcohol, cigarettes, etc.. Any drug that is not used in the prescribed manner is being abused. Substance abuse would even include non-drugs such as glue which could totally and permanently fry your brain.

Addiction, habituation, dependence, both psychological and physical, and abuse are adjectives which are applicable to personal mismanagement of drugs.

Those who smoke cigarettes, which are legal, are aware of the dangerous side effects of smoking and have made a conscientious choice to continue. The pleasure they derive from smoking, in their judgment, outweighs the social stigma, cost, and health risks. This is a personal decision. Before all you non-smokers start snickering, remember that caffeine, which is found in coffee, tea, and soda pop, is also a habit forming drug. Though more sociably acceptable, it is a drug none the less. Having a mild psychic dependency would characterize the users of these drugs. The same is true for moderate use of alcoholic beverages.

It is not the purpose of this Safety Meeting to be judgmental. Substance abuse is a serious problem for those who are involved with it. When a desire for a drug becomes so powerful that it outweighs all normal drives and concerns, one could be considered addicted to that drug. This is dangerous to the person involved and to fellow workers. Because of the adverse health effects to the individual and devotion of time and energy spent seeking and staying under the influence of the drug, it leaves little time or energy to be a productive member on the job.

Generally, one would need professional support to "kick" a substance addiction. Fortunately, there are many medical and social groups that can help. The first step on the road to recovery is an admission that help is needed and go from there. For the safety of yourself and others, substance abuse absolutely cannot be tolerated on the job site. The dangers are too great for not only the abuser but also those with whom he/she works.

It is much easier to not start taking illegal substances than it is to stop taking them. Of course, this holds true for legal, but possibly addictive and dangerous, substances such as tobacco and alcohol.

Substance abuse will not be tolerated!

# **MOTOR VEHICLES**

# ABM Enterprises NJ, Inc

## SAFETY MEETING

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## AERIAL LIFTS

Aerial lifts include the following types of vehicle-mounted aerial devices to elevate personnel to job-sites above the ground:

- a. Extendible boom platforms.
- b. Aerial ladders.
- c. Articulating boom platforms.
- d. Vertical towers.
- e. A combination of any of the above.

Only authorized persons may operate an aerial lift.

Lift controls must be tested each day prior to use to determine they are in a safe working condition.

Belting off to any adjacent pole, structure, or other equipment while working from an aerial lift is **not** permitted.

When working from an aerial lift, one must stand firmly on the floor of the basket or cage and not sit or climb on the edge, use planks, ladders, or other devices for a work position.

Personnel working from an aerial lift must be attached by a lanyard and safety harness to the boom or basket.

Load limits set by the manufacturer must never be exceeded.

The brakes must be set and, when outriggers are used, they shall be positioned on pads or a solid surface.

Aerial lifts shall not be moved with personnel in the basket unless it is designed for this type of operation. Aerial lifts designed as personnel movers must have controls that are clearly marked as to their use. The lower controls must be able to override the upper controls.

Except in an emergency, the lower controls shall not be used unless permission has been granted by the persons in the lift.

Extreme care must be exercised to avoid contact with electrical energy.

If you are working near an aerial lift, be aware of the dangers of its operation, the operator's limited visibility, and the possibility of falling objects.

# ABM Enterprises NJ, Inc

## SAFETY MEETING

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## DRIVER SAFETY

Not wearing safety belts, speeding, driving while under the influence of alcohol or drugs, tailgating, driving without a license, weaving, not using rear view mirrors and turn signals -- the list goes on and on. For each type of improper behavior, there are statistics proving how dangerous they are. Whether you are driving a 500 pound motorcycle or an 80,000 pound tractor-trailer combination, you are actually in control of a potentially lethal weapon if not properly controlled.

One might take a lesson from professional drivers. Do you get plenty of rest before driving? Do you inspect your vehicle before driving? Is your vehicle maintained on a regular basis? Do you replace tires before they blow out or have such minimal tread that they hydroplane (when hydroplaning, you have no control whatsoever)? Do you overload your vehicle? Do you know the load limits of your vehicle? Are your wheels aligned and your brakes in good shape? Is the exhaust system in good repair? Do you exercise care when fueling your vehicle? Do you check the oil and other fluids? Are the inside and outside of your windows clean? Are they free from cracks? Do your headlights, turn signals, brake lights, parking lights, flashers, and horn work? Do you have insurance? Do you carry a first aid kit? Do you have a flashlight?

On various job sites, motor vehicles may be found which, if not safely handled, present a safety hazard for the operator, persons around the vehicle, and property. There are all types of industrial motor vehicles and they come in all shapes and sizes powered by battery, propane, gasoline, or diesel. All vehicles are dangerous when care is not exercised in their use. Vehicular accidents on the job site can be serious because of the power and weight of the machine and load.

Persons who operate forklifts, tow motors, tractors, etc., know the basic safety rules for job site operation because they have been trained and they are authorized to operate the vehicle. They know, for example, to:

- a. ensure the vehicle is inspected before use, well maintained, and has appropriate safety equipment such as a fire extinguisher, horn, adequate lighting, rollover cage, backup alarm, mirrors and flashing light.
- b. sound an audible warning when going backwards and to use a ground guide when there is limited visibility or very tight spaces in which to maneuver.
- c. permit no riders and to keep their own arms and legs within the protection of the driver's compartment or cage.
- d. be aware that the surface on which they travel can safely carry the weight of the vehicle, driver, and load and to keep the load low and secure.

The person most likely to be injured in a job site vehicular accident is not the operator of the vehicle but the person struck by the vehicle or the load.

# ABM Enterprises NJ, Inc

## SAFETY MEETING

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### SEAT BELTS

Here is a safety rule that is easy to remember. If a company vehicle has a safety belt, it must be used. It's that simple. Seat belts and safety go beyond the confines of the job site. Seat belts should be worn while driving any vehicle -- it's common sense.

Who has not seen an Indianapolis type racing car involved in a high speed accident? It is spectacular as the car literally disintegrates as it slides down the track! Pieces and parts are flying everywhere and, when it finally stops, the driver is unhurt. Why? Partly because much of the energy is dissipated through the disintegration of the vehicle and partly because the driver was safety harnessed in the vehicle.

On a smaller scale, the same thing happens in your automobile. During a crash, energy is dissipated through the crumbling of the sheet metal, the collapsing of the steering column, the deforming of the bumpers. The seat belt keeps you in the relative safety of the driver's compartment.

You are a safe driver. You don't speed and you don't drive far from home. You haven't had an accident. Why should you wear a seat belt? Three out of four traffic accidents happen within 25 miles of home and 80% of serious injuries or death occur at around-town speeds. According to the Ohio Department of Highway Safety, in a 35 MPH crash, your body is subjected to forces similar to those from jumping head-first off a three story building. Your chances of staying alive are 25 times greater if you are restrained in the passenger compartment of your vehicle as opposed to being thrown out. Furthermore, while you may be a safe driver, what about the "other guy"? Innocent victims are involved in serious motor vehicle accidents every minute of every day.

What about industrial vehicles such as tow motors, bulldozers, and crawlers? There is little speed involved so why are seat belts necessary? One reason, the least important, is that it is the law! Another more important reason is, should the vehicle tip over, you would be far better off protected by the vehicle's cage than falling out and having the vehicle crush you. Develop a positive occupational habit. Soon, without thinking, you will automatically buckle up for safety.

When you get into, or onto, any vehicle equipped with a seat belt, buckle up before even turning the ignition key. It is basic physics -- if the vehicle you are in is going 55 MPH and it suddenly stops, without a seat belt or restraining device, your body continues going 55 MPH and impales itself on, or goes through, the first object it comes in contact with.

Be safe! Buckle up!

# **POSTERS/FORMS**

# ABM Enterprises NJ, Inc

## SAFETY MEETING

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### OSHA FORMS 300, 301, 300A & 3165

As a matter of law, all employers with 11 or more employees **at any one time** in the previous year must maintain OSHA Form 300, Log of Work-Related Injuries and Illnesses, OSHA Form 301, Injury and Illness Incident Report, and OSHA Form 300A, Summary of Work-Related Injuries and Illnesses. Injuries and illnesses must be recorded if they result in death, days away from work, restricted work or transfer to another job, medical treatment beyond first aid, loss of consciousness, or if the injury or illness involves a significant injury diagnosed by a physician or licensed health care professional even if it does not meet the foregoing conditions.

During the period from 1 February through to April 30, the Summary of Work-Related Injuries and Illnesses must be posted for work-related injuries and illnesses which have occurred during the previous year.

OSHA Forms 300 and 301 are used to record and classify occupational injuries and illnesses. The information on the OSHA Form 300 related to employee health and must be used in a manner that protects the confidentiality of the employees to the extent possible. Recordable injuries and illnesses must be entered on OSHA Forms 300 and 301 within seven (7) days of receiving information that a recordable injury or illness has occurred.

#### Catastrophic Reporting Requirements:

Within eight (8) hours after the death of any employee from a work-related incident or the in-patient hospitalization of three (3) or more employees as a result of a work-related incident, either in person or by telephone, the OSHA Area Office nearest to the site of the incident will be notified. OSHA may be contracted for this purpose using a toll free telephone number:  
1-800-321-6742.

It is a safe bet you have seen OSHA Form 3165, It's the law!, many times. This form is to be "posted in a conspicuous place where notices to employees are customarily posted." Copies of this form are available for download from the OSHA website: OSHA Form 3165

OSHA Form 3165 is an amazing document. It points out all the rights of employees without mentioning any of the employees' responsibilities while at the same time it highlights the employers responsibilities without mentioning any of the employer's rights.

For the record, we, to the best of our ability, furnish a place of employment free from recognized hazards and, to the best of our ability, comply with the occupational safety and health standards issued under the OSH Act.

Also for the record, we expect our employees to comply with the occupational safety and health standards issued under the OSH Act and work in a safe manner.

# **PPE**

# ABM Enterprises NJ, Inc

## SAFETY MEETING

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## EYE PROTECTION

Your precious eyes are a marvel of engineering. Most of us take them for granted as we do all our senses until an accident, injury, or disease forces us to realize the miracle we lost or almost lost. Can you imagine a system that can take (absorb) light and convert it to electrical signals (by way of the 120 million rods and 6 million cones on the retina) and transfer these signals through an optic nerve, which has about one million fibers, directly in to the brain.

Most of us see the world in living color and with depth perception. The body itself does much to protect the eyes. There is a bony eye socket in the skull which protects the eye from many mechanical injuries. There are orbital fluids and tissues which cushion direct blows. Eyelids close reflexly from visual or mechanical stimuli. Eyes reflexly rotate upward with lid closing to protect the cornea. Tears can flush away chemicals and foreign objects. We all come with these safeguards. Sometimes, they are not enough.

Eye protection is required by OSHA (and common sense) on the job site when there is a possibility of eye injury. Eye injury is not confined to flying objects. Eye injury can be caused by bright light, dust, chemicals, heat, and literally, anything that can reach the eye. Different dangers require different types of protection. Federal law requires that all prescription glasses be made with impact-resistant lenses. Hardened lenses, through a tempering process, are extremely hard and resistant to impact and breakage. Safety lenses are similar to hardened lenses but are 1 mm thicker. Safety lenses are used in goggles where there is a danger of flying glass or chips of metal.

First Aid procedures, per the American Trauma Society, for the three major types of eye injury are:

**FOREIGN OBJECT IN THE EYE:** Have the victim pull upper eyelid over lower eyelid. Run plain water over open eye. If object does not wash out, cover **both** eyes with a gauze dressing and seek medical help promptly. **DO NOT** rub the eye.

**WOUND TO THE EYE:** Apply loose sterile dressing over **both** eyes. Seek medical attention immediately. For bruising or "black eye", a cold compress or ice pack may relieve pain and reduce swelling. **DO NOT** try to remove any embedded object. **DO NOT** apply pressure to the eye.

**CHEMICAL BURN:** Flush immediately with water over open eye for at least 10 minutes (20 minutes if alkali). It may be necessary to hold patient's eyelid open. Cover **both** eyes with sterile dressing. Seek medical attention immediately. **DO NOT** put anything but water in the eye.

Remember, an inexpensive pair of safety glasses can save your priceless eyesight.

# ABM Enterprises NJ, Inc

## SAFETY MEETING

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## FOOT PROTECTION

They are light weight, flimsy, and offer little traction. They are bowling shoes! What do bowling shoes have to do with a Safety Meeting on foot protection? They are an example of a shoe designed with two (2) specific purposes in mind -- sport performance and foot safety. All athletic shoes offer foot protection and each sport requires a specific shoe.

On the job site, one generally thinks of a safety shoe as a steel toed boot. While a steel toed boot does protect your toes from being crushed, they are only one of many types of safety footwear.

One would not wear golf shoes on a bowling alley or play basketball wearing ice skates. The same holds true in industry. Specific dangers require specific footwear.

On a job site, you may require traction, steel protection, chemical resistance, heat and/or fire resistance, dryness, non-sparking, cushioned, or ankle-protecting footwear. You may require any combination of the above and, for every danger in the workplace, there is an appropriate type of protective footwear which must be worn.

Your foot is a remarkable piece of engineering which is composed of 26 bones, muscles, fatty tissue, nerves, tendons, skin and joints.

Safe working practices are your first line of defense in foot protection. Following company safety procedures and common sense can eliminate many foot injuries. However, accidents can and do occur. Sometimes an accident is truly the result of another person's actions and accidents can occur as a result of mechanical or design failure.

The second line of defense is the foot itself which can absorb a tremendous amount of punishment without damage.

The third line of defense is the most easily achieved. Wear the proper protective footwear! It's that simple and it is required by OSHA.

One last item about foot protection which is seldom mentioned in a Safety Meeting, but is of importance -- cleanliness! Keep your feet clean and dry your feet thoroughly after bathing. Moist areas are conducive to bacterial growth.

It would be a shame to lose a foot or part of a foot because of an accident in the workplace -- wear proper foot protection!

# ABM Enterprises NJ, Inc

## SAFETY MEETING

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## HAND PROTECTION

Hold your hand up and take a good look at it. Grasp and release and move your fingers around. Do you realize that your hand is composed of 20 muscles, three (3) major nerves, 27 bones (14 of which are in your fingers) plus skin, fatty tissue, tendons, and joints. Additionally, there are 15 muscles in your forearm which provide power to your hand. Your hand is your gateway to the world. It lets you do what you think. Its function is feeling and grasping.

How many times have we heard: "What separates man from the rest of the animal kingdom is a truly functional opposing thumb."? Try to pick up something while holding your thumb still. In fact, if the nerve to the small muscles of the thumb is severed, 80% of the total hand function is lost.

Another thing that separates man from the rest of the animal kingdom is his ability to design and use hand protection. There are numerous types of hand protection (gloves) available -- each with a specific purpose. The most common are general purpose cotton work gloves which provide protection from minor skin abrasions and cold. However, there are many other types of gloves. Hands need protection from chemicals, cuts, heat, cold, germs, radiation, impact, electricity, and other dangers in on the job site. Part of hazard assessment is determining what types of personal protective equipment (hand protection) is required on the job site. For each type of hazard applicable to the hand, there is an appropriate glove which will provide protection and, at the same time, allow you to accomplish your job with efficiency as well as safety.

Personal hygiene is a part of hand protection. Long fingernails can present a real, and possibly painful, problem on the job site. Allowing a hangnail to go unattended can lead to infection.

Fingers are susceptible to frostbite. Frostbite can cause cellular damage as the water in the cells freezes and the ice crystals damage the cell. Warm gloves can make your work more enjoyable and much more efficient during cold weather operations.

Safe work practices and following company safety procedures goes a long way toward hand protection.

Do not take chances with your hands. If you think you need some sort of hand protection, you probably do.

# **ABM Enterprises NJ, Inc**

## **SAFETY MEETING**

Note: Our company conducts scheduled safety meetings to focus attention on one major safety topic per meeting. Should an employee have a question on any subject related to safety or job procedure, it will be addressed by the person conducting the meeting.

## **HEAD PROTECTION**

When one talks about head protection, one is really talking about brain protection. Your brain, either through divine providence, evolution, or quirk of nature, is you. The brain, that soft mass of gray and white convoluted matter, is what you are all about. Destroy your brain and you no longer exist.

Your brain is naturally protected by a cranium. Your skull actually has many bones which protect your brain and support your face. Obviously, there are other parts to your head which need protecting such as your eyes, ears, nose, tongue, skin, etc., but your brain is the most important.

If you saw a race car driver without a helmet, you would question his judgment. The same goes for a football player, a firefighter, etc.. Of course, they are required to wear head protection and are not allowed to compete or work without one. Not surprisingly, the same holds true for workers. Per OSHA, when there is a possibility of head injury from impact, flying or falling objects, or electrical shock and burns, head protection is required. The actual requirements for head protection (hard hats) vary depending on the danger.

Brain injury is the second most common cause of major neurological deficits and causes more death than injury to any other organ.

When the skull receives an impact, it actually can indent and deform. A fracture may occur and the fracture may be distant from the point of impact. A direct blow to the head can cause the brain to actually move within the skull. Surprisingly, there is often a reverse correlation between skull damage and brain damage.

Wearing a hard hat accomplishes two major objectives: it reduces the rate of energy transfer and spreads out the area of energy transfer. Just as your head should be checked out at a hospital after a head impact, so should your hard hat. A hard hat can absorb energy by deforming and the deformation may be unnoticeable.

It is interesting to note that the absence of external scalp injury does not preclude serious brain damage.

A head (brain) injury may occur after an impact to the skull and the following symptoms may be present: unconsciousness, disorientation, slurred speech, confusion, nausea, vomiting, and double vision.

Get medical help immediately.

**NEVER** provide any medical treatment in any accident or injury situation unless you are qualified by training and licensensure. Call 911!

# ABM Enterprises NJ, Inc

## SAFETY MEETING

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## HEARING PROTECTION

When you are exposed to noise levels that are at or above 90 decibels (dB) averaged over 8 working hours, specific OSHA rules take effect which involve monitoring of noise exposure, audiometric testing, baseline audiograms, annual audiograms, audiogram evaluations, hearing protectors, training, and record keeping. Hearing protection is a serious business.

This Safety Meeting will focus on your hearing system and stress the importance of your involvement in your own hearing protection.

Your ears, on the side of your head, are the least important part of your hearing system. Should you lose your ear, you would not necessarily lose your hearing. Your outer ear, made of cartilage, includes the external auditory canal which leads to the eardrum which is only 2/5" in diameter. The eardrum separates the outer ear from the middle ear. Within the middle ear are three (3) bones commonly called the hammer, anvil, and stirrup. The stirrup (stapes) is the smallest bone in your body -- thinner than a grain of rice. Also in the middle ear is the Eustachian tube which connects the middle ear to the back of the throat to maintain equal air pressure on both sides of the ear drum.

The inner ear, where sound waves are converted to electrical impulses, actually has a function unrelated to hearing. It contains the semicircular canals which completely control your balance. Also in the inner ear is the cochlea, a small spiral coil in which you would find the basilar membrane which has over 15,000 hair cells. These hair cells are the end of the auditory nerve which goes directly to the temporal lobe of the brain.

It is interesting to note that the hardest bone in your whole body is the temporal bone which protects two thirds of the auditory canal and all of the middle and inner ear. Nature itself seems to have placed a high priority on your hearing.

Extremely loud noises or continuous noise can cause irreparable damage to the ear. It is quite possible to lose hearing at one or more frequencies and have normal hearing at other frequencies. The frequencies that would be lost are the frequencies that one might find in background noise in a work situation.

Hearing protection is one of the easiest to use and least expensive types of personal protection available. Protect your hearing. If you are issued hearing protection, use it!

# **ABM Enterprises NJ, Inc**

## **SAFETY MEETING**

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## **PROTECTIVE CLOTHING**

Protective clothing must be worn when there is an exposure, or potential exposure, to hazardous conditions. The most important lesson one could learn about protective clothing is it must be appropriate for the hazard. Hazardous conditions generally would be chemical or mechanical, however temperature extremes too are hazardous conditions. This is particularly true on many job sites where you are exposed directly to the elements or limited weather protection is available.

Another consideration in the selection of protective clothing is whether the actual job may be accomplished in a comfortable and suitable manner. For example, does the clothing offer protection without being bulky, hot, or unmanageable? You cannot wear bulky gloves to do delicate work. The actual hazard protection needs, job needs, and personal needs must be matched.

A well prepared Material Safety Data Sheet will indicate the appropriate clothing (and other personal protection equipment) required. These guidelines must be followed and if there is any question, your supervisor must be asked. Never take chances with your own personal safety.

Do not use the wearing of protective clothing as an excuse for sloppy work. Just because clothing, for example is acid resistant, does not mean acid can be thrown around (an exaggeration) or because a disposable suit is used that good housekeeping is not required -- it is!

One should exercise care in the cleaning and/or disposal of contaminated protective clothing. Contaminated disposable clothing should be treated as contaminated waste and properly disposed of.

Some types of protective clothing can be re-used. Protective clothing that has not been exposed to hazardous materials should be cleaned and properly stored after use.

Protective clothing to prevent mechanical injury (protection from flying pieces of metal, for example) should be inspected to insure its integrity.

Know under what conditions protective clothing should be worn, where to find it, how to dispose of it, and/or how to clean and store it.

The whole idea of protective clothing is to protect your body from injury, both internal and external, to protect those around you, and to provide a means of not taking hazards in the workplace out of the workplace.

# ABM Enterprises NJ, Inc

## SAFETY MEETING

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## RESPIRATORY PROTECTION

The primary purpose of respiratory protection is ensuring that the air you breath contains enough oxygen for life support and that it is free from harmful contaminants.

If, after a hazard assessment, it is determined that a clean, breathable atmosphere cannot be maintained by engineering controls such as containment or forced ventilation, then respirator use will be required.

The type of respirator selected will depend on the atmospheric hazard, the type of work to be done, and the conditions in which the work will be done.

The most common respirator is a negative pressure respirator. These respirators draw contaminated air through by the negative pressure created when one inhales. Types of negative pressure respirators include ½ face, full face, and even disposable face masks. In the case of the disposable mask, the mask, itself, is the filter. There are specific filters for specific contaminants such as dust, asbestos, ammonia, etc..

Negative pressure respirators require a fit test to ensure a proper seal between the face and the seal of the respirator. Prior to fit testing, medical approval for respiratory wear must be obtained from a licensed health care professional.

Contaminants may also be filtered from the air using a battery operated powered air purifying respirator (PAPR) in which positive pressure forces contaminated air through a filter.

The above air purifying respirators DO NOT supply oxygen and may never be used in oxygen deficient atmospheres or atmospheres that are immediately dangerous to life or health (IDLH).

Atmosphere supplying respirators are always positive pressure devices as they supply breathable air from an uncontaminated outside source. The outside source may be a tank carried on one's back - a self-contained breathing apparatus SCBA or a Type "C" system where a compressor forces breathable air through hoses to a face mask. Because clean air is supplied by atmosphere supplying respirators, filters for particular contaminants are not required.

Persons who use respirators will fall under a Respiratory Protection Program which includes training; fit testing; medical surveillance; respirator selection; storage, cleaning, inspection & maintenance; work area surveillance; air monitoring procedures; and an understanding of the posted results of the air monitoring.

A brief note about dust masks. Under no circumstances are dust masks appropriate for true respiratory protection and they will never be used in that capacity. However, personnel may use dust masks, at their discretion, to reduce annoying particles in the air that are not a true health hazard.

# ABM Enterprises NJ, Inc

## Project Site Safety Meeting Log Volume II

SAFETY TOPICS	MEETING DATES	SAFETY TOPICS	MEETING DATES
<b>Electrical</b>		<b>General Safety (Continued)</b>	
<u>Electrical Shock</u>		<u>Sanitation – II</u>	
<u>Electrical Work - I</u>		<u>Signs &amp; Tags</u>	
<u>Electrical Work - II</u>		<u>Too Much of a Good Thing</u>	
<b>Equipment</b>		<u>Trenching - Engulfment</u>	
<u>Basic Tools</u>		<u>What Went Wrong</u>	
<u>Heavy Equipment</u>		<b>Hazardous</b>	
<u>Powder-Actuated Tools</u>		<u>Burns</u>	
<b>General Safety</b>		<u>Fires</u>	
<u>Abrasive Blasting</u>		<u>Gasoline</u>	
<u>Access to Safety Info - Employees</u>		<u>Hazards</u>	
<u>Access to Safety Info - Employers</u>		<u>of Non-Hazardous Chemicals</u>	
<u>Accident Prevention - It's the Little Things</u>		<u>Hot Work Permits</u>	
<u>Accidents - Learn from Others</u>		<u>LP Gas Storage &amp; Temporary Heating</u>	
<u>Common Sense</u>		<u>Restricted Areas</u>	
<u>Isn't Always Enough</u>		<u>Unlabeled Pipes &amp; Pipe Tie-Ins</u>	
<u>Competent Person</u>		<b>Medical</b>	
<u>Compressed Gas Cylinders - Use</u>		<u>Assigned First Aid Providers</u>	
<u>Dressing and Grooming</u>		<u>Fluids</u>	
<u>Expecting the Unexpected</u>		<u>Symptoms</u>	
<u>Fire Protection/Prevention</u>		<b>Motor Vehicles</b>	
<u>Imagine</u>		<u>Powered Industrial Trucks</u>	
<u>Lifting, Pushing &amp; Pulling</u>		<u>Scissor-Lift Fall Protection</u>	
<u>Lighting - General</u>		<b>Posters/Forms</b>	
<u>Lighting – Job Site</u>		<u>Postings</u>	
<u>Mental Fitness</u>		<u>Safety Meeting Sign-In Form</u>	
<u>Off the Job Safety</u>		<b>PPE</b>	
<u>Parachuting &amp; Job Site Safety</u>		<u>Eye Injuries</u>	
<u>Physical Fitness</u>		<u>Hard Hats</u>	
<u>Safety Checklists</u>		<u>Nuisance Dust</u>	
<u>Safety Meetings</u>		<u>Steel Toed Work Boots</u>	
<u>Sanitation - I</u>			





# **Project Site Safety Meetings**

## **Volume II**

**ABM Enterprises NJ, Inc**

# **ELECTRICAL**

# ABM Enterprises NJ, Inc

## SAFETY MEETING

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## ELECTRICAL SHOCK

Common sense and OSHA standards dictate that, when using temporary wiring on a job site, ground fault circuit interrupters be used. Additionally, electrical cords and equipment should be inspected before use. Why is this so important? What actually happens when you receive a shock? How dangerous is it?

Electrical current is very dangerous -- it can kill!

Because 115V at 15A is so common, its safety is often taken for granted. The danger is not the voltage, it is the Amps (current). 0.015 Amps is enough current to cause a painful shock. Notice the table below which was prepared by the National Safety Council and the Pacific Telegraph Company:

### Safe Current Values

Amps		
0.001A	(1 mA)	Cannot be felt
0.001 - 0.008A	(1 - 8 mA)	Felt, but not painful: muscle control is not lost.

### Unsafe Current Values

Amps		
0.015 - 0.02A	(15 - 20mA)	Painful shock: muscular control lost; cannot let go; not harmful to body organs
0.02 - 0.09A	(20mA - 90mA)	Burns; breathing extremely difficult; sore muscles
0.1 - 0.2A	(100mA - 200mA)	*Ventricular Fibrillation (a fatal heart condition)
0.2 - 2A	(200mA - 2A)	Burns; paralysis of the lungs; nerve damaged if above 600V
2A and up frying currents; severe burns of two types:		1. External: caused by arcing on contacting 2. Internal: cooking of the organs and flesh. Results in: amputation or destruction of vital organs

\*Ventricular Fibrillation is essentially a fluttering of the heart which is useless in circulating blood.

If current is the factor that harms you, what about voltage. Voltage is the "pressure" that pushes the current. The higher the voltage, the more current can be pushed through your body.

As current is forced through your body, it meets resistance (dry, intact skin has an average resistance of 20,000 to 30,000 ohms/sq.cm while moist thin skin has about 500 ohms/sq.cm) and it heats up and literally cooks your insides.

Because muscles are operated by electrical signals from your brain through your nerves, current passing through your body can make your muscles involuntarily contract. This may make you unable to release the source of the electricity and greatly increase your risk because the longer the current is passing through your body, the more damage is done.

If you receive a severe shock, you should seek medical evaluation even if there is no apparent damage.

# ABM Enterprises NJ, Inc

## SAFETY MEETING

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### ELECTRICAL WORK - I

All electrical work must be done according to the latest adopted National Electrical Code as well as established local codes.

#### ELECTRICAL SAFETY MEASURES

- a. Daily, prior to use, all electrical equipment -- including extension cords -- will be inspected and defective items will be tagged out of service and not used.
- b. With the exception of double insulated tools (with UL approval), all electrical tools and equipment will be grounded.
- c. Tools will not be hoisted by their flexible electrical cords.
- d. Except in an emergency, load rated switches and circuit breakers will be used for the opening and closing of circuits under load conditions as opposed to fuses and splice connections.
- e. While working on electrical equipment, unauthorized persons will be kept clear by barriers or other means of guarding.
- f. Temporary wiring and extension cords will be kept off of walking/working surfaces and out of vehicle traffic areas [or covered to prevent tripping and vehicle damage], and:
  1. not suspended with staples, hung from nails, or suspended by wire.
  2. not be used if frayed, cut or worn or visibly unsafe.
- g. Hands will be dry when working on electrical equipment and particularly when plugging and unplugging extension cords.
- h. Areas in which electrical work is to be done must be adequately illuminated and temporary lighting must:
  1. have guards in place.
  2. not be suspended by its cords unless specifically designed for such installation.
- i. A competent person, before work commences, will inform all employees in the work area of both exposed and concealed electrical hazards. If appropriate, warning tags will be used to prevent accidental contact with electrical energy.

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### ELECTRICAL WORK - I I

Only qualified persons may perform testing work on electric circuits or equipment.

When working around any electrical power circuit, employees will:

- a. protect themselves by deenergizing the circuit and grounding it or by establishing insulation between themselves and the current.
- b. ensure that any conductive materials and equipment that are in contact with any part of their body will be handled in a manner that will preclude contact with exposed energized conductors or circuit parts.
- c. use portable ladders that have non-conductive siderails.
- d. remove or insulate conductive articles of jewelry and clothing that might contact exposed energized parts.

All 15, 20, or 30 amp receptacle outlets that are not part of the permanent wiring of the building or structure and that are used by personnel shall have ground-fault circuit interrupter protection for personnel. GFCI pigtails may be used to meet this requirement if properly sized. Remember, extension cords are considered temporary wiring.

You must assume all lines, cables, capacitors, or parts have an electrical hazard until you are absolutely sure they have been deenergized, grounded, and free from potential electrical energy hazard.

Ground fault circuit interrupters are to be tested before use.

What's so dangerous about electricity? Electricity can, depending on the amperage and your individual physiology, cause a faint tingle, a slight shock, involuntary muscle spasms, painful shock, loss of muscular control, the inability to release your grasp, extreme pain, respiratory arrest, and death.

Electricity, under the right circumstances such as striking or cutting a main power cable, can literally blow your body apart.

An electrical burn should be treated as a serious injury and medical evaluation should be considered immediately after such an event. Unknown internal damage may take place as electricity is flowing through your body.

In a real sense, your body is an electrical system and a major electrical overload may result in temporary or permanent damage to your skin, muscles, bones, blood vessels, nerves, and organs. Only a physician can properly diagnose electrical burn injuries.

Using the proper equipment and work methods, working around electricity is perfectly safe. If you are not absolutely sure of what you are doing, DON'T DO IT!

# **EQUIPMENT**

# ABM Enterprises NJ, Inc

## SAFETY MEETING

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## BASIC TOOLS

Much is written about powered (electric, gas, pneumatic, and powder) tools and the importance of guards and other safety related topics. Seldom are the hazards associated with simple, non-powered tools addressed. Every tool is potentially dangerous if not properly used. For the purpose of this Safety Meeting, basic tools would include, but are not limited to: hammers, screwdrivers, shovels, pry bars, axes, shears, utility knives, wrenches, brooms, and chisels.

Below are five guidelines for basic tool use.

### **1: Never use a tool for a purpose other than that for which it was designed!**

Improper use of a tool will certainly damage it and may result in injury if the tool slips or breaks.

### **2: Never exceed a tool's design limits!**

It is easy to exceed a tool's design limits by placing a hollow pipe over a hand tool such as a claw hammer or wrench. If the tool cannot do the job being properly used, you've got the wrong tool. Exceeding a tool's design limits will certainly damage the tool and, of course, expose yourself to injury if it slips or breaks.

### **3: Inspect tools before use.**

Crack or splintered handles, loose heads, "mushroomed" striking surfaces, dull chisels or blades, bent shafts, worn or deformed ends -- all potentially dangerous conditions for tool use. Either repair or replace damaged tools -- do not use them!

### **4: Clean tools after use.**

It is much easier to clean and/or lubricate tools immediately after use than waiting till the tools become encrusted with gunk or rust. This is an ideal time, as a matter of course, to inspect the tool, fulfilling the 3rd guideline above.

### **5: Store tools properly.**

If tools are properly stored, automatically, over time, you will save hours not having to look for them. From a safety standpoint, you have the right tool at the right time. You will not reach into a tool box and, while rummaging around, cut yourself on an exposed sharp object. You will not trip on tools. Tools in tool belts will not fall from heights and hit persons below.

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## HEAVY EQUIPMENT

For the purposes of this safety meeting, heavy equipment refers to operator driven equipment used on the job site as well as attachments that are dragged or pushed. Types of equipment would include: bulldozers, dump trucks, fork-lifts, back hoes, graders, earth movers, and front end loaders, to name a few.

As a non-operator, you should be aware of the tremendous danger these machines possess if they were to strike you. How in the world could anybody be struck by something as loud, massive, and slow as a dozer? It's easier than you would think.

Keep in mind, the operator is very likely to have limited visibility directly adjacent to the machine be it front, rear or sides.

If you were to slip while walking or standing near these machines, it is unlikely that your shouts would be heard. If a machine were to catch, hit, run over, maul, drag, pinch, or mangle a bystander (**you**); the effect could be unnoticeable to the operator.

Heavy equipment safety is simple. Stay clear. Do not stand beneath heavy equipment parts that are raised nor equipment that is suspended aloft by use of slings, hoists, or jacks.

If working on heavy equipment, basic lockout/tagout procedures will apply: equipment attachments will be fully lowered or blocked, controls will be in neutral, motors stopped, and brakes set.

If you are working with an operator as a ground guide or in some other capacity to observe clearance of the equipment and give warning to the equipment operator in situations where it is difficult for the equipment operator to maintain the desired clearances by visual means, ensure that the operator can maintain eye contact with you. The following will be standard procedure near electrical lines:

An overhead wire will be considered energized unless the owner of the line or the electrical utility authorities indicate it is not energized and it has been visibly grounded.

a. Energized Lines:

<u>Line Rating</u>	<u>Minimum Clearance</u>
50 kV. or below	10 feet
Over 50 kV.	10 feet plus .04 inch for each 1 kV. over 50 kV, or twice the length of the line insulator, but never less than 10 feet.

b. In transit, equipment clearance must be a minimum of:

<u>Line Rating</u>	<u>Minimum Clearance</u>
50 kV. or below	4 feet
Over 50 kV. to 345 kV.	10 feet
Over 345 kV. to 750 kV.	16 feet

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### POWDER-ACTUATED TOOLS

A powder-actuated fastening tool propels a nail, pin, or fastener through an object to fasten it to another object. These tools, if misused, are extremely dangerous because essentially, they are similar to a pistol or rifle.

The speed of the projectile may range from 300 ft/second to 1290 ft/second.

Only trained and authorized persons may operate a powder actuated tool and, for safety, these tools should be kept secured when not in use.

Prior to use, the tool must be inspected and tested according to the manufacturer's instruction manual which should be kept with the tool. Defective tools must not be used and they must be taken out of service. Use of appropriate personal protective equipment - including, at least, eye/face and ear protection -- is required not only for the operator, but also those employees in the vicinity.

On the job site, each tool should be accompanied by: 1) its container; 2.) the operator's instruction & service manuals; 3) the tool inspection record; and 4) service tools & accessories.

Tools must not be loaded until just before firing and, under no circumstances, are they to be pointed at any person. Hands must be kept clear of the open barrel end. A powder activated tool must never be left unattended -- loaded or empty -- for safety and security reasons.

Fasteners must not be driven into very hard or brittle materials such as cast iron, glazed tile, surface-hardened steel, glass block, live rock, face brick or hollow tile; easily penetrated materials unless these materials are backed by a substance; nor a damaged area caused by an unsatisfactory fastening. Of course, these tools must never be used in an explosive or flammable atmosphere.

Before fastening questionable material, the operator can determine its suitability by using a fastener as a center punch. If the fastener point does not easily penetrate, is not blunted, and does not fracture the material, initial test fastenings will be made in accordance with the manufacturer's instructions.

The tool must be held perpendicular to the work surface and in the event of a misfire, the operator must hold the tool firmly against the work surface and follow, exactly, the manufacturer's instructions.

Tools must be used with the correct shield, guard, or attachments recommended by the manufacturer.

Because the case and load are color coded, it is imperative that the operator can distinguish the colors of brass and nickel as well as gray, brown, green, yellow and red and purple.

# **GENERAL SAFETY**

# ABM Enterprises NJ, Inc

## SAFETY MEETING

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## ABRASIVE BLASTING

When performing abrasive blasting operations, from a safety standpoint, there are numerous hazards that must be addressed.

First and foremost are respiratory hazards. Dust hazards are created as the abrasive materials and the surface coatings are shattered and pulverized during blasting operations to particles of respirable size. The composition and toxicity of the abrasive as well as the coating must be known to determine the health hazard as well as respiratory selection.

The many types of abrasive materials have varying degrees of hazard -- silica sand being probably the most hazardous mineral abrasive used. Whenever possible, its use should be limited and, if possible, a substitute material used. Other types of abrasives include: synthetic or natural mineral grains; metallic shot or hard grit (made of steel or chilled cast iron); and organic abrasives such as ground corncobs and walnut shells.

The hazards of steel or cast iron dust are relatively minimal, however, combustible organic abrasives may be pulverized fine enough to be capable of forming explosive mixtures with air.

The coatings that are being blasted may, for example, contain lead (in paints); arsenic (in furnaces); cadmium (plating); and even silica sand (embedded in the surface of castings). All these types of hazards require specific respiratory protection and are serious health hazards.

Surprisingly, construction standards do not address abrasive blasting as an "all-encompassing" topic -- each hazard must be dealt with on its own.

In addition to respiratory hazards, the following safety concerns, depending on the job, may need to be addressed:

- a. appropriate PPE for eye, hand, skin, foot, head hazards.
- b. fall protection.
- c. scaffold & ladder safety.
- d. release of toxic dust (Environmental (EPA) concern).
- e. high pressure hoses and couplings.
- f. securing the work area to deny unauthorized entry.
- g. working in a permit-required confined space.
- h. hazard communication -- understanding the materials you are working with (lead, arsenic, cadmium, etc.).

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### ACCESS TO SAFETY INFORMATION - EMPLOYEES

As an employer, our company will make every effort to ensure that our employees do not work in conditions that are unsanitary, hazardous, or dangerous to their health or safety. To achieve this goal, employees will receive safety training on a continual basis. This scheduled Safety Meeting is but one example of providing access to safety information. All of our training, whether situational (addressing a specific hazard at a specific time) or formal (addressing a specific topic in its entirety in a structured training format, i.e., hazard communication) will be interactive with ample opportunity for employees to ask safety related questions and provide positive input.

The easiest way to address a safety concern is to ask! Never perform any task for which you do not feel fully qualified from a safety standpoint. Ask your supervisor or the competent person on a job site **before** putting yourself at risk.

Regularly check the posted information on the job site. Posted information -- such as emergency phone numbers -- may be life saving.

During formal training, actively participate. If something doesn't make sense, get clarification.

All of our formal safety programs provide direction for additional safety information. For example, our Hazard Communication Plan explains, among other things, the types of information found on labels and Material Safety Data Sheets. More importantly, it explains how this information may be used to prevent physical or health hazard exposure. Our program references the appropriate standard and it is readily available for review.

Look around almost any job site and you will find safety information in abundance: danger, caution, and warning signs & tags; operator and equipment manuals; ANSI and UL approvals; fire extinguisher inspection records (and gages); control zones; weight, speed, and capacity limits; as well as visual (hand signals) and audible warnings of danger.

All the safety information in the world is of no value if it is not internalized and put to use. Whether the information is highly technical or simply a reminder of a hazardous condition, it must be heeded. Employees are expected to actively participate in protecting themselves and their co-workers from injury.

Safety standards and procedures do not "pop out of the blue" -- they were, and are, developed after years of accident analysis by safety experts.

There is no point in becoming an accident statistic when safety information is so readily available. Think safety -- act safely!

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### ACCESS TO SAFETY INFORMATION - EMPLOYERS

Our company has an obligation to provide a workplace that is inherently safe. Where does safety information come from? Put simply, the safety “rules” come from the Occupational Safety & Health Administration (OSHA) in the form of standards. As a point of interest, there are some states which have adopted their own standards, however, these standards have to be as stringent as OSHA’s and approved by OSHA.

There are other agencies that provide safety information and guidance. Probably the three most important, from an occupational standpoint, are the National Institute for Occupational Safety and Health (NIOSH), the Environmental Protection Agency (EPA), and the Centers for Disease Control and Prevention (CDC).

Information from all of these agencies is available in larger libraries, in bookstores, and on the Internet. Of course, employees have the same access as employers.

We must operate within the framework of OSHA standards and all our safety efforts are geared toward meeting the prime training directive found in 29 CFR 1926.21, Title: Safety training and education, paragraph (b)(2): “The employer shall instruct each employee in the recognition and avoidance of unsafe conditions and the regulations applicable to his work environment to control or eliminate any hazards or other exposure to illness or injury.”

In addition to the above, and more directly related to our daily operations, safety information comes from within our own organization. Hazard assessment, employee feedback, program evaluation, accident investigation and review --these are the “nuts and bolts” of our safety program which allow for adjustment and modification as circumstances and levels of safety commitment change.

The ultimate beneficiary of a quality safety program is the employee and it is in the employee’s best interest to assist us in determining its safety needs. The employee is in the best position to know if the safety policies, procedures, and training are appropriate, clearly understood, and meaningful.

Be actively involved. Safety takes a commitment from both management and employees. Management striving for a safe work place without employee involvement is just as meaningless as employees striving for safe working conditions with management standing on the sidelines.

The most vital resource for safety information comes from the individual employee who assesses his own work situation, determines safety shortcomings, seeks resolution, and shares input with management.

This employee cares about his own safety and the safety of his co-workers.

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### ACCIDENT PREVENTION - IT'S THE LITTLE THINGS

Sometimes it's just the little things that get you into trouble. You are safety conscious, try your darndest to adhere to safety standards and policies, and, yet, you remain at risk. Why? Below are some possible causes.

You are wearing the proper footwear -- good support, good traction, good penetration protection -- and you trip on the laces.

You are wearing the proper respirator for the atmosphere in which you are working, yet you do not have respiratory protection because hair stubble prevents a good seal between your face and the respirator.

You inspect a ladder before using it and use it properly -- the right lean angle, using both hands, facing the ladder, going 3' above the upper resting point -- yet it falls because the ground is not solid.

You are on a walking/working surface above 6' in the air adhering to fall protection procedures, using a harness and lanyard, and then slip and fall to the ground because the anchorage point is weak.

You are going to use a portable electric tool with an extension cord. You inspect the extension cord, plug it in, turn on the tool and get an electrical jolt! You forgot two seemingly small items -- inspecting the tool prior to use and using a ground fault circuit interrupter (GFCI).

You are working in dirty conditions and you get a relatively small cut. You know first aid and you know where the first aid kit is. You open it and it is empty. You risk infection because the kit was not inspected and refilled as items were used.

Some sparks fall on flammable materials. A very small fire, no problem. You grab the fire extinguisher and, like the first aid kit, it is empty. A large fire, big problem.

As a supervisor, you ask an employee to take the company vehicle back to the office to pick up some paperwork. He has an accident is injured. Lo and behold, he is not authorized to operate company vehicles and further he is not licensed, period. Major problem, major law suit, major risk.

You transfer some clear, caustic chemical product from a labeled drum into an unmarked bucket for your immediate use. You leave it unattended while you go to lunch. You come back and find an ambulance taking away a fellow worker who thought it was cool water and drenched himself with it to cool down. Not a likely scenario, but you get the point. Often, you can not tell what a chemical product is without a label and you certainly cannot have any product instructions and warnings without a label.

It is amazing how one can properly address major safety practices, yet get tripped up by neglecting the seemingly insignificant items -- the little things!

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### ACCIDENTS - LEARN FROM OTHERS

During safety meetings, while talking with other employees, when listening to the radio, while watching TV, when reading newspapers & magazines, you run across stories of people who have been hurt on a job site.

Put yourself in their place. Try to figure out why the accident happened. See if you can identify some safety standard, some procedure, some sort of personal protective equipment (PPE) that would have prevented the accident.

Reflect on the possibility of the same accident happening to you. Have you done the same thing and been lucky enough to not have had an accident. Have you ever shortcut because of laziness, lack of knowledge, or just to save time?

What ever the injury, imagine it happening to you. Imagine the measurable costs -- lost wages, medical bills, wasted time. Imagine the immeasurable costs -- the pain and suffering, the possibility of living the rest of your life with a job induced disability, the unfairness of it all to you and your family.

Make a resolution to not only be aware of safety considerations relating to the job tasks you perform, but to actually follow the safety procedures.

Think of speeding in your car. If every time you exceeded the speed limit you got a ticket, you wouldn't speed. However, most of the time you don't get a ticket. You can speed for days, weeks, months, and even years -- BUT -- eventually you get nailed.

The same holds true for occupational accidents. You can slide for days, weeks, months, and even years -- BUT -- eventually you will have an accident. It's a sure bet.

You cannot change the laws of nature. Gravity will drive you into the ground, chemicals will explode if not properly handled or stored, electricity will course through your body and destroy cells, acids will peel your skin, the momentum of a machine will not be slowed while sucking in one of your body parts, oxygen deficient or poisonous atmospheres will kill you, and the inhalation or ingestion of many job site chemicals will cause cancer or other very serious diseases.

While you cannot change the laws of nature, on a job site they are surprisingly easy to deal with -- just follow established safety procedures. It's that simple. Do that and you're going to be fine.

Try to imagine going to work one morning, fit and healthy and full of life. By the end of the day, you are in a hospital with a limb missing and your life is changed forever. Changed because of one stupid omission, one lax moment, one act of carelessness. It may be hard to believe that an accident will happen to you, but throughout the world job site accidents happen and they happen to working men and women who thought it wouldn't be them.

Put yourself in their place. Imagine how their morning started.

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### COMMON SENSE ISN'T ALWAYS ENOUGH

Common sense refers to thinking or reasoning in a manner that is prevalent in the general population. Obviously, the general population would reason that falling from 50 feet on to one's head would be ill-advised, to say the least. All employees are expected to use common sense in their daily work activities.

However, many items of safety must go beyond common sense because of factors that employees (who are part of the general population) are not aware of.

Without safety training, how would an individual know the health and physical hazards of various job site chemical products which appear to be benign?

Without safety training, how would an individual know the safety procedures on a powered tool or piece of equipment which seems so easy to operate?

Without safety training, how would an individual know the levels and duration of sound that can cause permanent hearing loss while there is no immediate pain?

Without safety training, how would an individual know the dangers of bloodborne pathogens when they are totally invisible and, initially, painless?

Without safety training, how would an individual know the levels of respiratory protection required for invisible, odorless particles of lead, asbestos, silica, and arsenic?

Without safety training, how would an individual know the importance of ground fault circuit interrupters?

Without safety training, how would an individual know how to perform a permit-required confined space rescue let alone what a permit-required confined space is?

Without safety training, how would an individual know the procedures for control of hazardous energy?

The list can go on and on, but remember this -- all safety requirements and safety programs have been developed (and are being developed) as a result of the general population, using common sense, screwing up big time and winding up injured, maimed, sick, or dead. Safety standards are not developed because of one or two freak accidents - they are developed after numerous, documented, related accidents are analyzed and a safe method of defeating these accidents has been created.

Not all occupational hazards are as obvious as one would like to believe. Pay attention during safety training and don't short-circuit safety!

# **ABM Enterprises NJ, Inc**

## **SAFETY MEETING**

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## **COMPETENT PERSON**

According to OSHA, on every job site and in every work situation, there must be a competent person who, by virtue of experience or training has the ability to identify work related hazards, knows the corrective procedures, and has the responsibility, ability and authority to stop work if the workplace cannot be made safe.

The function of competent person is related to safety and safety alone. An expert craftsman is not necessarily a competent person.

If you are working alone, you are, in fact, the competent person. Under no circumstances may you proceed with work if you identify a safety issue which you cannot resolve.

On larger work projects and certainly on multi-contractor job sites there will probably be a number of competent persons -- each with an area of safety expertise.

While it is possible that one individual has the knowledge to address all facets of safety, it is more likely that a certain individual will have expertise in one area of the operation while deferring to another individual in another area. There is no limit to the number of competent persons allowed or the number of areas for which a competent person is responsible.

The ideal situation when confronted with a safety issue is to resolve the issue quickly and go on. However, there may arise a situation where a safety issue cannot be resolved and work must stop. Work stoppage is expensive -- there are extreme pressures to avoid this action.

To stop work, a competent person must have:

- a. Expertise in the area of responsibility.
- b. Authority to stop work.
- c. The ability to stand firm on a correct decision.

A competent person must always be aware of the importance of safety. Taking chances may work once, twice, or even many times. However, at some point, luck runs out and somebody gets hurt. Construction accidents go beyond a paper cut on your finger -- construction accidents can be sudden and tragic. The tragedy is not only that an employee was harmed -- the real tragedy is that, with proper controls, accidents are avoidable.

Know who the competent person is on your job site!

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### COMPRESSED GAS CYLINDERS - USE

Compressed gas cylinders are used on many job sites -- the most common being oxygen and acetylene for welding and propane for heat and powered industrial trucks.

Failure to follow basic safety procedures could result in serious injury such as:

- a. flash burn - due to explosion.
- b. fragment impalement - due to explosion.
- c. compression of the foot - due to mishandling of tanks.
- d. inhalation of hazardous gases - due to leakage.

Basic safety procedures for gas cylinder use:

- a. Cylinders must remain upright and chained to a substantial support or cart when in use.
- b. Wear appropriate personal protective equipment for the job -- such as steel toed shoes, apron, goggles, gloves, helmet, etc..
- c. Read and understand the MSDS for the gas being used and know the location of the MSDS in case of an emergency.
- d. Have appropriate fire extinguisher readily available.
- e. To release the gas, open the cylinder valve slowly -- standing away from the face and back of the gage -- and leave the opening tools in place (on the valve stem) for quick shut-off in the event of an emergency.
- f. Ensure cylinders valves, regulators, couplings, and hose are free of oil and grease and ensure all connections are tight.
- g. When using oxygen-fuel systems, use flashback arrestors and reverse-flow check valves to prevent flashback.
- h. Keep cylinders away from open flames and sources of heat.
- i. Cylinders are never allowed in confined spaces.**
- j. Do not alter or attempt to repair safety devices or valves.
- k. Remove the regulators when: a) moving cylinders; b) work is completed; and c) cylinders are empty.
- l. Take care to prevent combustible materials from exposure to welding or cutting operations.

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## DRESSING AND GROOMING

What in the world does dressing and grooming have to do with safety? On a construction site, more than you'd think!

Employees must use discretion in deciding what type of clothing to wear on various job sites. Of course, the obvious would include warmth and rain protection. Less obvious, are items of clothing that provide coolness during hot working conditions. Overheating, extreme cold, and dampness can cause medical problems which result in lost work days.

Safety can be enhanced by not wearing loose clothing which can catch on protruding objects throwing you off balance. Loose clothing can also trip switches, knock items over, and generally get in the way.

Items hanging from your clothing or body can be sucked into machinery causing loss of a body part or, in extreme circumstances, loss of life -- yes this really does happen!

Clothing should fit properly and provide a level of comfort and movement appropriate to the job. It is of no value to be snugly warm on a frigid job site, yet unable able to move. What good are gloves if you can't use your hands?

Extremities such as ears , fingers and toes are particularly susceptible to frostbite -- a condition where the blood cells can actually freeze and die. During cold conditions, wear dry, warm socks; appropriate gloves; and ear protection.

Heat can be just as hard on your body as cold. Wear clothing that can "breathe" and, if a hard hat is not required, wear a cap to keep the sun off you head and the sun out of your eyes. A sweat band may make work a lot more comfortable. You will be cooler in white or lighter colored clothing which will reflect the heat away from your body.

Clothing will not only protect your skin from minor abrasions, it will prevent sunburn which, in extreme cases, can be disabling.

Regardless of heat, cold, rain, or wind; work goes on and **never** forsake personal protective equipment if it is called for by the occupational hazards at hand.

Grooming. Leave job site grime, dirt, chemicals, oils, and general crud at the job site. Don't take them home. Whatever products are needed for cleaning up -- particularly for removing chemical products from your skin -- are available at the job site -- use them.

Under fingernails, the space between jewelry and the skin, and your hair are natural traps for unwanted foreign objects which includes plain old dirt as well as chemicals and possibly harmful pathogens.

As a reminder -- rings and jewelry on a construction site can be a contributing factor in an accident where a body part is caught in equipment or electrical shock.

# ABM Enterprises NJ, Inc

## SAFETY MEETING

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### EXPECTING THE UNEXPECTED

Safety programs, as a rule, address hazards that do -- or are likely to -- impact employees while they are in a work environment.

How do you provide safety planning for events that are likely not to happen? Hopefully, you will spend your entire life never having experienced, for example:

- a. a fire.
- b. a violent weather condition such as a flood, hurricane, or tornado.
- c. an explosion.
- d. a structural collapse.

The odds of any of the above events happening is minimal. However, because the resultant havoc could be so devastating, it is in our best interest to plan for these possible occurrences.

One method to prepare for the unexpected is to create an "Emergency Action Plan" which, regardless of the event, addresses:

- a. informing all personnel of what is going on.
- b. identifying who is responsible for what, i.e., fire fighting, emergency providers.
- c. moving employees from danger to safety.
- d. accounting for all personnel at assigned rendezvous point(s).
- e. notifying outside safety & health providers of our immediate needs.

Personnel should be familiar with the emergency action plan and their specific duties -- duties which may range from just walking to a rendezvous point or:

- a. notifying others.
- b. shutting down equipment.
- c. fighting fires.
- d. providing first aid.

Expecting the unexpected may sound like a contradiction in terms, however safety preparedness must be an on-going endeavor for all of us.

The last point cannot be overemphasized: never put yourself at risk to save facilities, material, product, or data -- these items can be replaced.

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### FIRE PROTECTION/FIRE PREVENTION

Fire protection addresses what to do after a fire starts and deals with:

- a. Fire detection systems
- b. Fire alarm systems
- c. Portable fire suppression systems
- d. Fixed fire suppression systems
- e. Employee training in the use of fire protection equipment.

Fire prevention deals not with handling a fire emergency or evacuation of our facility, but rather preventing a fire in the first place. One of the first rules of fire prevention is good housekeeping. Good housekeeping can prevent a fire from starting (properly storing combustibles, for example) and should there be a fire, good housekeeping will: 1) help prevent the spread of the fire, and 2) make fighting the fire an easier task. Some specific housekeeping rules that impact directly on fire prevention are:

- a. Combustible liquids must be stored and covered in approved containers.
- b. All chemical spills must be cleaned up immediately.
- c. Cleanup materials and damaged containers must be properly disposed of.
- d. Combustible liquids and trash will be segregated and stored away from ignition sources.
- e. Aisle ways will be kept free of clutter and trash.

In addition to good housekeeping, the elimination of major workplace fire hazards must be addressed by adhering to the following guidelines:

- a. Smoking is allowed only in designated areas and smoking materials will be totally extinguished and placed in the appropriate receptacles.
- b. All chemical and chemical products will be handled and stored in accordance with the procedures noted on their individual Material Safety Data Sheet.
- c. Special precautions will be taken when working with an open flame and those areas will be made fire safe by removing or protecting combustibles from ignition.
- d. Fire exits must never be blocked.

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### IMAGINE

Imagine how you would feel if you went to work and, because you **knowingly** shortcut safety [to save a minute, to “be macho”, to hide your lack of understanding, or just because of laziness], you became seriously injured.

Imagine how an **avoidable** accident would affect your life. Imagine the unnecessary pain and suffering; the emotional and physiological cost. Imagine the financial cost. Imagine the tangible and intangible costs to you and your significant others.

Most accidents are caused by human failing. Most people who are injured thought it would never happen to them. Most accidents are preventable. In fact, non-preventable accidents are so rare they are often referred to as “freak accidents”. The odds of you being involved in a “freak accident” are about zero! The odds of you being involved in a worksite accident while following accepted and mandated safety practices are also about zero.

The more chances you take -- the more shortcuts -- the greater the odds are your luck will run out. Given enough time, you will get hurt!

Using words like “odds” and “luck” may imply that safety is just a game of chance like roulette or craps. It isn't. A “sure” possibility of injury or non-injury is not chance -- it is a fact.

While it may be easy to imagine an instant injury such as a broken limb or ripped skin, it is more difficult to imagine that while you are at work you may be sustaining an injury or sowing the seeds of a disease that will not present itself for years -- maybe many, many years from now.

These injuries and illnesses are insidious (more harmful than seem evident) because they are painless and totally unnoticeable while they are developing. Four that immediately come to mind are unacceptable levels of exposure to light, sound, bloodborne pathogens, and respiratory hazards.

Like all job site hazards, these too are easily thwarted through training, awareness, and properly using your personal protective equipment.

Job site hazards are identified through hazard assessment. Hazard avoidance can be established primarily by using one or more of four procedures: 1) administrative controls [example: limiting the time of exposure]; 2) engineering controls [example: forced air ventilation]; 3) the use of PPE [example: safety glasses]; and, 4) following established safety procedures.

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### LIFTING, PUSHING & PULLING

How often have you heard the phrase: "Lift with your legs, not your back!"? Many injuries are caused by improper lifting, the most obvious being: putting excess strain on your lower back by lifting an object that is too heavy or lifting while bending or twisting.

Many items that need to be lifted are awkward and heavy. Proper lifting techniques are important for employee safety.

However, lifting injuries are also caused by less obvious reasons:

- a. poor physical condition
- b. poor posture
- c. poor judgment (lifting, pulling, pushing an object that is obviously too heavy or awkward without seeking assistance or a mechanical lifting device.)
- d. lack of exercise
- e. excessive body weight

Below are lifting techniques that will reduce the likelihood of injury:

- a. Lift objects comfortably, not necessarily the quickest or easiest way.
- b. Lift, push, and pull with your legs, not your arms or back.
- c. When changing direction while moving an object, turn with your feet, not by twisting at the waist.
- d. Avoid lifting higher than your shoulder height.
- e. When standing and holding an object, stand straight.
- f. When walking, maintain an erect posture, wear slip-resistant, supportive shoes.
- g. When carrying heavy objects, carry them close to the body and avoid carrying them in one hand.
- h. When heavy or bulky objects need to be moved, obtain help or use a mechanical aid such as a dolly, hand truck, forklift, etc.
- i. When stepping down from a height of more than eight inches, step down backwards, not forward.
- j. Avoid reaching out. Handle heavy objects close to the body.
- k. Lift gradually and smoothly. Avoid jerky motions.
- l. Maintain a clear line of vision.
- m. Be aware of the walking/working surface conditions.

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## LIGHTING - GENERAL

OSHA has a few short standards that deal with lighting and basically they say that construction areas, aisles, stairs, ramps, runways, corridors, offices, shops, and storage areas where work is in progress must be lighted with either natural or artificial illumination. Simple and easy to understand.

How much light? Try 5 foot-candles (fc) for general construction area lighting; 3 fc for general constructions areas, concrete placement & excavation; 5 fc for indoor warehouse, hallways, corridors; 5 fc for tunnels and general underground work except 10 fc at tunnel and shaft headings during drilling, mucking & scaling; 10 fc at general construction plant & shops; and 30 fc at first aid stations. Of course, if the areas of concern are not listed, you can refer to ANSI A11.1-1965, R1970, *Practice for Industrial Lighting*. This could be an expensive and time consuming process. It is not simple. What is the difference between “general construction area lighting” at 5 fc and “general construction area at 3 fc? Here’s a better question. What is a foot-candle? Most employers and certainly most employees for whom OSHA standards are written, don’t have a clue! A foot-candle is “the measure of the **illuminance** or density of light falling on a surface. Unfortunately, our eyes don't see **illuminance** (the light actually falling on a surface), rather, we see the light reflecting from a surface. Our eyes see **luminance** which is the luminous intensity, in candelas, leaving a surface in a particular direction per square meter of surface, measured in cd/m<sup>2</sup>.

A foot-candle is also one lumen falling on a one square foot surface.” What’s a lumen? A lumen is a: “unit of luminous flux, the visible energy emitted by a light source per unit time. One lumen equals the flux emitted in a unit solid angle, or steradian, by a point source of one candle intensity.  $\frac{1}{4}$  of the total luminous flux of a light source equals the average candlepower of the source measured in all directions.” We are not going to go on and on with the definitions of “steradian”; flux, luminance, illuminance, candelas, etc. because it would be pointless. It is impossible to see a foot-candle, and, even if you could, the measurement of the observation would be subjective.

Suffice it to say, the average person has no reference for determining a light measurement! But, we need light to do our work and we need plenty of light to do it safety. The one exact method to determine light levels is to use a **light meter** and see if the light standards are being met. Another, simpler answer is, if you are calling safety decisions so close as to need a light meter, get more light!

That you need to see what you are doing is a “no brainer”!

Take care to ensure that stairways, corridors, and storage areas are adequately lit. Even though there may be less activity in these area, there is certainly a potential for injury and accident due to low or non-existent lighting.

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### LIGHTING - JOB SITE

Lighting on job sites may come from direct or indirect sunlight as well as:

- a. Lights attached or plugged into permanent wiring.
- b. Lights or light strings attached to temporary wiring.
- c. Battery powered lights.
- d. Hand held lights.
- f. Lights attached to a generator.
- g. Lights attached to a vehicle.

In all circumstances, you must have plenty of light to not only do your job, but also to get to and from your actual work area, quickly egress a facility in case of emergency, locate safety equipment such as fire extinguishers, climb stairs, enter storage areas, see and clearly read warning signs, etc.. Every place you go on a job site, even, for example, to a dumpster at night, requires adequately lighting.

Hazards associated with lighting essentially deal with electricity, heat, and broken lamps or bulbs.

A few of the safety measures to deal with these hazards are listed below:

#### **Electricity:**

Portable electric lighting used in wet and/or other conductive locations must be operated at 12 volts or less [120-volt lights may be used if protected by a ground fault circuit interrupter]. Temporary lights may not be suspended from their cords unless they are so designed. Flexible cords used with temporary and portable lights must be designed for hard or extra-hard use. Lampholders, rosettes, and lamps may have no exposed parts [exception: cleat-type lampholders & rosettes located 8 feet above the floor may have exposed parts].

#### **Heat:**

Do not touch lamps (or their guards) when lit or immediately after they are turned off or blow out. Take care in the placement of lighting devices to prevent the ignition of combustible or flammable materials. Metal shell, paper-lined lampholders may not be used.

#### **Broken Lamps or Bulbs:**

All lamps for construction general illumination must be protected from accidental contact or breakage. This can be accomplished by placing the lights at least 7 feet above the normal working surface or by providing the fixture or lampholder with a guard. Hand held lamps must have a substantial guard.

# **ABM Enterprises NJ, Inc**

## **SAFETY MEETING**

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## **MENTAL FITNESS**

Construction workers are a special breed of people. They have to have specialized knowledge; general knowledge; the ability to assess a constantly changing work environment; make quick and accurate decisions; solve problems “on-the-go”; and, actually implement their solutions. A construction site is no “Ivory Tower”. It is the real world with real problems and real solutions.

As opposed to an office where a bit of absentmindedness may result in having to do a report over, temporarily misplacing a file, or, on the accident side, possibly a paper cut -- on a construction site, faulty judgment may result in a fire, explosion, collapse, fall, or a major -- possibly fatal -- injury.

Just as professional persons such as doctors and engineers must keep current in their profession through continuing education, construction workers must continually keep abreast in their field of expertise.

There is no such thing as “just a” laborer, carpenter, electrician, heavy equipment operator, etc.. Every job requires mental alertness -- particularly on construction sites where it is hard, if not impossible, to “undo” mistakes.

Mental fitness is required to learn your trade, improve your skills, and adapt to changing work situations. Mental fitness allows you to keep abreast of developments in procedures, personal protective equipment, and safety.

Know what you don't know! This may sound convoluted, but, if you are not absolutely sure how to perform a specific function or procedure, have the good sense -- the mental judgment -- to ask! Never perform any task on any job site unless you clearly understand the correct procedures, including, and, most importantly, the safety procedures.

Keeping mentally active will make the job more rewarding. Think of ways to improve your work, reduce hazards, and enhance safety.

Learning must never end. Fortunately, we live in an age where raw knowledge is readily available to everyone -- but it takes mental fitness to synthesize that knowledge and make it useful in your daily life.

Don't let your brain “go to sleep” by accepting everything as it is. Question, create, develop! Keep mentally fit.

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### OFF THE JOB SAFETY

It's a cold, crisp, winter Saturday morning and you decide to work on your car. You're going to check for an exhaust leak and change the oil. You go into your unheated, messy garage wearing a loose coat and tennis shoes. You immediately trip on some trash and skin your knees. Because the motor oil is thick from the cold, you decide to run the engine a while to loosen up the oil and, to save time, you jack up the car to check the exhaust. You find there are exhaust fumes coming out of a small leak as well as a broken clamp. Not having the right tools, you use the wrong sized wrench to loosen a rusty bolt. Flakes of rust fall into your unprotected eyes just as your wrench slips and you skin your knuckles. Groping for the wrench which is now just out of reach, you kick the jack and the car falls on you -- fortunately the impact is ever so slightly lessened by the collapsing of the hot muffler on your back. The car starts to roll on the sloped floor out of the garage being slowed only by your coat which it has snagged; your bloody body caught in the coat; and the garage door which is destroyed as the car rolls through it. Actually, being dragged out of the garage is a blessing because you were about to pass out from carbon monoxide poisoning.

Returning from the hospital, you go after that car one more time. You drain the oil into a pan which you throw out behind the garage and refill the crankcase. Noticing an accumulation of white residue on the battery, you run your fingers over it to determine what it is. As your fingers start to tingle from the acid, you decide to loosen the battery cable connections. The metal wrench inadvertently touches both poles of the battery and it explodes. The burst of heat from the blast, for a brief second, relieves the pain of frostbite which is setting in on your unprotected, numbing, ears.

This has been such a bad day, you decide to have a cigarette, clean up your tools and call it a day. The best cleaning agent in your garage is gasoline.

Resting comfortably in your hospital bed, again, you reflect on what you may have done wrong. You certainly did not violate any OSHA standards because they do not apply to you at home. Legally, they do not apply, but, from a practical standpoint, the safety guidelines from work (lockout/tagout; protective clothing; improper use of chemicals; improper selection and use of tools; machine guarding; hazard chemical awareness; inappropriate footwear and clothing; job knowledge; and general safety methods) apply all the time.

As an aside, EPA regulations concerning improper disposal of hazardous waste (oil) do apply.

There is a point to this cartoon caricature of stupidity. Safety awareness and practice should not stop -- ever! At home, vacation, or at work your safety is important. Real life is not a cartoon. Real, often tragic, accidents do happen. Know what you are doing and how to do it safely. Make safety a habit for yourself and your family.

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### PARACHUTING & JOB SITE SAFETY

Make the following assumptions:

- a. You want to learn how to parachute.
- b. You are not suicidal.

What would you do?

Probably, with just a touch of fear, you would go to a parachute training class and strive to learn all you could about parachuting before even getting near an airplane.

Without a doubt, more than anything else, your personal safety would be foremost on your mind. You would want to know how to put the chute on; the reason for every strap, buckle, chord, and gage; how to exit the plane; how the chute actually opens; how to communicate; how to steer; how to land (gently); every possible thing that could go wrong and the corrective action; the mechanics of the safety chute; and, of course, what safety equipment is needed such as goggles and helmet.

As you are flying up to your jump point, you'd probably be thinking about all the training you had received and hoping that the person who packed your parachute was having an exceptionally good day.

Just as you are about to jump, you may be hoping that you have not forgotten anything and all you really want to do is safety get down to the ground. Style is not important, safety is!

When confronted with a new work situation, the same general thought process should occur. You should learn all about the procedure and/or equipment -- with a major emphasis on your personal safety -- before actually performing the work. You should understand what PPE is necessary and why. You should know emergency procedures and the availability of backup systems. You should put your safety first!

At work, it is possible to forget how dangerous and unforgiving some situations can be until its too late. Do you think for a moment that a piece of machinery is going to be slowed down by your finger or other body part? Do you think that a fall from 7 or 8 feet is going to leave you uninjured? Do you think it is impossible to lose your eyesight because the odds are slim you'll ever get a projectile in your eye. Of course not, yet how many times is it "convenient" to omit a safety step to save time. A few seconds saved here or there will never compare to the possible pain, suffering, and lost time a serious accident may cost you.

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## PHYSICAL FITNESS

While physical fitness is not covered in OSHA standards, there is no question that there is a relationship between physical fitness and safety -- particularly in the construction trades.

Construction workers, on any given day, are lifting, climbing, pushing, pulling, squatting, crawling, dragging, twisting, dangling, and contorting to accomplish their assigned tasks.

Work is often in conditions that are not ideal -- hot, cold, wet, windy, icy, slippery, sloped, high above the ground or deep within the earth.

Just getting to the actual job site may require a lengthy walk or climb through muck, mire, or slop..

The equipment used may be heavy, vibrating, noisy, and awkward. The personal protective equipment requirements may put an additional stresses on a construction worker's body systems -- the most common being the additional effort required to breath with a negative pressure respirator.

Construction workers may find themselves working irregular hours with bursts of activity followed by periods of calm.

All of the above conditions require physical stamina. Construction workers must be strong and agile and adaptable to ever changing conditions -- they must be physically fit.

Construction workers cannot let themselves become fatigued on the job because that could lead to:

- a. sloppy work.
- b. bad judgments.
- c. accidents.

Finally, construction workers who become totally out of shape just cannot meet the demands of the job, plain and simple! Your livelihood, in a real sense, depends on being physically fit.

Regular exercise, good diet, plenty of sleep, proper fluid intake, routine physical examinations -- all the obvious things -- go a long way to making your job easier and more rewarding.

If you must smoke, try to cut back; if you drink alcoholic beverages, drink in moderation; never, never, never use illegal drugs!

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## SAFETY CHECKLISTS

Few people would suggest that airplane pilots are forgetful. They are highly trained to perform essentially one job (fly a plane) over and over and over. Yet these professionals use a check list before entering, starting, taking off, landing, shutting down, and departing the plane. Why? Because failure to complete one item on a checklist could result in tragedy. Checklists are used in practically every facet of human endeavor from medicine to manufacturing. Certain items must be completed, often in a certain order, to achieve a desired result. Miss one step and all work could be for naught.

How about having to shut down a job because some item of safety equipment was not available? How about needing a Material Safety Data Sheet in a hurry and they are back at the office? How about trying to put out a fire and finding that the fire extinguisher does not work?

Failure to use a check list can result in minor irritations and delays (not having a Band-Aid in a first aid kit) to deadly tragedies (fall, cave-in, collapse, suffocation).

Good checklists are developed over time using prior planning and experience. As circumstances change, checklists change. A good checklist does not have to be long -- it has to be appropriate!

A properly prepared checklist assures that all essential safety items are available and functioning as designed.

Can there be problems with checklists? Absolutely! The main problem is checking off an item that is not checked and this is quite common. It is easy to assume that an item on a checklist is not important because: 1) it is always O.K., and 2) it appears O.K. and actually, physically checking it, is inconvenient.

Two quick examples of the above. You check your body harness and lanyard and hook to an anchorage point. You fall and crash to the ground -- you forgot to check the anchorage point to ensure it could sustain the impact of a fall! You are using a negative pressure respirator which you have check for cleanliness, fit, and seal to face contact. It seems to be working, but you are using the wrong filter cartridge and receiving no protection for the particulate hazard at hand.

How often do you think **others** (not you, of course) would check off all items on a check list without actually checking them.

Items on a **safety checklist** exist for only one reason -- the prevention of accidents.

Take checklists seriously.

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## SAFETY MEETINGS

As a matter of policy, our company will not permit its employees to work in conditions that are unsanitary, hazardous, or dangerous to their health and safety.

As part of our safety effort, applicable safety programs are established that comply with 29 CFR 1926, *Safety and Health Regulations for Construction*; frequent and regular inspections of our job sites are made by competent persons; machines, tools, material, & equipment which, upon inspection, is found to be defective or unsafe will be physically removed from the job site or clearly tagged (or locked out) to prevent its inadvertent or unauthorized use; and only those employees qualified by training or experience will be allowed to operate equipment and machinery.

All the documentation, logs, records, policies, standards, regulations and so on are worthless unless there is a commitment to safety by all personnel from senior management to the newest hire.

One successful method of demonstrating commitment to safety is by having regularly scheduled safety meetings. The meetings themselves are successful only if there is an interactive dialogue and interest expressed among the participants.

Safety meetings provide an opportunity to “remind” employees of standard, recurring safety practices; allow for employees to make suggestions and ask questions; provide a vehicle for addressing immediate safety concerns on the current job; and, most importantly, keep safety foremost on the minds of all persons from the supervisors and competent persons to employees.

A successful safety meeting does not have to be a long, drawn out affair. Preferably, one topic is covered, employee input is sought, a dialogue is established, questions are answered, and the meeting is over. An important factor is the regularity of the meetings. Safety becomes “second nature”. Each task is automatically approached with the understanding that it will be performed safely.

Of course, not every meeting will cover a topic that applies directly to you or your specific tasks. However, they are important because you probably, over time, will be confronted with various hazard exposures. For example, as an employee, you do not use LP-Gas. However, you may be on a job site and see LP-Gas stored near a building opening. From the LP-Gas safety meeting, you would identify this as a violation of safety standards and a potentially dangerous situation.

While you, as an individual, effectively deal with job site hazards through training, PPE and safety work practices, there is no guarantee that other contractors on the same site are as responsible -- they may be carelessly exposing you to hazards they have created. Safety meetings will help you identify those hazards.

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### SANITATION - I

Sanitation in the work environment is much more than clean wash rooms. Sanitation deals with cleanliness throughout the workplace. Specific sanitation requirements are intrinsic to certain OSHA standards. Others are good common sense. In the workplace, sanitation deals with the promotion of cleanliness, taking precautions against disease, and protecting health. It does not require, as a general rule, sterilization, which involves making the workplace germ free [an occupation exception would be clean-up after an injury or potential exposure to bloodborne pathogens].

One of the main advantages of proper sanitation procedures is the immediate results that accrue to the beneficiary which is you. Aside from a more pleasant environment in which to work, the possibility of illness (and even injury) is reduced immediately as areas are cleaned up and put in order. Good housekeeping practices are a fundamental part of workplace sanitation. The immediate cleaning up of spills, the removal of trash, and keeping all items as neat and orderly as possible are just a few good housekeeping rules.

Personal hygiene is a basic part of sanitation. The removal of workplace contaminants (even dirt) from your exposed skin, hair, and clothing keeps them out of your automobile and your home and away from your family. Of course, the immediate and proper cleaning up of chemical spills, per the directions listed on the chemical labels and Material Safety Data Sheets, is vital. Furthermore, removing and cleansing accidental body (skin and eyes) exposures will reduce the likelihood of illness and/or injury. In a real sense, the use of proper personal protective clothing and equipment is part of sanitation.

The availability of clean wash rooms and potable (drinkable) water is required by all sanitation standards. A clean wash room and cleanliness inhibits the spread of germs and bacteria.

The prompt removal and proper disposal of waste are major components of any sanitation program as they prevent insect infestation and the nesting of rodents in the workplace.

Proper food storage and designated eating areas are important. It is especially vital to wash your hands before eating, especially if you have had any contact with any chemicals, to prevent ingestion of contaminated foodstuffs.

Engineering controls to prevent standing water and to provide for the ventilation of healthy air are part of proper sanitation just as much as the prompt removal of trash (with its inherent dangers such as fire and tripping) is.

The whole thrust of every OSHA standard is worker health and safety. Sanitation is a major component of any health and safety program.

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## SANITATION - II

### **Potable water:**

It is absolutely imperative that an adequate supply of potable (drinkable) water be available on all job sites. In fact, by standard, all places of employment must have drinking water available. On construction sites, particularly, it is important that employees drink plenty of fluids to replace those lost through perspiration.

Potable water, if it is not available from a tap or fountain connected to an approved water supply, must meet the US Public Health Service Drinking Water standards or the state or local authority having jurisdiction and be dispensed from a container that can be tightly closed and equipped with a tap. The container must be clearly marked to identify its contents. The container used for potable water must be used for no other purpose not only on the current job site, but ever. It should be regularly cleaned.

The use of a ladle (to dip out water) or a common drinking cup is not allowed! Disposable, single service, paper cups may be used as long as they are dispensed from a sanitary container and there is a sanitary container available for used cups.

If non-potable water is available, it must be clearly identified as being unsafe for drinking or washing purposes and there must be no real or potential cross-over connection between potable and non-potable water systems to avoid the possibility of mixing the two.

### **Washing facilities:**

When employees are engaged in operations where contaminants may be harmful, washing facilities will be provided as near as possible to the job site so these substances may be removed. Of course washing facilities will have appropriate products for removal of the contaminants (gritty soap, solvent, brushes, etc.,) and towels or paper towels.

### **Toilets:**

No eating is allowed in a toilet room -- not that anybody would want to!

At least one toilet must be available on all job sites and persons must be allowed to use it. For 20 or more employees, the following is required: one toilet + 1 urinal per 40 workers; for 200 or more employees, 1 toilet + 1 urinal per 50 workers.

If sewers are not available, unless prohibited by local code, a portable toilet(s) (chemical toilet, privy, etc.) designed so that their use will not contaminate ground or surface water will be used.

### **Vermin:**

As part of general sanitation, efforts should be made to control the harboring of rodents, insects, and other vermin on all job sites as far as practicable. Good housekeeping and closed trash and garbage containers will help in this effort. If the presence of these pests is noticed, an effective extermination program will be instituted.

# ABM Enterprises NJ, Inc

## SAFETY MEETING

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## SIGNS & TAGS

When appropriate, signs and tags are used to warn of specific hazards. Types of signs are classified according to their use, and their design is regulated by OSHA standard. There is a requirement that all personnel be instructed in the meaning of the various types of signs. The various uses include:

- a. **Danger Signs (Red, Black & White):** indicates immediate danger and denotes that special precautions are necessary.
- b. **Caution Signs (Yellow Background):** warns of a potential hazard or cautions against an unsafe practice.
- c. **Safety Instruction Signs (White Background):** used to provide general instructions and suggestions relative to safety measures.

The wording on signs should be positive, clear, concise, and easy to understand.

Accident prevention tags are to warn of hazardous or potentially hazardous conditions that are out of the ordinary, unexpected, or not readily apparent. They are not used where signs, guarding or other positive means of protection are used.

All tags must have a signal word and a major message.

Signal words are: "Danger"; "Caution"; "Warning"; BIOHAZARD (or its symbol).

The major messages would indicate the specific hazardous condition such as: "High Voltage" or "Do not start".

The color scheme is basically the same as for signs: red = danger; yellow = caution; orange = warning; fluorescent orange = biological hazard.

**Danger Tags:** indicate an immediate hazard that presents a threat of death or serious injury.

**Caution Tags:** indicate a non-immediate hazard or unsafe practice that presents a lesser threat of injury.

**Warning Tags:** indicate a hazard between "Danger" and "Caution".

**BIOHAZARD Tags:** indicate the actual or potential presence of a biological hazard and identify equipment, rooms, containers, etc. that may be contaminated.

The important thing to remember is to pay attention to signs and tags and realize that they are in place for only one reason -- your safety.

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### TOO MUCH OF A GOOD THING

As a general rule, you can't get too much of a good thing. Who has had too much money? Too much good health? Too much enjoyment in life? Nobody!

Without a doubt personal protective equipment (PPE) is a good thing. Regular PPE, properly used, can prevent personal injury from the basic hazard categories: impact; penetration; compression; chemical; heat; harmful dust; and light radiation. Specialized PPE (it's use determined by objective measurements) such as respirators and hearing protectors can prevent both chronic (long term) and acute (short term) injury and illness from respiratory hazards and noise. PPE must be a good thing -- and it is!

However, too much may be harmful.

Below are some examples:

Too much light radiation protection: essentially you would be "blinding" yourself and hamper your ability to see what you are working on.

Too much respiratory protection: if the results of a hazard assessment indicate that respiratory protection is not needed, and you decide, for example, you want to wear a dust mask, that is O.K.. However, if you figure that if a dust mask is good, then a ½ face respirator is better, you'd be wrong! A negative pressure respirator, such as a ½ face, puts a strain on your system and, because of this, they may be worn only after medical approval for respirator wear has been received from a licensed healthcare professional. Further, without fit testing, training, cartridge selection, and full compliance with a respiratory training program, the ½ face probably would be of little value.

Too much hand protection: if cotton work gloves are appropriate for your work, then it follows that heavy leather gloves would provide that extra measure of safety. Not necessarily so. Gloves used for safety have to not only protect your hands, they must allow you to do your work safely. Thick leather gloves may not permit you to properly grasp items or allow full use of your fingers.

Too much hearing protection: if you could eliminate all sounds on the job site, wouldn't that be a good thing? It certainly would protect your hearing, but the downside is -- it could cost you your life. Without hearing, how could you be aware of approaching vehicles? How could you hear alarms? How could you hear, "Watch out!"?

Use the PPE you are supposed to use and, of course, use it properly. Exercise caution if you decide that, if assigned PPE is good, more would be better. Consider the possible ramifications.

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### TRENCHING - ENGULFMENT

Have you ever, literally, walked out of your shoes? It really not hard to do. Just try walking in an inch or so of muck.

Have you ever been fortunate enough to spend a day on a sandy ocean front beach and had your feet sink into the wet sand up to your ankles? If you have, you know how hard it is to instantly pull your feet from the sand.

An inch of muck, a couple of inches of sand -- not really a big deal. Now try to imagine tons of material suddenly engulfing you from the bottom of your feet to just below your nose or -- engulfing you completely.

Imagine you are covered with earth that keeps closing in on you while you struggle to gasp for air, the crushing weight on your chest, unable to call out, a small air pocket, darkness and pain -- and fear. What a crappy situation to be in!

You hear people trying to dig earth away from you, but it keeps falling in and refilling as they remove it.

Time is of the essence. Heavy equipment cannot be used to dig you free. Heavy equipment is designed for moving massive amounts of dirt and rock in gulping, jerky movements -- too dangerous to be inches from your head and other body parts. Additionally, the rumbling of the equipment could force loose soil tighter against your body. With time being a critical factor, fellow co-workers will have to use hand tools and light equipment to free you before you die of injury or asphyxiation. A small error on their part and you still could lose a limb or sustain a serious injury. How in the world could you get into this predicament?

Actually, while cave-in accidents are not common, they are very likely to result in serious injury or fatality. Cave-in accidents are sudden, tragic, and, this is the sad part, preventable.

Looking at a trench, it is hard to imagine the tremendous force that will be released if the walls give in. Trenches over four (4) feet deep must have a means of egress such as a stair, ramp or ladder. Shoring is not required for trenches less than five (5) feet deep if an examination by a competent person determines the soil has **no potential for a cave-in**. The competent person must be familiar with benching, shoring, scaling, sloping, as well as the many types of soils and soil conditions, weather and adjacent structures and activities. Once a trench is over 20 feet deep, protective systems must be designed by a registered professional engineer.

For all practical purposes, trenches should be considered what they actually are: confined spaces. No employee is to enter a trench unless entry is dictated by work requirements and all safety procedures are in place and followed.

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### WHAT WENT WRONG?

How in the world did you get into the hospital bed? Things are a little fuzzy, but you know it had something to do with work. You rack your brain and try to remember.

Was it that cigarette you were smoking by the gasoline storage area?

Was it that ladder you used as a scaffold plank?

Was it that baseball cap you were wearing instead of a hard hat?

Was it that clever idea you had about removing the machine guard on the electric saw?

Was it the body belt you used instead of a harness as part of your fall protection system? No, you're sure you used a harness, maybe it was the clothesline you used as a lanyard.

Maybe it was that unmarked hole you fell through.

Possibly you merely fell 15 or 20 feet down from an unprotected walking/working surface because you tripped on your untied boots laces. No, you had on your favorite tennis shoes. Maybe something fell on your foot.

If you just hadn't taken a double dose of that prescribed medication before work -- the medication that says, "Do not drive or operate heavy equipment. Judgment may be impaired." Maybe your judgment was impaired when you entered the permit-required confined space without authorization.

It probably wasn't a good idea to splice that 220 volt electrical cord with Scotch Tape -- particularly since you bypassed the fuses, and were trying to arc weld pipe together in a ten foot trench with 6" inches of water, no shoring, and a gaseous, explosive atmosphere. Were you electrocuted, blown up, or just crushed by the trench caving in? Maybe a combination of all three? Maybe not.

Possibly it was that game of "double-dare" you made up where you do something really stupid like stick an electric drill in your mouth and double dare a buddy to do the same. He does and you have to top him by running the drill in your mouth while hopping on one foot.

Wait a minute! You're not in a hospital bed. You're at home just having a nightmare. Thank goodness. The dream was all make believe -- nothing like the above has ever happened on any job site. You and everybody you know constantly strive to do their job well and do their job safely. Right?

**HAZARDOUS**

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## BURNS

Of all the unfortunate types of injuries that can occur, certainly one of the most devastating is burns. Fortunately, job related burn injuries are relatively rare -- unfortunately, some burn victims are innocent bystanders who had nothing to do with the event that caused the burn. A single fire or explosion can affect many persons.

Eliminate the cause (fire or explosion) and you eliminate the result (burn). Even if a fire or explosion occurs, with proper training **before** the event, injuries may be reduced or eliminated.

On the job site, are:

- a. appropriate fire extinguishers readily available and routinely inspected?
- b. all personnel trained in portable fire extinguisher use?
- c. all personnel aware of what type of fire extinguisher puts out what type of fire?
- d. all employees aware of how to summon the fire department and emergency responders? Are these phone numbers posted? Is the address of the job site posted or known by all persons?
- e. compressed gas cylinders properly stored and segregated?
- f. LP-Gas containers stored outside and appropriately distanced from the buildings?
- g. all employees aware of rendezvous points, if appropriate?
- h. all employees aware of first aid procedures for **minor** burns and first aid procedures for major burns?  
(Note: In the event of a serious injury, the first rule of first aid is: "if you don't know what you are doing, don't do it! Immediately call for an emergency responder.)
- i. all employees aware that oily rags and debris may result in spontaneous combustion?
- j. all exits and routes of egress clearly marked and clear?
- k. fire hydrants located close to the job site clear and readily accessible?
- l. appropriate "NO SMOKING" signs posted? Just as importantly, are these rules enforced?
- m. welding, cutting, and/or brazing operations carried out in a manner that precludes the possibility of starting a fire?

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## FIRES

Each year fire kills thousands of people, and destroys billions of dollars worth of property. These losses can be prevented. Industrial plants, laboratories, research centers, science laboratories, and, yes, **job sites** are stocked with flammable and combustible liquids, gases and solids.

For a fire to start, three conditions must be met at the same time. There must be something to burn -- a fuel; a source of oxygen -- an oxidizer; and most importantly, there needs to be an initiating event that imparts sufficient energy to start a chain reaction -- an ignition source. It is these three factors that essentially create a chain reaction that results in the rapid oxidation of a fuel -- fire.

**Fuels:** Fuels are materials that burn; the higher the temperature, the easier and quicker they burn. Common fuels include: diesel fuel; gasoline; solvents, such as acetone, alcohol and toluene; gases, like acetylene and propane; and solids, such as wood, paper and ordinary trash. Additionally, dust and even metal shaving can be a fuel under the right circumstances.

**Oxidizers:** Although ordinary air is 80 percent non-burning nitrogen, the remaining 20 percent is oxygen, and is more than enough to support combustion. In some cases fires can be prevented by displacing the air with a non-burning atmosphere, like helium, argon or pure nitrogen. Fire extinguishers generally remove oxygen from the fire event thus eliminating the fire.

Some materials release oxygen when they burn. These substances, called "oxidizers" or "oxidizing agents", are capable of releasing oxygen to a potential fire. Common oxidizers include acids, especially nitric and perchloric acids; chlorine dioxide; and other oxidizing agents such as potassium permanganate and potassium chlorate. These oxidizers must be stored away from all flammable materials. The material safety data sheet of the chemical products you are using is the best source for finding its chemical properties.

**Source of Ignition:** An ignition source can be a lit cigarette, a spark, static electricity, arcs from faulty electrical equipment, or even a hot light bulb. The hot surface of a heating unit may also be at a high enough temperature to serve as an ignition source.

Routine use of flammable gases, solids or solvents must occur in well ventilated areas, isolated from ignition sources.

Always remember: the combination of a fuel and a source of oxygen, along with a source of ignition can result in a fire. Fire prevention consists of ensuring that the three conditions required for a fire do not exist at the same time.

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### GASOLINE

Because most persons use or indirectly handle gasoline on a regular basis -- from filling up automobiles to lawn mowers -- the hazards presented by this product may have become obscure. Just because you are familiar with gasoline, like electricity, never lose sight of the lethal hazards that it may contain.

Gasoline is a flammable liquid which means it has a flash point of less than 100°F. The actual flash point -- lowest temperature at which a liquid gives off enough vapor to form a flammable mixture with air -- of gasoline is -45°F. The autoignition temperature -- the temperature at which, with sufficient oxygen, gasoline will ignite on its own and burn -- is 536°F.

Gasoline has a specific gravity -- the weight of the gasoline compared to the weight of an equal volume of water -- of 0.73. Further, gasoline has a negligible solubility in water. Basically, what the above means is that if water is used to extinguish a gasoline fire, it will only spread it because the gasoline will float on the water and continue to give off a vapor and form a flammable mixture with air. Gasoline fires must be fought with an extinguisher that is rated for Class B Fires such as carbon dioxide, dry chemical, or foam. It should be noted that water spray may be used to cool containers that may be exposed to the heat of the fire to prevent an explosion.

Conditions to avoid: heat, flame, & sources of ignition. Materials to avoid: strong oxidizers.

Health hazard information: routes of entry: inhalation, skin, ingestion.

Signs & symptoms of overexposure: headache, nausea, drowsiness, breathlessness, fatigue, convulsions, loss of conscience, dermatitis.

If there is a spill, notify emergency response personnel, evacuate area, remove ignition sources, build a dike to contain flow, do not flush to sewer or open water. Pick up with inert absorbent and place in closed container for disposal.

Gasoline is a carcinogen -- a cancer causing agent.

Part of this safety meeting is to explain some facts about gasoline. But there was a hidden agenda. Almost all of the above information came directly from a Material Safety Data Sheet. Of course the MSDS has much more information than above, but this safety meeting gives an example of the types of information found and its usefulness.

General rules: Post "No Smoking" signs around gasoline storage and ensure that it is enforced. Use only approved plastic or metal containers for portable gasoline carriers. They must not contain more than 5 gallons.

Double check with local ordinances for storage requirements.

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### HAZARDS OF NON-HAZARDOUS CHEMICALS

The title of this safety meeting appears to be an oxymoron. What possible hazards could be associated with non-hazardous chemicals? Surprising, many!

Highly corrosive, unstable, flammable, explosive chemicals -- these are hazardous. Hand cleaner, saw dust from treated wood, adhesives -- these are non-hazardous. Or are they?

The whole point of a hazard communication plan is to inform employees of the hazards associated with the chemical products used in the work place. Most, if not all, chemical products used properly on the job site are not, in and of themselves, hazardous.

For clarification, "hazardous" refers to a physical or health hazard to the employee.

For example, all compressed gases have the potential to be a physical hazard if the container ruptures and those same gases have the potential to be a health hazard if inhaled. However, all compressed gases properly stored and used have no hazard associated with their use.

The label on chemical products informs you of the identity of the chemicals in the product; appropriate hazard warnings; and the name and address of the chemical manufacturer, importer, or other responsible party. The label on a chemical product container provides initial, immediate, information. Detailed, and certainly more technical, information is found on the Material Safety Data Sheet (MSDS). Labels on original containers must not be removed or made illegible.

Every chemical product we use will have a readily available MSDS which, among other things, provides information on storage, use, personal protective equipment (PPE), permissible exposure limits (if any), first aid, and disposal.

It is understandable to reason that a product used every day shouldn't have to have an MSDS readily accessible because you know the product, its characteristics, and hazards. The problem that arises is that **you** may need medical treatment due to inadvertent improper or overexposure and a fellow worker or a medical responder would not have a clue of how to treat you without an MSDS.

The hazards associated with chemical products use usually present themselves during improper storage, accidents, miss-use, or failure to wear proper PPE.

If you don't know the hazards associated with the non-hazardous chemical products you are using, right now is a good time to find out. Knowledge about the chemical products you use is the first step in using them safely.

Know where the MSDS are located on the job site and how to read them.

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## HOT WORK PERMITS

If you, as a worker, are ever involved with Hot Work Permits, it is a safe bet that you are skilled at your job and follow every applicable safety standard to the tee. Hot Work Permits are serious business.

Hot Work Permits are but a small part of 29 CFR 119, Process Safety Management of Highly Hazardous Chemicals. Specifically, Hot Work operations include electric or gas welding, cutting, brazing, or similar flame or spark producing operations conducted on or near a covered process. The processes deal with certain chemicals above a specified threshold quantity, which are extremely dangerous, as well as processes that involve 10,000 lbs or more of flammable liquids or gases (with minor exceptions).

If one were to examine Appendix A to 29 CFR 1910.119, List of Highly Hazardous Chemicals, Toxins, and Reactives (Mandatory), it would look something like this:

<u>CHEMICAL</u>	<u>Chemical Abstract Service Number (CAS)</u>	<u>Threshold Quantity (TQ)</u>
Ketene	463-51-4	100 Pounds
Trifluorochloroethylene	79-38-9	10,000 Pounds

The requirement for a Hot Work Permit kicks in when you are working around the chemicals noted on the above list at, or above, the threshold quantities.

The actual permit must document that there is adequate fire protection, the date authorized for the hot work, and the object on which the hot work is being performed. The Hot Work Permit must be kept on file until the completion of the work.

Hot Work Permits are part of safety management designed for "...preventing or minimizing the consequences of catastrophic releases of toxic, reactive, flammable, or explosive chemicals." Catastrophic releases -- we are talking about sudden and widespread disaster!

If you are a worker involved with hot work, you can rest assured that you have been thoroughly screened for your knowledge of, and actual use of, proper safety procedures.

Notice the words used in the Safety Meeting: catastrophic; toxic; reactive; explosive; hazardous; highly hazardous; etc.. It is one thing to make an error and cut your finger. It is quite another to blow up a chemical plant! Hot Work Permits -- serious business!

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### LP-GAS STORAGE & TEMPORARY HEATING

Liquefied petroleum gas (LP-Gas) is sometimes used on job sites to provide fuel for temporary heating devices.

All LP-Gas systems must have containers, valves, connectors, manifold valve assemblies, and regulators of an approved type. All cylinders must be DOT approved.

Rules for inside storage (under construction standards) are simple -- **it is not allowed!**

Note: Under industry standards, up to 300 pounds of LP-Gas may be stored, with adherence to specific safety procedures.

Rules for outside storage required that containers be in a suitable ventilated enclosure or otherwise protected against tampering. At least one approved portable fire extinguisher having a rating of not less than 20-B:C must be readily available.

The distance from buildings or groups of buildings that containers must be stored are as follows:

<u>Quantify of LP-Gas Stored</u>	<u>Distance in Feet</u>
500 lbs or less	0
501 to 6,000 lbs	10
6,001 to 10,000 lbs	20
over 10,000 lbs	25

Of course, storage must not be near building openings or vehicular traffic.

When LP-Gas is used for temporary heating on units that provide over 7,500 BTU per hour or use containers greater than 2.5 pounds maximum water capacity [nominal 1 pound LP-Gas capacity], the following will apply:

- Containers valves, connectors, regulators, manifolds, piping and tubing must not be used as structural supports for the heaters.
- The LP-Gas containers and all associated equipment including hoses must be located so as to minimize exposure to high temperatures or physical damage.
- The maximum water capacity of individual containers must be 245 pounds [nominal 100 pound LP-Gas capacity].

Heaters that are not integral heater-container units which connected by hose to the LP-Gas must be at least 6' from the container. Blower and radiation type heaters must not be directed toward the container or any other unit within 20 feet. Heaters specifically designed for attachment to the container are permitted as long as the heat is not directed to the LP-Gas container.

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## RESTRICTED AREAS

Often, on job sites, there are areas into which only select persons are allowed. There are two basic reasons for the restrictions.

1. Within these areas are operations that require, prior to entry, specific safety training.
2. Within these areas unacceptable risks such as falling objects; electrical current; vehicular traffic; respiratory hazards, including: oxygen deficient atmosphere, gases; and microscopic particles such as asbestos, lead or arsenic; hazardous energy; loud noises; confined spaces; fall hazards; etc..

As a rule, no employee will be exposed to any hazard for which training has not been received and for which appropriate personal protective equipment (PPE) has not been provided. With training and PPE, the hazard(s) can be effectively eliminated.

Further, employees will not be exposed to occupational hazards, regardless of training, unless that exposure is required by the job at hand. For example, certainly employees would not go on scaffolds unless their work dictated they be on scaffolds in the first place.

How are these areas identified? The most common method is yellow "Caution" or red "Danger" tape. Never enter into these defined areas unless you are authorized and there is actual work to be done within these areas.

Sealed rooms or enclosures often have a sign that reads, among other things, "Authorized Personnel Only".

Additionally, certain areas actually have a guard posted to monitor entry into a restricted area. In permit-required confined spaces, the hazard is so great that it is vital that a complete accounting of who is in a space, and the length of time they are in that space, must be maintained by an entry supervisor.

Some restricted areas are protected by locked panels or doors; fences and/or locks. Obviously, only qualified persons are allowed in these areas -- these areas may contain dangerous electrical energy, hazardous chemicals, etc. -- and no employee shall attempt to defeat the purpose of these protective devices.

Even without signs, barricades, locks or fences; persons should stay only in their immediate work/assigned area. This not only reduces the possibility of accident and injury, it makes work easier for others.

Construction sites often have a variety of activities going on at once with different trades performing their specialties. Danger can come from any direction including above. Constant vigilance not only for your own safety, but the safety of those around you, is a never ending process.

Stay alert!

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### UNLABELED PIPES & PIPE TIE-INS

#### Unlabeled Pipes

Through your work area run a series of pipes, none of which are labeled. It is obvious that the black PVC pipe is a drain pipe and, to complete your job, you are going to reroute it. You tap on the pipe and it explodes! Not a common experience, but this type of accident really does occur. The black pipe, by the way, contained compressed air.

The competent person on a job site will ensure that all personnel are aware of the contents of unlabeled pipes.

Should work activities be performed in areas where chemicals are transferred through unlabeled pipes, the competent person will inform the employee of:

- a. the contents of the pipes.
- b. the potential hazards.
- c. the safety precautions to be taken.

You have probably heard the phrase, "You can't judge a book by its cover." The same holds true for pipes. You can't determine the contents of a pipe by its looks.

Unlabeled pipes may contain physical hazards such as steam or high pressure or health hazards such as poisonous gases or fluids.

#### Pipe Tie-ins

Prior to pipe tie-in, the flow of gas, steam, vapor, and/or liquid must be halted. It is absolutely vital to know the ramifications of halting the flow within the pipe particularly in hazardous facilities such as chemical plants, refineries, and other facilities which have a higher degree of hazard than normal work sites. In these types of facilities, prior to any blocking of flow through pipes, permission must be obtained from the facility operator. Failure to follow this specific rule could result in a major catastrophe.

Before actual tie-in is attempted, the original pipe that has been taken out of service (by positive means such as valve, block, tag) will be purged of contaminants, and gas tested, if appropriate.

At the completion of the tie-in, the facility operator will be notified before flow is restored to the pipe.

It is vital to know the chemical and physical properties of the material within the pipe so a hazard assessment may be made and appropriate PPE (and safety equipment such as a particular type of fire extinguisher) can be selected and be made available.

# **MEDICAL**

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### ASSIGNED FIRST AID PROVIDERS

Prior to the start of any project, provision will be made for prompt medical care in the case of serious injury. In the absence of an infirmary; clinic; hospital; physician or other licensed healthcare professional that is reasonably accessible in terms of time and distance to the worksite, a person who has a valid certificate in first aid training from the American Red Cross (or equivalent training) will be available on the job site to render first aid.

Assigned first aid providers will not only provide emergency first aid, they will be the only employees who are allowed to handle any bodily fluids after an accident. Thus, if clean up of bodily fluids after an incident is necessary, assigned first aid providers will handle it.

Why? Because assigned first aid providers will have the knowledge and the equipment to place an impermeable barrier between themselves and the bodily fluids. Unfortunately, there is no way to tell, at the job site, if a bodily fluid contains infectious pathogens so the assumption must be that it does.

First aid is just what the name implies. It is the initial effort to stabilize and provide care, if necessary. First aid providers are not medical personnel such as physicians and nurses.

There is no point in having assigned first aid providers if their identity is not known. All persons on a job site where first aid providers are used must know who they are. The names of assigned first aid providers will be posted along with the emergency phone numbers.

Of course, there are many first aid procedures that do not involve bodily fluids and most first aid requirements are not of a serious nature. In these cases, any employee may assist a co-worker following the below listed rule.

A primary rule of first aid is **never** provide any medical assistance for which you are not qualified. With the exception of moving an injured party from more imminent danger (example: removing an unconscious person from the hazard of fire or explosion), do not move persons with back or neck injuries. The last thing you want to do is take a mildly serious incident and turn it into a permanent paralysis or fatality!

Assigned first aid providers will ensure that adequate first aid supplies are available including appropriate PPE which will provide an impermeable barrier between themselves and bloodborne pathogens and other infectious materials.

All injuries will be reported to the competent person on the job site who will fill out an accident report and inform the Safety Director.

# ABM Enterprises NJ, Inc

## SAFETY MEETING

Note: Our company conducts scheduled safety meetings to focus attention on one major safety topic per meeting. Should an employee have a question on any subject related to safety or job procedure, it will be addressed by the person conducting the meeting.

## FLUIDS

If you heard in advance that this safety meeting was on job site fluids, you may well have thought that the meeting would focus on the storage, use, clean-up, and possible emergency procedures involved with the liquid chemical products used on or job sites. You'd be wrong. While the above are important topics and questions related to them should be addressed to the competent person, this safety meeting is about **your** bodily fluids.

From a safety standpoint, you must not neglect your need for potable (drinkable) fluids. Water is not only the most abundant of all compounds found on the earth, it is the most abundant part of you -- actually about 65% of you is water.

On construction sites, exertion and heat dictate the need for plenty of water.

Drink fluids! From a life process standpoint, what fluid intake is doing is keeping you healthy by allowing your body to maintain its core body temperature at its appropriate level. When your brain senses that cooling action is needed, your body circulates blood to your skin to allow it to cool with the outside temperature. If the water used for sweat is not replaced, a water deficit starts to occur. The millions of chemical reactions taking place in your body at every moment can only occur in the presence of water. The fluids in your body transport nourishment, gases, and waste.

Imagine your body as a water based chemical factory that functions only within a narrow temperature range. An average, healthy person, at rest, has an oral temperature of between 98.6°F and 100.4°F. If your body temperature reaches 105.8°F, convulsions may occur. Your whole central nervous system is impaired when your body temperature rises 9°F above normal. At 106.0°F, the thermoregulatory center in your brain fails and, because of damage to your central nervous system, the sweating (cooling) mechanism cuts off when you need it most. It is a vicious circle -- the hotter you get, the more heat you generate through metabolism. In fact, at 107.6°F, cellular metabolism is 50% higher than at normal temperatures.

Without getting too graphic, here are some of the problems associated with extreme water loss: cells will shrink; the skin will lose its elasticity; skin and mucous membrane cells will dry out; eyeballs will become soft; weight loss will occur; the body temperature will rise; apprehension, restlessness, and even coma may occur; urine will become concentrated; renal shutdown will occur; red blood cells will shrink; death.

Stay healthy! Drink water!

Water is truly the stuff of life.

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## SYMPTOMS

There are times when it is important to know what symptoms will present themselves when you, or a fellow worker, are exposed to certain occupational hazards. Symptoms are a reaction your body displays as a result of disease or injury.

Under ideal conditions, your lungs, skin, various orifices, and mucous membranes will never have occupational contact with harmful energy, chemicals or pathogens.

This contact can be prevented by following the safety procedures that have been established as a result of a thorough hazard assessment. The hazard assessment may have lead to passive safety systems using engineering controls; safe work procedures; and/or the required use of personal protective equipment (PPE). PPE, in these instances, essentially places an impermeable barrier between your body (parts) and the harmful substances or energy.

Unfortunately, and obviously, the workplace is sometimes not ideal. Containers may break, equipment may fail, PPE may tear, power may be lost, filters may clog -- a host of unplanned events may result in occupational exposure to harmful substances that can find their way into or on to your body.

Some symptoms are so noticeable that you would reflexly pull yourself back from continuing harm. Your body without conscience thought, would indicate you have a problem. An acid burn, particles scratching your eyes, and electrical shock are examples that would cause you to immediately remove yourself from danger and get immediate first aid.

However, some symptoms are more subtle and insidious. Exposure to some chemicals may make you drowsy, uncoordinated, and less than sharp, mentally. Symptoms can range from mild skin irritation or rash to the ultimate symptom: unconsciousness.

Having never experienced symptoms from these types of exposures, how do you know what to look for? How do you know how to protect yourself? How do you know what medical attention will be required? The answer to the above questions can be found on the Material Safety Data Sheet for the chemical products to which you may be exposed.

Whenever an employee is placed in a situation where loss of coordination or ability to think clearly is a possibility [for example, failure of respiratory protection within a permit-required confined space], at least one designated attendant will be outside the dangerous area with the ability to perform a rescue without exposure to the hazard.

The limits of exposure to hazardous energy may be found in various OSHA standards that deal with electrical energy, nuclear energy, ultraviolet light, etc.. Symptoms of over exposure to some types of energy may not present themselves for years.

Learn to recognize symptoms within yourself and others.

# **MOTOR VEHICLES**

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### POWERED INDUSTRIAL TRUCKS

Powered industrial trucks come in all shapes and sizes and are called by a variety of names: forklifts, tow-motors, mules, motorized hand trucks, platform lift trucks, to name a few. They are powered by battery, propane, gasoline, or diesel fuel.

The one thing they all have in common is they are very dangerous when care is not exercised with their use. While accidents are not common occurrences, when they do occur, they are generally serious because of the power and weight of the machine and the weight and height of the load.

Persons who operate a powered industrial truck already know the basic safety rules dealing with their use because they have been trained and they are authorized to operate the vehicle. They know, for example, to:

- a. ensure the vehicle is inspected and well maintained.
- b. ensure the vehicle has appropriate safety equipment such as a horn, adequate lighting, rollover cage, seat belt, etc..
- c. ensure the surface on which the truck travels is capable of supporting the vehicle, driver, and load; offers enough traction; and is level enough for safe operation.
- d. keep their arms and legs within the protection of the driver's compartment.
- e. allow no riders and to keep people away from the load - particularly underneath it. In fact, no person is allowed to stand or pass under any elevated portion of the vehicle, empty or loaded.
- f. travel with the load in a low position and to always look in the direction of travel. If a load blocks forward view, the operator must travel in reverse.
- g. use the safety equipment that is an integral part of the truck -- specifically seat belts.

If powered industrial truck operators know this and more, what is the reason for a Safety Meeting? One reason is all people anywhere near a powered industrial truck must be aware of the dangers of its operation, the operator's limited visibility, the potential to tip over or drop off an edge, and the possibility of falling loads.

The main reason, however, is that the person most likely to be injured in a powered industrial truck accident is not the operator but rather a bystander who is struck or pushed by the machine.

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### SCISSOR-LIFT FALL PROTECTION

What type of fall protection is required for scissor-lifts? This apparently simple question has a relatively simple answer. However, how it is derived is somewhat complicated because OSHA does not have a standard to deal with this issue.

Clearly, there is a hazard -- falling from height -- however, fall protection while using a scissor-lift is not covered in the fall protection, scaffold and ladder fall protection, nor aerial lift fall protection standards.

Section 5(a)(1) of the Occupational Safety and Health Act, commonly referred to as the General Duty Clause is a "catch all clause" which states: "Each employer shall furnish to each of its employees employment and a place of employment which are free from recognized hazards that are causing or are likely to cause death or serious physical harm to his employees."

In the absence of a specific standard relating to a safety or health risk, the above is the reference OSHA will cite.

When assessing compliance efforts, OSHA considers the requirements of pertinent national consensus standards. In the case of scissor-lifts, ANSI/SIA A92.6-1990, *Self-propelled Elevated Work Platforms*, and ANSI/SIA A92.3, *Manually Propelled Elevating Aerial Platforms*, are used.

Fall protection is provided by employees maintaining firm footing on the lift and using guardrails. Under no circumstances are employees to place ladders or other items on the lift to extend their reach. Per ANSI/SIA standards, with which OSHA concurs, "Use of planks, ladders, or any other device on the aerial platform for achieving additional height or reach shall be prohibited. Use of these items negates the value of the guardrail system and may possibly exceed the scissor-lift's design limits for stability.

Further, personnel are not to tie off to items adjacent to the lift -- the most obvious reasons are: the anchorage point may not be sufficient and movement of the lift would pull the employee out of and off of the lift.

If, for some reason, guardrails are not being provided for a specific operational reason, then a personal fall protection system may be used which would include an anchorage point, lanyard and safety harness. However, this option is severely limited because its design would have to be approved by a registered engineer or the scissor-lift manufacturer would have to approve the use of the lift as an anchorage.

Under ideal conditions, rarely found on a construction site, scissor-lifts may be moved with the lift extended. However, should obstacles, debris, drop-offs, holes, depressions, ramps or other hazards be present, the lift must be lowered prior to movement.

Finally, if the employee leaves the safety of the scissor-lift platform while working at height, some sort of approved fall protection system must be employed.

# **POSTERS/FORMS**

# ABM Enterprises NJ, Inc

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## POSTINGS

Postings are an effective method of informing employees of matters pertaining to safety. Generally, when one talks about required postings, that person is referring to OSHA Form 3165, *It's the law!*, emergency phone numbers, and OSHA Form 300A, *Summary of Work-Related Injuries and Illnesses*.

General information on the above forms follows:

OSHA Form 3165: Must be posted where employees normally report to work each day. If employees report to different job sites directly from home, this must be posted where the work activities take place.

OSHA Form 300A: Only posted during the period 1 February through 30 April for the previous year where employees normally report to work each day. If employees report to different job sites directly from home, this form must be posted where the work activities take place with the following provisions:

- a. The address and phone number where these records may be found must be available at the job site.
- b. Someone must be available at the above location during normal business hours to provide information from the records.

Note: Employers with no more than 10 full or part time employees at any one time in the previous calendar year are exempt from this requirement.

Note: This form must be posted at a construction site that is on-going for more than a year (OSHA considers this a fixed location).

Emergency Phone Numbers: OSHA is currently **considering** dropping the need for posting emergency phone numbers if all responders are accessible by dialing "911". Regardless of the outcome of OSHA rule making, it would be advisable to continue this posting because a well composed emergency phone sheet would also have site location and company/job site personnel listed. In all cases, this additional information would be of great value during an emergency.

Of course there are other required postings depending on specific circumstances.

- a. OSHA citations.
- b. Notice of informal hearing conference.
- c. Names and location of assigned first aid providers.
- d. Air or wipe sampling results.
- e. Emergency action plan.
- f. Hand signals for cranes
- g. Safe load limits for floors where appropriate.

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### SAFETY MEETING SIGN-IN FORM

On the back of each Safety Meeting, there is a simple form which, if properly used, can enhance overall safety. Below are uses for the various sections:

Employee Comments or Concerns: This section provides an opportunity to document employee comments and concerns that relate to the safety meeting just held. It is quite possible that a particular job site task may have a unique or at least unusual safety requirement that should be addressed **before** attempting the task. Interactive participation in the meeting allows for these types of issues to be discussed and allows for a clear understanding of what is expected in a particular circumstance. Of course, without active participation, there will be no employee comments or concerns.

Other Safety Issues Addressed on this Specific Job Site: This section provides both the employee and the person giving the meeting an opportunity to voice safety concerns applicable to the specific job at hand. Job site assessment and prior planning will identify areas of safety that may need to be reinforced. Examples may include reminders of specific hazards being created by other contractors; the need to keep areas clean of debris; the necessity of inspecting an item of equipment before use; the need to drink plenty of fluids during hot conditions; etc.. By anticipating safety questions that may arise during the work day, time is conserved and safety is enhanced.

Items Requiring Research or Follow-Up: Most questions asked during a safety meeting will be easily answered by the competent person or person leading the meeting. However, nobody is expected to be an encyclopedia of all safety knowledge. Some questions cannot be answered definitively without research. Of course, work cannot proceed without immediate safety questions answered. However, there are numerous questions that the answers to which can be held off for a period of time to allow for research. For example: On the job site, you have readily accessible MSDS for each chemical product. If two products are very similar, but not identical, do you need both MSDS on a job site? What does ANSI stand for? Where does OSHA get the authority to develop and enforce safety standards? These are legitimate questions, however the answer to them may be delayed without affecting safety.

Training Documentation: This section documents the date, location, and who gave the safety meeting. This is the section where employees signify with their signature that they attended the meeting. This is important for many reasons not the least of which is there is an implicit understanding that the employee (**you**) paid attention, understood, and thought about the subject matter as it pertained to your safety.

Prior to signing, ensure that you truly do understand the subject matter.

# **PPE**

# ABM Enterprises NJ, Inc

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## EYE INJURIES

On every job site, a hazard assessment will be made to determine the types of personal protective equipment (PPE) that are to be utilized on the whole job site or within areas of the job site, or during a particular work procedure.

It is vital that each employee knows what PPE is required, how to obtain it, how to maintain it, how to fit it, how to replace it, and when to wear it.

The easiest, and generally the least expensive, of all PPE is eye protection. Knowing that eye protection is required and failing to wear it is inexcusable.

Unfortunately, the "penalty often far exceeds the crime". The penalty: pain, suffering, possible loss of sight, loss of visual perception, total change of life style. The crime: ignoring the requirement to wear eye protection. It isn't fair, but that's the way things go sometimes.

Safety standards are established to provide workable solutions to job site hazards and eye hazards on a job site are common as "ants on sugar." Everything from dust and projectiles to extreme light values and chemical splashes -- the obvious and not so obvious. Eyes must be protected from physical, chemical, or radiation agents.

Suppose you could take a pill every morning that would ensure that no harm would befall you at work. Would you take it? Probably. Would your wife, husband, parent, child or any significant other insist you take it? You bet they would!

There is no such pill, however, the same results can be achieved by wearing appropriate PPE and following established safe work practices and work procedures.

Minor injuries are a minor inconvenience -- annoying at best. More serious injuries -- like true occupational eye injuries -- are a needless waste. A little more attention to safety, a little more attention to detail, a little more attention to proper eye protection -- just a little -- and the injury could have been prevented.

It is true that accidents always happen to the "other guy". Unfortunately, you could be the "other guy" your fellow workers are talking about. You could be the "other guy" who is used as an example in a future safety meeting about eye protection.

While on the topic of eye protection, whenever the eyes (or body) of any person may be exposed to injurious corrosive materials, suitable facilities for quick drenching or flushing of the eye and body must be established in the work area for immediate emergency use.

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### HARD HATS

There are a lot of reasons not to wear a hard hat. They don't look as "cool" as a baseball cap; they can slip (if not properly adjusted); when you take it off, you have to keep track of it; they may be uncomfortable if not properly adjusted; etc.; etc.. All the above are **absurd** and **stupid** reasons when balanced against the possibility of head injury.

If a hazard assessment of your work site indicates that a hard hat is required, you must wear it! It is that simple. You can rationalize all you want, but you must wear your hard hat.

The construction standard that deals with head protection and hard hats is so short and so simple, it is reproduced in its entirety, below:

Part Number: 1926  
Standard Number: 1926.100  
Title: Head protection.  
Applicable 1910 Standards 1910.135

(a) Employees working in areas where there is a possible danger of head injury from impact, or from falling or flying objects, or from electrical shock and burns, shall be protected by protective helmets.

(b) Helmets for the protection of employees against impact and penetration of falling and flying objects shall meet the specifications contained in American National Standards Institute, Z89.1-1969, Safety Requirements for Industrial Head Protection.

(c) Helmets for the head protection of employees exposed to high voltage electrical shock and burns shall meet the specifications contained in American National Standards Institute, Z89.2-1971.

While some standards are lengthy and, at times, confusing, this standard leaves no doubt of its meaning. There is no room for misinterpretation. The excuse, "I didn't know I had to wear a hard hat", just won't fly.

The consequences of a head injury can be extremely serious. In a real sense, who and what you are resides in your head. Severely damage your head, and brain, and you may become "another person" -- if you survive. The potential hazard of head injury is present on many job sites and this hazard may be easily addressed through proper wearing of your hard hat.

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## NUISANCE DUST

For all practicable purposes, the only time you may wear a dust masks is when you don't need it. Obviously, the foregoing statement needs a little clarification.

True respiratory protection is required when employees are working in atmospheres that are deemed hazardous to their health. True respiratory protection requires compliance with a respiratory protection program which, among other things, requires, prior to using a negative pressure respirator, medial approval for respirator wear by a licensed health care professional as well as a fit test following established protocols.

A dust mask, is nothing but a filtering facepiece -- a negative pressure particulate respirator with a filter as an integral part of the facepiece or with the entire facepiece composed of the filtering medium.

Because a dust mask does not provide a true seal between itself and the face and because there are no protocols to ensure that it is working properly, it may not be used where permissible exposure limits (PEL) are exceeded without its use. While a dusk mask may be worn at any time, it may not be worn in situations where true respiratory health hazard exists, per OSHA standards. In other words, it can be worn only when you don't technically need it.

So, why would anybody wear a dust mask? Dust masks are useful for those employees who work in atmospheres that contain annoying, nuisance particles, that are bothersome, but not truly a health hazard.

Employees are cautioned that while wearing a dust mask does provide some respiratory protection, it is not measurable protection.

What about wearing ½ face respirators for the elimination of annoying or nuisance dust? Because ½ face respirators are true negative pressure respirators, they may be worn only after medical approval for respirator wear has been obtained.

Additionally, an employee wearing a ½ face respirator must:

- a. read and heed all manufacturer's instructions on use, maintenance, cleaning and care as well as warnings regarding the respirator's limitations.
- b. choose a respirator certified for use to protect against the contaminant of concern. The respirator must be NIOSH approved.
- c. not wear the respirator into atmospheres containing contaminants for which the respirator is not designed to protect against. A respirator designed to filter dust particles will not protect you against gases, vapors, or very small solid particles of fumes or smoke.
- d. not mistakenly use someone else's respirator.

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### STEEL TOED WORK BOOTS

There are many types of foot protection -- each addressing a particular job site hazard. Foot hazards that may be present range from heat and cold to dangerous chemicals to slippery surfaces. But the one hazard that is present on almost all job sites is foot compression.

Your foot may literally be squashed from having something fall on it; having a projectile driven through it; having something run over it; having an item of equipment smash it.

Think about it! On most job sites, your feet are in imminent danger of being harmed. Your feet need protection just as your eyes, hands, lungs, hearing, skin, and head. While there are items of specialized foot protection, the most common, and most useful, is the steel toed work boot.

Safety footwear is not a place to cut corners. A cheap, non-approved, set of boots may offer no real protection or, equally as bad, under compression, the metal may cave in and not rebound leaving your foot trapped within the boot. In this situation, a trip to the medical emergency room will be required to allow a physician, with special tools, to free your foot from your boot.

When selecting steel toed work boots, ensure that they meet the American National Standard for Men's Safety-Toe Footwear, ANSI Z41.1-1967.

While you may remove some items of personal protective equipment (PPE) during the work day, more than likely, your boots will be on from sun up to sun down. It makes sense, to select a pair of boots that are comfortable, have an appropriate tread, and are water/oil resistant.

While discussing feet and boots, there are a few other items of safety that should be addressed.

Boot cleanliness. Before everybody says something like, "There no way I'm going to clean my boots before I go on a construction site!", a clarification is needed. You should clean your boots **after** exposure to job site hazards (such as chemical products) **before** going home. Keep job site hazards at the job site.

Steel toed boots will protect your foot from the many typical job site materials that may impact you -- brick, block, miscellaneous building materials. These boots will serve you well if an item of equipment falls or runs over your foot.

# ABM Enterprises NJ, Inc

## Project Site Safety Meeting Log Volume III

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<b>Electrical</b>		<b>General Safety (Continued)</b>	
<u>Assured Equipment Grounding Conductor Program</u>		<u>Safety Harness</u>	
		<u>Safety is Not Altruism</u>	
<b>Equipment</b>		<u>Safety Is Part of Your Job</u>	
<u>Compressed Gas Cylinders - 1</u>		<u>Safety Meetings -</u>	
<u>Compressed Gas Cylinders - 2</u>		<u>A Good Time to Catch Some Z's</u>	
<u>Dials, Gauges, Data Plates</u>		<u>Teaching Safety</u>	
<u>Material &amp; Personnel Hoists</u>		<u>What's Your Life Worth?</u>	
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<u>Just Digging a Hole</u>		<u>Respirator Wear</u>	
<u>Ladder &amp; Stairway Training</u>		<u>Physiology and Workplace Safety</u>	
<u>Material Storage</u>		<b>Motor Vehicles</b>	
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<u>Safety Equipment</u>			





# **Project Site Safety Meetings**

## **Volume III**

**ABM Enterprises NJ, Inc**

# **ELECTRICAL**

# ABM Enterprises NJ, Inc

## SAFETY MEETING

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### ASSURED EQUIPMENT GROUNDING CONDUCTOR PROGRAM

An assured equipment grounding conductor program is designed to protect employees from electrical hazards. This program covers all cord sets, receptacles which are not a part of the building or structure, and equipment connected by cord and plug which are available for use or used by employees. This program requires that:

- a. one or more competent person(s) be designated to implement the program.
- b. each cord set, attachment cap, plug and receptacle of cord sets, and any equipment connected by cord and plug, except cord sets and receptacles which are fixed and not exposed to damage, shall be visually inspected before each day's use for external defects, such as deformed or missing pins or insulation damage, and for indications of possible internal damage. Equipment found damaged or defective shall not be used until repaired.
- c. the following tests will be performed on all cord sets, receptacles which are not a part of the permanent wiring of the building or structure, and cord- and plug-connected equipment required to be grounded:
  1. equipment grounding conductors shall be tested for continuity and shall be electrically continuous.
  2. each receptacle and attachment cap or plug shall be tested for correct attachment of the equipment grounding conductor. The equipment grounding conductor shall be connected to its proper terminal.
- d. the above required tests must be performed:
  1. before first use;
  2. before equipment is returned to service following any repairs;
  3. before equipment is used after any incident which can be reasonably suspected to have caused damage (for example, when a cord set is run over); and
  4. at intervals not to exceed 3 months, except that cord sets and receptacles which are fixed and not exposed to damage shall be tested at intervals not exceeding 6 months.
- e. employees will not be permitted to use any equipment which fails the above tests.
- f. test results will be recorded and the latest log will be available on the job site for inspection. The competent person; the identity of each receptacle; cord set and cord and plug-in connected equipment; and the pass/fail results will be identified on the log.

**or**

Ground fault circuit interrupters (GFCI) will be used. We will use GFCI's.

# **EQUIPMENT**

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### COMPRESSED GAS CYLINDERS - 1

[This Safety Meeting is to be used in conjunction with COMPRESSED GAS CYLINDERS - 2]

Compressed gas cylinders are used on many job sites -- the most common being oxygen and acetylene for welding and cutting.

Failure to follow basic storage and handling procedures could result in:

- a. a sudden, violent, explosive rupture of the cylinder itself, resulting in flying pieces of metal.
- b. an abrupt release of dangerous gas which could, depending on circumstances, be inhaled, explode, or start a fire.
- c. a slow leak which could drift to a source of ignition.
- d. the creation of an "unguided missile" if the neck of the cylinder were to break off.
- e. crushed toes or fingers from falling or rolling cylinders.

Basic standard handling and storage procedures:

- a. Damaged cylinders should be segregated, tagged out of service, and returned to the gas supplier for disposal.
- b. Read and have readily available the appropriate MSDS.
- c. Cylinders must be labeled to indicate the gas identity and appropriate hazards such as health; flammability; and reactivity.
- d. Cylinders should be stored in compatible groups:
  1. flammable (acetylene) from oxidizers (oxygen) by at least 20' apart or separated by non-combustible barrier at least 5' high having a fire-rating of at least ½ hour.
  2. \*corrosives from flammables.
  3. all cylinders from \*corrosive vapors. Corrosive vapors will attack metal cylinders
  4. full cylinders from empty (Marked "MT" or "EMPTY") cylinders.

\*Note: Corrosives and corrosive vapors probably will not be found on a typical job site.

- e. Secure both full and empty cylinders by chain to a substantial support in an upright position with the valve closed, protective cap on, away from heat and electrical current, and in a well ventilated area designated for cylinder storage.

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### COMPRESSED GAS CYLINDERS - 2

[This Safety Meeting is to be used in conjunction with COMPRESSED GAS CYLINDERS - 1]

If possible, cylinders should be moved using a cylinder cart to which they are chained. For short moves and in the absence of a cart, cylinders must have the regulators removed, the valves closed and the protective caps in place prior to being tilted and rolled on their bottom edge. Steel toed footwear should be worn.

When compressed gas cylinders are moved in a powered vehicle, they must be secured in a vertical position.

If compressed gas cylinders are frozen, bars must not be used under valves or valve protection caps to pry cylinders loose nor should striking tools be used. Cylinders will be thawed by warm, not boiling, water.

Cylinders may be hoisted **only** when secured on a cradle, slingboard, or pallet.

For the record, never use a flame to locate gas leaks.

#### **Never:**

- a. leave an open cylinder unattended.
- b. leave a cylinder unsecured.
- c. force improper attachments on to the wrong cylinder.
- d. grease or oil the regulator, valve, or fittings of an oxygen cylinder.
- e. place a compressed gas cylinder within a confined space.
- f. lift or carry a cylinder by the valve.

Compressed gas cylinders represent both a potential health hazard as well as a physical hazard.

Misuse of cylinders may result in a cylinder instantly taking off like an unguided missile, an explosion, and, depending on the cylinder contents and what the contents inadvertently reach following accidental release, a major catastrophe.

As part of our Hazard Communication Plan, each employee who works with compressed gases must read and understand the MSDS for the product being used. Further, those MSDS must be readily available in the event of an emergency.

# **ABM Enterprises NJ, Inc**

## **SAFETY MEETING**

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### **DIALS, GAUGES, DATA PLATES**

Sometimes safety information is right in front of your face and you don't see it.

Do you ever look at the data (information) plate on a piece of equipment? Not only does it contain information such as the date of manufacture, model and serial number, it often contains rated capacities -- the points beyond which an item is unsafe. Ladders, hoists, cranes, powered hand tools - machinery of all kinds -- generally have data plates.

When you are operating a piece of gas or diesel powered equipment, do you routinely scan the instrument cluster immediately after starting? Do you understand the significance of the various gauges and the problems that could develop if the machine is run with the dials and gauges outside their normal operating limits?

When using compressed air tanks, do you routinely scan the pressure gauges to ensure that the equipment is operating with a margin of safety?

Compressed gas tanks, when in use, have regulators and gauges to ensure your safety. However, if these gauges are not regularly checked, they are of no value and your safety is not assured.

You can't say that this safety information is more important than that. For example, which is more important: -- the gauge that indicates the amount of breathable air in a self-contained breathing apparatus (SCUBA) tank or the data plate on a ladder? You might say the SCUBA gauge because running out of air can result in immediate death. That's true, but falling on your head from eight feet because a ladder fails from overloading can have the same result.

Something as simple as over or under inflation of a vehicle tire can result in an accident -- not necessarily likely, but certainly possible.

What happens when you overcharge a battery, run an engine with low oil pressure or extremely high temperatures, have too much pressure on a welding tank, or too much pressure in a hydraulic line, and so on? Sometimes, the result is needless damage to the equipment -- other times it results in catastrophic failure of the equipment resulting in injury to yourself or a fellow employee.

Using dials, gauges, and data plates takes advantage of safety information which is readily available. Dials and gauges give you instant information on important information which is constantly changing. If it were not important, the information would not be presented. Use it to your advantage.

Stay within operational limits.

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## SAFETY MEETING

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### MATERIAL HOISTS & PERSONNEL HOISTS

All hoists used on the job site must be operated within the limitations established by the manufacturer. Rated load capacities, recommended operating speeds, and special hazard warnings or instructions shall be posted on cars and platforms.

Wire rope (hoisting rope) must be removed from service when any of the following conditions exist:

- a. six randomly distributed broken wires in one rope lay or three broken wires in one strand in one rope lay.
- b. abrasion, scrubbing, flattening, or peening, causing loss of more than one-third of the original diameter of the outside wires.
- c. evidence of any heat damage resulting from a torch or any damage caused by contact with electrical wires.
- d. reduction from nominal diameter of more than " for diameters up to and including  $\frac{3}{4}$ ".
- e. reduction from nominal diameter of more than " for diameters " to 1".
- f. reduction from nominal diameter of more than " for diameters  $1\frac{1}{4}$ " to  $1\frac{1}{2}$ ".

Hoisting ropes shall be installed in accordance with the wire rope manufacturer's recommendations. The installation of live booms on hoists is prohibited. The use of endless belt-type manlifts on construction shall be prohibited.

#### **Material Hoists:**

Operating rules must be posted at the operator's station of the hoist including the signal system to be used and the allowable line speed for various loads. Rules and notices shall be posted on the car frame or crosshead in a conspicuous location, including the statement "No Riders Allowed."

No person shall be allowed to ride on material hoists except for the purposes of inspection and maintenance.

All entrances of the hoistways shall be protected by substantial gates or bars which shall guard the full width of the landing entrance. All hoistway entrance bars and gates must be painted with diagonal contrasting colors.

Gates or bars protecting the entrances to hoistways must be equipped with a latching device. Overhead protective covering of 2" planking,  $\frac{3}{4}$ " plywood, or equivalent must be provided on the top of every material hoist cage or platform.

The operator's station of a hoisting machine must be provided with overhead protection equivalent to tight planking not less than 2" thick. The support for the overhead protection shall be of equal strength.

# **GENERAL SAFETY**

# ABM Enterprises NJ, Inc

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## ACCIDENT LOTTERY

If you don't bet on a lottery, you have no chance of winning -- absolutely none! If you bet on a lottery, you might win, but you probably won't. The more you bet, the greater your chances of winning. If you cover all the numbers, you'll absolutely win, but probably you'll win less than you bet. That's the way it is.

If you do not violate any safety procedure and are careful in all you do on the job, you will not have an accident. If you occasionally violate safety procedures, you may have an accident, but, in truth, you probably won't. However, if you constantly ignore safety procedures, it is a pretty sure bet that eventually you'll have an accident and get injured. Of course, anytime you violate safety rules, you may get hurt and the more safety chances you take, the greater the odds are that you will have an accident. That's the way it is.

Why would you, in your right mind, tempt fate and expose yourself to possible injury? Where is the benefit to you? Does taking safety shortcuts save time? You are getting paid a day's wage for a day's work, and safety is part of your job. Do you really think anyone is impressed, or even cares, if you take a shortcut and save a minute or two on a three hour job? On the other hand, you can bet that you, your fellow workers, your supervisors, and your significant others will certainly be upset and disappointed in your judgment and behavior if you, as a result of your safety shortcut, get injured. Aside from the injury itself, your selfishness will cost time, money, and emotional capital -- all of which are irreplaceable. You'll be noticed, all right, but it is not the kind of exposure you want.

Why would you gamble when the pay-off is an injury? The bet doesn't make sense. It would be one thing if you risked injury for a great reward -- such as fame or tons of money -- as do professional football players or Indianapolis 500 drivers (even they take safety as seriously as their respective sports will allow), but another to risk it all for, at best, a few minutes of saved time and even that is questionable!

Don't for a minute think that you are doing the company, your fellow workers, or yourself a favor by rushing headlong into a work situation without factoring in the safety procedures. Rather than being a valued employee, you become a loose cannon, a bull in a china shop, a hazard, a danger, a liability -- to put it bluntly: a persona non grata!

Just as there are compulsive gamblers who, over time, lose everything, there are employees who, for whatever reason, seem to compulsively gamble on safety. Not surprisingly, over time, they too lose. Sometimes it's a minor injury, sometimes a major injury, sometimes it is the ultimate injury -- death!

If you must gamble, gamble on a sure winner -- safety. You win every time!

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## ADMINISTRATIVE CONTROLS

It is possible to provide a level of safety by merely implementing administrative controls. What are administrative controls?

Administrative controls are established procedures and policies, which must be enforced, that limit the employees exposure to a specific hazard. The ultimate, though impossible, administrative control would be a policy that prohibits employees from exposure to all possible hazards.

More realistically, a policy could be established that prevents employees who are not directly involved in a particular process from access to that process. This type of administrative control is quite common. Often on job sites you see "restricted areas" which preclude employee exposure to airborne contaminants, noises, high voltage, or machinery processes. Administrative policies would state that only authorized persons are allowed in restricted areas.

Another type of administrative control will limit the time of exposure to a specific hazard to an acceptable level. Many job site hazards have a permissible exposure limit which involves the level of the hazard as well as the time one is exposed to that hazard. To maintain safety, either the level of the hazard must be reduced (air contaminants and noise being the most common) or the time of exposure must be reduced. Reducing the hazard may involve engineering controls [the preferable method of dealing with a hazard on a permanent basis] and/or use of personal protective equipment. For a short term "fix", administrative controls such as reducing the time of exposure, may be the way to go. It is certainly the easiest, though, to ensure maximum safety for employees, it is not always the best.

You must be aware that administrative controls alone have a down side. Because they are an "easy way out" of hazard exposure, they do not address inadvertent exposure nor the elimination of the hazard itself. Administrative controls alone may be appropriate as a short term fix for a short term hazard.

A simple analogy will explain this concept: If you were to hold a lit match in your right hand and then held your left index finger in the flame for ten seconds, you would not only experience pain, you would obviously harm your finger. If there were an established procedure that you could only run your finger through the flame quickly [administrative control], and you followed this procedure, there would be no harm done -- no injury. However, the hazard, the flame, still exists. A better solution is to put a barricade between the flame and your finger [engineering control]. The best solution is to eliminate the flame all together [eliminate the hazard].

Administrative controls can reduce your hazard exposure, but they do not eliminate the hazard.

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### BE SAFE

A macho man can do it all. He is strong, masculine and virile -- he is impervious to pain -- and never asks for help. Macho man -- what a guy!

Of course, macho man doesn't look so macho laid up at home with a strained back because he lifted something too heavy without asking for help or, better yet, using some lifting device to assist him.

Macho man doesn't look so macho in a hospital bed with a head injury because only sissies wear hard hats.

Macho man doesn't look so macho walking around with one eye because safety glasses are for wimps.

Macho man doesn't look so macho limping here and there with a crutch because only scaredy-cats use personal fall protection devices.

Macho man doesn't look so macho dying of a lung disease because only cowards use respirators.

Macho man doesn't look so macho being brain dead because he crashed his motorcycle on the way to work not wearing a helmet.

Macho man doesn't look so macho going around saying "huh?" all the time because only nerds wear hearing protection.

Macho man doesn't look so macho as the paramedics try to resuscitate him after getting zapped with 220V because following basic electrical safety procedures is for geeks.

In his own mind's eye, macho man looks cool, even suave. In the eyes of everyone else, he looks like a fool.

Always wear appropriate PPE. Always use the safety equipment and safety knowledge you are provided with. Always ask for help if you are confronted with a task that you are not physically capable of performing. Always use tools and equipment in the manner for which they were designed. Always understand safety procedures required of a specific task **before** you undertake to accomplish it.

Being the mythical macho man might be all right at a party or some other social event, but certainly not on the job.

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## **CAUGHT IN THE ACT**

Every once in a while, a local newspaper will run a photograph of some innocent worker on a random job site. Often, the picture is nothing more than newspaper filler and the caption accompanying the photograph is some silly tidbit like, "Spring is Here" or "Concrete Pours Like Rain".

It is not uncommon, however, for these pictures to show the worker violating every possible safety standard imaginable for the work at hand. And, to add insult to injury, the worker's name and the company for whom he works are clearly identified.

In a real sense, much of construction work is performed in a "glass bowl" and violations of safety standards are easy to observe by passers-by, fellow employees, and, of course, OSHA.

Next time you drive by a construction site, try to see how many safety violations you can spot. It is amazing! Whether it is a road construction project, a roofing job, or a high-rise going up, you can usually identify at least one, if not many safety violations. Of course, each violation does not result in an accident. However, almost all accidents that do occur are the result of these violations.

Whether you are outdoors for all to see, inside with other contractors, or merely working alone within eyesight of a client, the manner in which you perform work is known or becomes known. How many times have you heard something like, "XYZ Company, yeah, they do good work." or, "ABC Company, they're a bunch of idiots!?" Often the perception of a company is based not on the actual work that is done as it is the "manner" in which it is done. Work that is done safely, by conscientious employees, is going to be perceived, and probably properly perceived, as good work. Work that is done in a haphazard manner with disregard for safety is going to be perceived, and probably properly perceived, as slipshod work.

Even though it is a rare occurrence when somebody takes your picture at work, let alone publish it, you should work as if you were on film. There should be no time when you could get caught violating basic and specific safety rules and procedures. Not to avoid notoriety, but to avoid injury. The whole point of safety is to not have accidents, not get injured, and not cause injury to someone else.

How you and your fellow workers behave on a job site reflects the values of the company. How others interpret those values is one of many factors that determines how much business we can capture. Without business, the whole concept of workplace safety becomes a moot point.

Even if nobody can see you, you can see yourself. Be safe!

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### DESTROYING GOVERNMENT PROPERTY

Years ago, if a soldier got a severe sunburn that resulted in temporary incapacitation, that soldier could be, and often was, charged under the Uniform Code of Military Justice, Article 15, for willful destruction of government property. In this interpretation, the soldier, or GI (government issue), was considered government property.

Of course, nobody thinks of you as “property”, however you can literally destroy yourself through failure to adhere to basic safety principles. The penalty phase of a work site accident is not a military hearing which results in a loss of privileges, restriction of movement, or a small fine -- the penalty phase is instant, harsh, and, in many cases, tragic. That’s the nature of accidents. That’s what happens when you fall from height, get mangled by machinery, have a piece of construction material fall on you, breath a hazardous atmosphere, get engulfed in a permit-required confined space, and so on and so on.

Every safety standard, every safety procedure has been developed **after** not one, but many, similar type accidents have occurred. In a real sense, proper methods of completing your work safely are the direct result of the spilt blood of workers who have preceded you.

There is no question that if you were unfortunate enough to actually see a fellow worker fall from 16 or 20 feet and hit the ground right by your feet, you would **never** forget it. You would never have to be reminded to use fall protection equipment. You would go that “extra step” to ensure the equipment was properly inspected, the anchorages were appropriate, and that no short-cuts were taken. You would never just go through the motions so that it looked like you were using fall protection devices -- you would use them properly. There is no question that you would really pay attention to fall protection training, ask questions, clarify any areas of uncertainty. There is no question that you would never be a victim of a fall accident.

Just because you are blessed with not having to personally see awful tragedies at work, don’t think for a minute that they don’t happen every day somewhere on some job site. The same types of accidents that resulted in the development of safety standards continually reoccur because some people refuse to take advantage of what has been learned from them and methods to avoid them.

Of course, some employees somewhere are not exposed to safety rules. Some employees somewhere are not aware of the hazards that may exist on the job site. Some employees somewhere do not know about the importance of personal protective equipment. But, you do!

You attend safety meetings, have access to safety equipment, are encouraged to ask safety related questions, are aware of safety procedures and standards.

Do not destroy yourself!

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## ENGINEERING CONTROLS

How often have you been reminded to wear your personal protective equipment (PPE) such as steel toed boots and hard hats? Of course, PPE includes all types of items that can prevent injury to your body such as gloves, respirators, eye protection, hearing protectors, even clothing.

Did you realize that a job site hazard could be rendered harmless without the use of PPE? In fact, PPE use is a last resort for personal protection after the use of administrative and engineering controls.

Of course, the best method of dealing with a job site hazard is total elimination of the hazard in the first place. Assuming that this cannot be accomplished, engineering controls offer a preferred method of employee protection because they are considered passive in nature meaning that no employee involvement is necessary.

Engineering controls can be as simple as proper lighting to more aggressive controls such as forced air ventilation.

Types of engineering controls found on job sites include:

- a. "restricted areas" which limit access to hazardous areas to only those personnel who are required to accomplish a job function and who are trained and equipped to deal with the hazard. Restricted areas totally eliminate the identified hazard to all other employees.
- b. machine guards. These items protect employees from a machine's point of operation as well as gears, pinch points, and spinning parts. Even small powered tools have guards to protect the user from contacting the spinning blade.
- c. toeboards and other types of barricades are used to prevent items from falling from above.
- d. physical "blocks" are used to prevent an item of machinery or movable parts on an item of machinery from reaching an employee.
- e. tarps or sheeting to reduce inclement weather conditions such as high winds, cold, or rain.
- f. actual design or modification of tools such as non-slip, non-vibrating handles.
- g. enclosures to reduce noise and pipes or hoses to exhaust gases.
- h. design of an efficient traffic flow on a job site can reduce accidents.

A hazard assessment of a job site before work commences often will dictate the types of engineering controls that may be implemented to reduce or eliminate job site hazards

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## **FALL PROTECTION TRAINING**

Numerous job site accidents could be eliminated if fall protection procedures were implemented when appropriate. When fall protection is required, OSHA takes it so seriously that not only does a written program have to be prepared, the latest certification of training must be maintained and include the name of the employee trained, the date(s) of training, and the signature of the competent person who conducted the training or the signature of the employer.

If appropriate, specific training must address:

- a. the nature of fall hazards in the work area.
- b. the correct procedures for erecting, maintaining, disassembling, and inspecting the fall protection systems to be used.
- c. the use and operation of guardrail systems, personal fall arrest systems, safety net systems, warning line systems, safety monitoring systems, controlled access zones, and other protection to be used.
- d. the role of each employee in the safety monitoring system when this system is used.
- e. the limitations on the use of mechanical equipment during the performance of roofing work on low-sloped roofs.
- f. the correct procedures for the handling and storage of equipment and materials and the erection of overhead protection.
- g. the role of employees in fall protection plans.

Additionally, retraining must be given when it is determined that an affected employee who has already been trained does not have the understanding and skill required by the initial training.

Circumstances where retraining is required include, but are not limited to, situations where:

- a. changes in the workplace render previous training obsolete.
- b. changes in the types of fall protection systems or equipment to be used render previous training obsolete.
- c. inadequacies in an affected employee's knowledge or use of fall protection systems or equipment indicate that the employee has not retained the requisite understanding or skill.

If you have any doubt whatsoever about proper fall protection procedures, ask!

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## FOCUS ON SAFETY

There was an inner city Army National Guard unit that had monthly training meetings and every Saturday and Sunday they were fed steak and baked potatoes and chicken and mashed potatoes. In the armory or in mock battlefield conditions, the same menu. The vegetables, salads, breads, and deserts changed, but the meat and potatoes remained the same. An army inspector reviewing the unit's records complained that there was no variety and that the soldiers must be sick of the same old thing over and over. It was pointed out that the "same old thing" was not served every day, but every month and further the meals were the best meals these soldiers had in their life. The soldiers liked it, the cooks liked it, and the unit liked it because it maximized their cost per meal.

What does the above have to do with safety? The "meat and potatoes" of safety meetings is safety. In a way it is the same old thing over and over. How many ways can you say, "Practice established safety procedures!?" Sure -- each meeting has minor changes. Some meetings deal with stories, some are humorous, some are sad, some are a list of rules, some point out specific standards and procedures, some address PPE, but the main focus is always safety and after the meeting is over, hopefully, some tidbit of safety instruction will sink in.

As you leave the meeting and start your work, possibly you may be thinking about safety in general terms and how important it is to you and the persons with whom you work. Possibly you might be thinking about a specific safety procedure that has been clarified. Possibly you might have asked questions during the safety meeting that not only helped you, but also helped one of your co-workers.

The point is, that after a safety meeting you are thinking about safety and the more and more you do this the more and more safety will be meaningful to you.

Sure, the "meat and potatoes" of the next safety meeting will be safety. However you can garnish it with questions, interactive discussion, thoughtful reflection, and so on. You can make the safety meetings the best safety meetings possible and make them something to be looked forward to.

If you take nothing away from a safety meeting, the meeting was a worthless waste of time. If you picked up just one safety tip or item of knowledge that could protect you from injury, the meeting was invaluable.

Ultimately, it is hoped that safety meetings will instill a desire to not only work in a safe manner, but to put you on the alert for safety hazards which should be pointed out to supervisors. Identifying and eliminating job site hazards could become as natural as eating a good meal of steak and potatoes.

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## HORSEPLAY

Sometimes you feel like having some good-natured fun -- rough, boisterous fun. It adds spice to life and it's enjoyable. It can brighten up an otherwise dull day.

It is not allowed on the job site! Why?

First -- the most obvious -- is that if you are engaged in horseplay, you are not working and further you are probably affecting the work of fellow employees. Secondly, horseplay projects a negative image to clients who would rightfully assume that we don't care about our work or the quality of our work. While horseplay may be fun for the participants, it is, in the final analysis, annoying and discourteous. It is childish and boorish and has no place in a work environment.

Lastly, it is dangerous. Construction work is safe only when care is paid to work, safety procedures are followed, PPE is worn properly, and attention is paid to details. Taking your mind off your work -- or worse, taking someone else's mind off their work can easily lead to a serious accident -- not just a bruise or scrape, but a really serious injury. Construction job sites may have heavy tools and equipment, overhead and ground level hazards, hazardous chemicals, walking/working surfaces greater than six (6) feet above a lower level, chains, ropes, activity, movement, vehicles, foul weather, mud, snow, heat, less than optimal lighting, other contractors, time schedules, hazardous energy, hazardous noises, hazardous atmospheres, ladders, scaffolds, permit-required confined spaces -- numerous people doing numerous jobs. Into this mix of potential danger would any sane person inject horseplay? No!

Certainly, there is the other extreme in construction work -- one or two people working alone in a quiet, secluded area with no known hazards. Again, you are being paid to perform work whether or not there is direct, visible supervision. The client, the one who is ultimately paying the bill, does not expect to pay for someone "fooling around". No sane person would allow horseplay to disrupt this setting. Why inject a hazard (horseplay) when none exists?

Horseplay on the job is against company policy and, by signing attendance at this safety meeting, you are acknowledging that you understand this simple, but important, policy.

Not only is horseplay against company policy, it is against the law. Allowing horseplay would not be consistent with providing a safe workplace.

Some things are so obvious that it seems foolish to state them -- much like -- "Poison, do not ingest". You would think that "Poison" would be sufficient. This, too, is obvious and it is being stated: No Horseplay!

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## **INTERACTIVE TRAINING**

Engineering controls are far superior to personal protective equipment (PPE) in protecting employees from harm because engineering controls are passive. Passive means that the employee is totally “out of the loop” as far as the specific safety hazard that is addressed by the engineering control. Engineering controls could include something as simple as a locked door to something more complex such as forced air ventilation. The point is, the employee is protected with no thought or actions required.

The use of PPE is just the opposite of engineering controls as far as employee involvement is concerned. Employees must know the hazards, the types of PPE to combat the hazards, the results of failure to use PPE, the fitting, using, maintaining of PPE, and so on. PPE use doesn't just happen -- it takes employee involvement.

What does the above have to do with interactive training? Interactive training, much like PPE use, demands thought and reflection on the part of the employee. Interactive training works because as opposed to merely reading a standard, a policy statement, a set of procedures or attending a lecture addressing these issues, the employee, you, are asked to participate.

You make certain everything makes sense -- everything is clear. You discuss issues and make suggestions. Your questions and concerns are shared with other employees attending the same training. You learn from the interaction of other employees just as they learn from you.

Interactive training may include actually handling equipment or demonstrating your ability of performing a task in a safe, prescribed manner. It allows for correction before there is hazard exposure.

As much as anything else, because you become immersed in training rather than have it trickle over you, whatever you learn, you learn well.

As a general rule, interactive training works best in smaller groups of ten or less for the obvious reason that this allows all persons to participate. Of course this number could vary depending on the topic, the level of previous training, and the expertise of the competent person providing the training.

Unfortunately, there is no equivalent to engineering controls when it comes to training. There is no possible way that safety training can be pounded into you by some sort of magic. Just because a safety program exists or just because you attended a safety lecture does not assure that you have absorbed any of the information.

The person who benefits from interactive safety training is you and the results are immediate -- no accidents.

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### IT'S NOT THE FALL, IT'S THE SUDDEN STOP

You are on a walking/working surface 35 feet above a lower level. Your boot snags on something, you lose your balance, and you are now falling toward the ground. What would your thoughts be? If you're a slow thinker, not much because in approximately 1 second your moving body will be suffering the consequences of a severe impact with an immovable object. The ground may give a little, but your body will give a lot! Falls from 35 feet generally result in severe injury or death.

If you have the presence of mind during this plunge to not panic and not fret about your impending doom, you can enjoy your 1 second weightless ride to earth. During this short ride, you can feel the wind in your face, observe the ever changing scenery as it whizzes by faster and faster as you accelerate -- objects on the ground growing in size as you approach impact. You might even catch a glimpse of other workers gasping in horror as they realize the danger that YOU are in.

Would your mind be racing or would it be frozen? Would your limbs flail, hang limp, or straighten out? Would you have time to experience true, unadulterated fear, or would the experience be over before your body and mind had time to react?

Would you shout out in anger or be unable to catch your breath? Would you try to land on your feet, your side, stomach, flat on your back? Would you be trying to figure out the least painful landing or would you just be shaking uncontrollably?

One stupid, harebrained mistake and possibly you are a moment away from non-existence. It just isn't fair -- it just isn't right!

How's this for a happy ending? Your safety harness, properly attached to an appropriate anchorage, is forcefully, safely, and surely slowing your fall down in a very controlled and reassuring manner. Almost instantaneously, before you even fall a few feet, the elasticity in the lanyard is slowing you down. During this falling process, because you truly are not experiencing any fear, you may have the presence of mind to say, "Drat!", for falling in the first place, but that should be about the extent of your anger and frustration.

Hopefully, you will never experience the "thrill" of falling at work. But if you do, doesn't it make sense to have a safe fall? Doesn't it make sense to use fall protection? It is required by law; it is required by company policy; it is required by common sense -- it is required because it could save your life!

Consider fall protection as an insurance policy. Instead of paying premiums to get money after injury or death, you spend a few minutes prior to actual work to **prevent** injury or death.

# ABM Enterprises NJ, Inc

## SAFETY MEETING

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### JACK OF ALL TRADES - MASTER OF NONE

To be called a “Jack of All Trades” is certainly a complement. Few and far between are persons who can adequately perform the tasks required of essentially all the trades found on a construction site.

However, what is more important? A man who can adequately perform a job or a man who is a true master? Unfortunately, the phrase, “Jack of one or two trades and master of the same one or two trades”, just doesn’t sing out. But that is what you want to be.

You must be the best at what you do and this involves understanding all the intricacies of your chosen trade as well as how your trade relates and interacts with other trades.

Whether its raising steel, pouring concrete, or operating a crane, some people are just flat unbelievably good at their job -- they are masters of their chosen profession.

New types of equipment, improved materials, new techniques all are readily accepted by a true master. He doesn’t live in the past dwelling on past achievements. He is current, up to date, and as good as his current job.

It is easy to spot a master craftsman. It is easy to spot his work. It is generally easy to approach him because a true master will mentor others -- freely sharing his knowledge, skills, and love of his job to those willing to learn.

Everyone’s goal should be to become a master of something. Unfortunately, many people are satisfied with just doing their job and getting by. How many people do you see on the job site who are doing just a regular job, putting in their time, being adequate, but not outstanding?

No one is born a master, it is not inherited -- it is earned through hard, dedicated work. There is no barrier to becoming a master of your trade other than a personal commitment to be the best, study, do, practice, push on, and don’t give up.

A master puts a little bit of himself in every project and, in a real sense, a little bit of him lives on after the project is completed.

And, because these are safety meetings, it should be pointed out that it is a certainty that a master of any trade works in a safe manner, uses proper administrative/ engineering controls and/or appropriate PPE, creates no hazard for others, and is alert at all times.

Try to be a “Jack of one or two trades and master of the same one or two trades”.

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### JUST DIGGING A HOLE

Just digging a hole. Sounds simple enough. What could possibly go wrong when you're digging into the ground? That depends on where you are digging, how deep you are digging, and with what type of equipment you are digging. Certainly, a six inch hole dug with a spade poses no problem. How about four feet with a post hole digger? How about a six foot trench? How about a complete foundation? Obviously, the levels of danger change depending on exactly what you are doing and how you are doing it. But what are the specific hazards?

First of all, you are not to work in proximity to any part of an electric power circuit that you could accidentally contact in the course of your work. Additionally, in work areas where the exact location of underground powerlines is unknown, employees using jack-hammers, bars, or other hand tools which may contact a line must be provided with insulated protective gloves. To preclude this from happening, prior to digging, it must be determined by inquiry, direct observation, or instruments whether any part of an energized electric power circuit, exposed or concealed, is so located that the performance of the work may bring any person, tool or machine into physical or electrical contact with the electric circuit.

Secondly, once you dig deep enough so that you can get into what you are digging, such as a trench, you have to be sure that the sides of your excavation do not collapse and engulf you. A couple of feet deep, and there is no problem. If you are digging in stable rock and the depth of your excavation is less than five feet and a competent person is certain that there is no possibility of a cave-in, you don't have to worry about protective shoring. If the above conditions are not met, a protective system must be used substantial enough to resist all loads that could reasonably be expected to be applied to that system should a cave-in occur.

Thirdly, when digging, you must be certain that items that might fall into the excavation are removed or supported.

Additional hazards that may be associated with digging include:

- a. lack of ramps or steps for ready egress (required in trenches of four feet deep).
- b. hazardous atmospheres.
- c. vehicles operated adjacent to the excavation falling in (vehicle operators must have a clear and direct view of the edge of the excavation **or** a warning system must be utilized such as barricades, hand or mechanical signals, or stop logs. If possible, the grade should be away from the excavation).
- d. stability of adjacent structures.
- e. a person falling into the hole, pit, or excavation. If not clearly visible, or at a remote location, adequate physical barrier protection must be provided.

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### LADDER & STAIRWAY TRAINING

How hard is it to use a ladder? Who, on a construction site, can't climb a stairway? Why would OSHA even consider having standards that address ladder and stairway safety? Obviously there have been a sufficient number of ladder and stairway accidents that justify the need for these standards. Training, as necessary, will ensure that employees are able to recognize hazards that relate to ladder and stairway use and the procedures to be followed to minimize these hazards. Training, if needed, would include items applicable to the job site such as:

- a. the nature of fall hazards in the work area.
- b. the correct procedures for erecting, maintaining, and disassembling the fall protection systems to be used.
- c. the proper construction, use, placement, and care in handling of all stairways and ladders.
- d. the maximum intended load-carrying capacities of ladders.

If a supervisor notices an employee failing to observe proper ladder and/or stairway safety procedures, retraining will be given.

Do you know that:

- a. you **can not use** the top or top step of a step ladder as a step, however, you **may use** the top cap as well as all steps on a step stool? A step stool is a self-supporting, foldable, portable ladder; non-adjustable in length; 32" or less in height.
- b. a stairway or ladder must be provided at personnel points of access where there is a break in elevation of 19" or more (unless there is a ramp, runway, sloped embankment, or personnel hoist)?
- c. where doors or gates open directly on a stairway, a platform must be provided and the swing of the door must not reduce the effective width of the platform to less than 20"? On construction sites, this is important if semi-trailers are used as storage areas. You cannot jump in and out of trailers as they are more than 19" above the ground.
- d. a stairway having four or more risers or rising 30" or more must have at least one handrail and along each unprotected side or edge?
- e. when portable ladders are used for access to an upper level surface, the ladder side rails must extend at least three feet above the upper surface, if possible. If not possible, the ladder must be secured and a grabbing device will be available to allow safe exit (and entrance onto) the ladder?

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## MATERIAL STORAGE

All storage areas must be kept free from accumulation of materials that constitute hazards from tripping, fire, explosion, or pest harborage. Vegetation control will be exercised when necessary.

Material storage is important enough that OSHA even has a standard that addresses it and failure to comply with basic storage procedures could result in injury, material damage, and fines.

Specific requirements are:

- a. all materials stored in tiers shall be stacked, racked, blocked, interlocked, or otherwise secured to prevent sliding, falling or collapse.
- b. maximum safe load limits of floors within structures, in pounds per square foot, must be posted in all storage areas, except for floor or slab on grade.
- c. aisles and passageways shall be kept clear.
- d. material stored inside buildings under construction shall not be placed within 6' of any hoistway or inside floor openings, nor within 10' of an exterior wall which does not extend above the top of the material stored.
- e. each employee required to work on stored material in silos, hoppers, tanks, and similar storage areas shall be equipped with personal fall arrest equipment.
- f. non-compatible materials shall be segregated in storage.
- g. bagged materials shall be stacked by stepping back the layers and cross-keying the bags at least every ten bags high.
- h. materials shall not be stored on scaffolds or runways in excess of supplies needed for immediate operations.
- i. brick stacks shall not be more than 7' in height. When a loose brick stack reaches a height of 4', it shall be tapered back 2" in every foot of height above the four-foot level.
- j. when masonry blocks are stacked higher than 6', the stack shall be tapered back one-half block per tier above the six-foot level.
- k. **lumber:**
  1. used lumber shall have all nails withdrawn before stacking.
  2. lumber shall be stacked on level and solidly supported sills.
  3. lumber shall be so stacked as to be stable and self-supporting.
  4. lumber piles shall not exceed 20' in height provided that lumber to be handled manually must not be stacked more than 16' high.
- l. structural steel, poles, pipe, bar stock, and other cylindrical materials, unless racked, shall be stacked and blocked so as to prevent spreading or tilting.

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## MINOR INJURIES

Why should anyone care if you get a minor injury on the job site -- a minor injury such as a superficial scrape or burn that requires, at most, one-time first aid treatment? Minor injuries of this type are not even reportable, so what's the big deal?

Consider this. Have you ever been in a traffic jam that delayed you 5 minutes? Of course you have and it is no big deal. However, if you take all the people in all the cars that are also delayed 5 minutes, you are talking about many hours of wasted time and aggravation.

The same principle applies to your "minor injury".

- a. Work is disrupted in your general work area and the total time wasted becomes substantial.
- b. The first aid provider, if he is a company employee, is a person who generally is authorized to provide first aid as an additional duty on construction sites. Because of this, the first aid provider must be pulled from his/her primary job and spend time tending to your injury. Of course, first aid kit items that are used must be replaced or accounted for in some fashion so that appropriate supplies are available for future use -- possibly a more serious injury. More time wasted.
- c. Common sense dictates that the cause for even minor injuries should be determined. Injuries don't just happen -- there is a reason. Was the injury the result of: incorrect job procedure (lack of training); improperly worn, faulty, or non-use of PPE; faulty equipment; employee carelessness; etc.? This determination, which takes time, is needed to prevent a reoccurrence and, possibly, to determine additional training needs, improved equipment, or redesigned job procedures.
- d. If the accident was a direct result of your carelessness, the slight pain you experience is your just reward for disregard of safety principles and the time and effort that others had to expend because of your actions.
- e. If the accident was a direct result of faulty equipment or procedures, the slight pain you experience is a small, and admittedly unjust, price you had to pay to prevent a similar occurrence from happening to one of your co-workers.

Minor injuries aren't as minor as you would think.

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### NATIONALLY RECOGNIZED TESTING LABORATORIES

When you press on your brake pedal in your car or truck, do you ever think about the hydraulic pressure in your brake lines or the amount of heat that must be dissipated by your brakes to bring your vehicle to a safe stop? Probably not. These components work because they are manufactured in compliance with one or more national consensus standards.

If you see a product advertised that will triple your gas mileage, make you live longer, or lose 30 pounds in a week without dieting or exercising, you can bet they will not work. Of course, these products are often advertised with statistics and raves from an unknown laboratory, an unknown doctor, and/or an unknown organization.

When our company buys PPE, for example, we do not go to a toy store and buy some cheap junk that looks like PPE. We purchase equipment that is manufactured in accordance with a recognized national standards authority such as the American National Standards Institute (ANSI). This assures that the product will perform as advertised. This is not only good practice, it is the law.

Would you trust your life to personal fall protection devices made of woven bamboo by child labor in Outer Mongolia? Not a chance. However, lots of unapproved safety products such as dust masks and safety glasses are readily available in stores. You don't know who really manufactured them. Actually, any safety product manufactured to conform to a national consensus standard will clearly indicate this on the product or on the packaging. If it doesn't, it is worthless for personal protection.

Tools, chains, filters, lubricants, rigging, machinery, electrical items -- you name it -- there is a standard under which it must be manufactured. If it isn't, it is of no value because, 1) it's illegal on the job site, and 2) you have no reasonable method of ensuring the product's integrity during use.

Luckily, you don't have to know what goes into the testing -- you just have to know that the product is approved and that it is approved by the appropriate testing laboratory. In fact, in most cases, it is very difficult and expensive to even see the actual standards. To obtain a copy of the standard for steel toed boots, for example, will cost about \$45.00 and on top of that you are not allowed to share its contents with anybody. The technical aspects of manufacturing and testing a steel toed boot is of little value to you -- knowing that it will protect your foot is of great value!

Many OSHA regulations reference these standards with phrases such as, this item must be manufactured in compliance with national consensus standard so and so.

Ensure that the safety items you use clearly state they are manufactured in accordance with the appropriate standard.

# **ABM Enterprises NJ, Inc**

## **SAFETY MEETING**

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## **NEAR MISS INCIDENTS**

Almost all accidents that result in personal injury start with a cause and end with an effect - the injury, itself. Near miss incidents also start with a cause, but, because of lucky chance, they end with no injury. No harm, no foul. No need to pursue the issue any further. Wrong!

A near miss incident does not result in personal injury only by chance. If you had been located a foot this way or that, if the projectile had been a fraction of an inch this way or that, if you hadn't been able to grab something stable at the last moment, if the power hadn't shut off at that instant, if something hadn't caught your attention at the last moment, if, if, if!

If any of these, and other "ifs", hadn't happened, you would have been injured. It is important to learn from near miss incidents -- learn what you did wrong and learn how to ensure those behaviors are not repeated.

How many times have you heard from your fellow workers: "One more second, and I'd have been a goner." or "It came that close -- it just missed me." or "Boy was I lucky, one more inch and I'd be toast."?

If a near miss incident is the result of something you did, and you know you did it, and it was a violation of an obvious safety rule or procedure, consider yourself lucky, learn from your mistake, and be more careful in the future.

If the near miss incident was totally unexpected and really should not have happened, you should definitely report it to your supervisor so the mishap may be investigated and a plan of action developed to prevent a reoccurrence. Either you, or others, were not taught the proper method to perform that particular task or a set of safety procedures must be researched, developed and, more importantly, conveyed to all employees to prevent a reoccurrence.

You should be open about near miss incidents -- they provide a great teaching tool to prevent injury to others. They drive home the importance of safety without having to suffer the immediate consequences of a real personal injury accident. In a way, they are a blessing because they point out hazards of construction work in a meaningful way that is easily understood by all.

A note of caution. Some injuries are actually caused by an employee showing another employee what he did to initiate a near miss incident and the second time around he is actually injured.

Treat near miss incidents as if they were accidents. Determine the cause and ensure that it can't happen a second time.

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### OSHA - FRIEND OR FOE?

Nobody likes to be told what to do. Asked what to do, maybe, but told? No!

OSHA not only tells us what to do, it has the power to enforce its standards with threats of fines and even shutting us down. It has the power of the United States government behind it. Doesn't sound like a friend, does it?

Of course, we do expect our food, water, air, automobiles, bridges, highways, power plants, consumer goods, and medicines to be safe. Persons who manufacture, monitor, control, or inspect these items should be under the control of a higher authority such as the U.S. government. We expect our construction equipment, our construction safety gear, our construction materials to be manufactured in accordance with some sort of government standard.

It is our right as citizens to not be harmed by the actions of others. Agencies that regulate almost all facets of lives are good -- they are our friends.

What's wrong with this picture? The one agency that is charged with protecting us from ourselves is the one agency that we sometimes get down on. It's no skin off OSHA's nose if you get hurt on the job -- it's skin off your body!

Would acceptance of OSHA standards be more palatable if OSHA merely asked us to follow them? How about if they said, "Please"? Of course not!

Either you care about your safety or you don't! It's that simple. OSHA has developed standards to prevent injury to you -- right now, immediately. Without standards, without a general consensus, accidents would rise at an alarming rate. This is clearly demonstrated by the fact that compliance with standards reduces accidents, and furthermore, when job site accidents do happen, they can, with the exception of a freak accident, be traced directly back to a violation of one or more OSHA standards.

In other words, there is no realistic way that you are going to have an "original" accident. Any accident that befalls you will have happened to many persons before you doing the same thing that you did.

How stupid is this? A man removes a guard from a buzz saw and accidentally cuts off his arm. You see it happen, then remove a guard from another buzz saw and cut your arm off.

OSHA is sort of a buffer. They see hundreds of men cut off their arms off in buzz saws and make a rule that you cannot remove the guard. You don't even have to know why you shouldn't remove the guard -- you just can't! The result: this type of accident cannot be repeated.

If you care about preventing injury to yourself, OSHA could be the best friend you ever had.

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### PERSONAL SAFETY CHECKLIST

In addition to specific training you may have received that pertains to workplace safety such as fall protection, respiratory protection, permit-required confined space entry, etc., there are certain safety related items you should know on practically every job site. The following is a very basic personal safety checklist.

Can you answer, "Yes", to each applicable question?

Do you know:

- a. the location of the Material Safety Data Sheets (MSDS) that apply to the chemical products you use?**
  - 1. the importance of MSDS and labels?
- b. the location of fire extinguishers?**
  - 1. what types of fire they are for and how to use them?
- c. the appropriate personal protective equipment (PPE) you are to be using?**
  - 1. how to wear, store, and maintain it?
- d. how to access emergency medical help?**
  - 1. the location of emergency phone numbers?
- e. the location of the first aid kits?**
  - 1. what items are in the kits and how to properly use them?
- f. what items of equipment must be inspected before use?**
  - 1. what defects you are looking for and what to do if a defective item is found?
- g. what to do in the event of a general emergency?**
  - 1. means of notification, exit route, meeting place?
- h. when and to whom you are to report an injury?**
  - 1. why prompt notification is important?

If there is any question above that you do not know the answer to, ask! Right now is the time to clarify any basic safety issues.

If you do know the answer to the above questions, you should be proud of yourself because you have obviously given thought to your personal safety and the safety of those with whom you work.

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## POLE CLIMBING

Prior to climbing a pole, an inspection must be made of the pole to ensure that it is capable of sustaining the additional stress that may be placed on it as well as the unbalanced weight that the pole may have to support due to the climber as well as the line, cable, and equipment that may be attached to the pole or supporting structures. Remember, removing these items also places different stresses on the pole and supporting structures.

If the pole is deemed unsafe for climbing, it must be made safe by guying, bracing, or other means.

Actual work on a pole presents hazards -- the most serious of which are electrical -- and they are addressed through established work procedures as well as methods to insulate the worker through the use of specialized tools, personal protective equipment, and/or ensuring the line is deenergized and grounded.

The PPE to be used for climbing would include gaffs, climbers, body belt, and straps or lanyards. All these items must be inspected daily before they are used. Defective items must be removed from service.

If there is possible exposure to falling objects, electric shock, or burns, protective hats must be worn which indicate that they have been approved by ANSI Z89.2-1971, Industrial Protective Helmets for Electrical Workers, Class B.

Gaffs on climbers must be kept within safe length limits (1¼", minimum), properly shaped, and sharp.

Body belt surfaces must be smooth and free of sharp edges and have a maximum of four tool loops situated so that at least 4" in the center of the back of the belt is free of tool loops and any other attachments.

Safety straps must be secured to both D-rings on the body belt before weight is placed. Never attach one safety snap to the D-ring and the other to another object for support.

When two or more employees are to work on the same pole, the first must reach a secure position before the second climbs. They must descend the pole one at a time.

Fall protection is provided by a positioning device system as opposed to a personal fall arrest system which requires the use of a body harness. A positioning device system is designed so a person may work on a vertical surface with both hands free and they are rigged so that the employee cannot free fall more than 2 feet.

Only locking type snaphooks will be used.

Body belts, harnesses, and components shall be used **only** for employee protection as a positioning device system and not to hoist materials.

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### SAFETY -- OVER AND OVER AGAIN

When you were a child, you were probably told things like: "Comb your hair."; "Brush your teeth."; "Take a bath."; "Behave!"; "Do this."; "Do that."; "Don't do this!"; "Don't do that!". Over and over -- the same thing -- until finally you internalized proper behavior.

Things repeated enough times eventually sink in. How many times have you seen the same advertisement for a product -- over and over? Statistically, if and when you decide to buy that product, you will probably buy the one that has been drummed into your brain by constant advertising. The very fact that you buy the product at all is probably a conscience or subconscious response to the advertising.

It is annoying to be told what to do and what to think. Eat right, don't smoke, lose weight, exercise, ad nauseam.

As a child, you were told what to do for your own good. Somebody actually cared about your welfare.

Do you ever wonder why other people try to alter your behavior? Do you really think some generous person or company would spend millions of dollars on advertising to spread the message, "Drive Safely", because they care about you? Hello! Grow up! Insurance companies want you to drive safely so they don't have to pay even more millions of dollars in claims. It is reasonable to assume that most attempts to influence your thinking and behaviors are perpetrated by those who stand to gain by your changed behaviors. Some of these influences are good. Certainly, **not** demolishing your car in a high speed, fiery accident that leaves you on life support is a good thing.

These safety meetings are an attempt to establish good safety behaviors. There is no question that our company materially gains by your working in a safe manner. But, equally important, there is no question that you materially gain by working in a safe manner.

It's the same thing, over and over. Think safety! Act safely! There is nothing subtle about these meetings -- they are a blatant attempt through factual data, through humor, through example, and through repetition to encourage you to think about safety.

You gain by not experiencing the pain and suffering (both physical and financial) that invariably is associated with an occupational injury -- we (the company) gain by not losing a valuable employee.

We will try to emphasize safety over and over again, and, hopefully, the concepts of safety will become second nature to you.

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## SAFETY EQUIPMENT

Did the Titanic sink because of careless seamanship, brittle metal in the hull, or a twist of fate? Did so many persons drown because the ship sank or because there were not enough life boats available? There are two separate issues -- the sinking and the drowning.

There are often two parts to an accident. The actual accident: falling, slipping, tripping, being hit by a flying object, getting caught, etc. -- and the results: bruising a muscle, breaking a bone, puncturing the skin, receiving a burn.

Just as a ship can sink and people can avoid drowning because of life jackets and life boats, it is very possible -- even likely -- to have an accident and not get hurt at all if appropriate safety equipment is being properly used.

A projectile zooming toward your eye poses no danger if you are wearing eye protection. A fall off a 50 foot vertical wall poses no danger if you are properly harnessed in a personal fall protection device. A fall from a bridge is safe if you land in a safety net. Sharp metal will not cut your hand if you are wearing appropriate gloves. It is easy to see where this is going. Use proper safety gear and your odds of getting hurt during a mishap are greatly reduced.

How many countless nails, spikes, and sharp objects have you stepped on while on job sites? Thousands, to say the least. How many of these objects have penetrated your boots? None? The answer is certainly, "None", if you were wearing the correct type of footwear.

How many countless times has something as simple as work gloves protected your hands from minor scrapes?

How many times has your hard hat protected your head from injury either because you banged into a low object or an object fell from above?

Take any group of construction workers and ask them if they have been protected from injury by safety equipment and see the response you'll get. It would be a rare group of workers who could not relate many instances where injury -- both major and minor -- has not been averted by the use of this type of equipment.

The Titanic was built to code. The builders were sure that its life boats would never be needed. There was no need to have enough life boats if there was no hazard to justify their use. The ship hit an iceberg and sank. People drowned.

You don't know and you'll never know at what instant you'll need safety gear. Be safe -- use it.

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## SAFETY HARNESS

Have you ever seen old newsreel coverage of race cars from the 1920's? Those old cars would flip over, bounce over a fence, and wind up with hardly a dent. Of course the driver would be sent flying out the cockpit of the automobile because there was no restraining mechanism to hold him in.

Automobile safety has come a long way. Race cars now practically disintegrate as they crumple and fly apart during a major accident as energy is dissipated. And the only precious cargo the car has, the driver, stays firmly within the protection of the driver's cage -- held in by not merely a safety belt, but by a multitude of safety straps and a custom, body molded seat.

Over time, people came to realize that if you could strap the driver in the car, he would sustain less injuries than bouncing along the roadway or, worse, falling out of a vehicle and having it roll over him. Seat belts were in. Seat belts made their way into passenger cars and a major push was on to make their use mandatory.

It didn't take very long to realize that safety belts, alone, had a very serious drawback. While the driver's hips remained in place during a high speed accident and the body, as a whole, stayed within the vehicle, the upper part of the body -- the head -- kept traveling at a high speed until it impacted the steering wheel, the dashboard, the rear view mirror and other protruding objects. People were maimed, disfigured, paralyzed, and killed while their hips fared fairly well as far as injury goes.

Clearly, seat belts alone were inadequate for restraint. Race car drivers began using safety harnesses with a multitude of straps to hold their upper body in place and prevent their head or chest from ramming into the steering wheel column. Passenger automobiles were equipped with a strap that crossed the body to prevent upper body forward movement during a crash.

The more spread out the restraining forces (number of straps), the gentler the impact on your body. Think of this: if you were to be dropped just 1 inch, would you prefer to be stopped by a strap attached to your little finger or a safety harness surrounding your whole body? The answer is obvious -- the harness.

The same principle applies to body belts and body harnesses in fall protection situations. Body belts are not allowed -- period. The forces to halt a fall could break your back using a single belt around your waist, while a body harness spreads the forces out and provides a substantially higher level of safety.

Safety harnesses are easy to use -- use them!

# **ABM Enterprises NJ, Inc**

## **SAFETY MEETING**

Note: Our company conducts scheduled Safety Meetings to focus attention on one major safety topic per meeting. Should an employee have a question on any subject related to safety or job procedure, it will be addressed by the person conducting the meeting.

## **SAFETY IS NOT ALTRUISM**

Many of you, when you are not at work, give of your time and effort to help others. You do this not for self glorification or personal reward -- you do it because it is the right thing to do. This type of behavior is altruism.

While we would all like to think we are altruistic, the fact is, when it comes to work, you provide a service and are rewarded by pay. It's business. Even if you wanted to, you cannot give your services to the company and get nothing in return just as the company cannot give its services away and remain in business for any length of time. You have to eat -- the company has to survive.

While it is easy to say that providing Safety Meetings is an altruistic gesture on the company's part, the fact of the matter is, if you are injured because you ignored a basic safety rule, it costs the company money. Sure, it may cost you pain and anguish, but it costs the company, and all the employees who make up the company, money. This money may be in the form of wasted time, replacement costs, damaged equipment, worker's compensation premium increases, lost jobs, finding a replacement for you, and so on.

Of course, all the employees (the rest of the company) who did not get injured will feel sorry for you. Their feeling of remorse may be tempered with thoughts such as: "How could he have been so stupid?" or "What in the world was he thinking?" or "Why didn't he just follow standard safety practices?".

Their remorse might be even more tempered if you have a spectacular accident that makes the local news and reduces the company's ability to get work.

Certainly, accidents can happen to even the most careful employee -- that's the nature of accidents. Accidents that happen in spite of following proper procedures, wearing the appropriate PPE, and paying attention to detail are unfortunate. Your friends and co-workers probably will show their altruistic side by sending you flowers, visiting you in the hospital, and doing what they can to make your life easier. Nobody should be the victim of a "freak" accident.

Be the victim of an accident of your own making because you flaunted your invulnerability, you snubbed your nose at safety, you totally ignored your welfare and the welfare of your co-workers, and see how much sympathy you get.

Do the right thing for your fellow workers -- by caring for yourself, you are actually caring for them. You could almost say you're altruistic.

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### **SAFETY IS PART OF YOUR JOB**

When you are assigned to perform a task, the assumption is that the task will be accomplished in a professional manner. There is no expectation that somebody else will have to finish your job because you are off seeking medical attention for an injury received by virtue of sloppy safety practices.

Many of the tasks that you perform could be classified as “art” in the sense that you mold, shape, build, create and make things. But while you are doing these things, you must flat out follow certain safety rules. There is no vagueness -- no real weighing of the issues -- no serious judgment involved. Rules and procedures are in place and you must follow them -- it’s part of your job.

While you are being paid to “ply your trade”, you are also being paid to ply your trade safely. In addition to being company policy, it’s the law! Normally, when you get caught breaking the law, you go through some sort of court process and are fined or, if really serious, incarcerated. Seldom is a law breaker caught the first time out.

It is the same with safety. You skimp on this safety rule or you avoid that safety procedure or fail to use a certain required item of PPE and nothing happens -- at first. But as you develop these unsafe habits and flaunt your invulnerability, slowly, but surely, the odds of getting injured start turning against you. You’ll get caught -- you’ll get injured. Just like in the old West where they caught ‘em and hung ‘em, your penalty will be swift and sure. At the least, you’ll receive a minor injury. At the worst, you’ll be severely burnt, paralyzed or dead.

The point is needless accidents are just that -- needless. There is no justification for not following basic safety rules. If you don’t know what they are -- ask. When it comes to safety, there are no foolish questions.

One way to minimize the possibility of needless accidents is to remove a person from the job site who is likely to be harmed -- or harm others -- through negligent behaviors.

The company provides safety training and does what it can to ensure that all employees perform their tasks in a safe manner. An employee who disregards safety is not fulfilling his obligations just as much as a worker who doesn’t do his regular work. Neither can be tolerated.

Safety can be as simple or as complicated as you want it to be -- make it simple. Understand what type of safety precautions are appropriate for your job and follow them religiously.

Supervisors will not allow unsafe acts to go unchallenged.

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### SAFETY MEETINGS -- A GOOD TIME TO CATCH SOME Z'S

The safety meeting is on fire prevention. You have never had a fire in your work area and you don't expect to have a fire in the future. A boring safety topic -- a perfect time to nod off and get a few minutes of sleep before actually going to work.

Wrong!

Wrong for a couple of tangible reasons. First is the whole concept of an accident. An accident is an unexpected occurrence that results in injury. If you expected a fire and did nothing to prevent it, it would not be an accident -- it would be negligent, possibly criminal behavior. Secondly, and more importantly, you have the power, and obligation to yourself, to make even the most dull, boring, repetitive safety meeting interesting. How? Ask questions. Demand answers! Get an interactive dialogue going between yourself and the instructor and your fellow workers. Stay on topic, but ask how this or that safety meeting pertains to you, why is it important, how can you make your area a safer place, etc..

By being involved in a discussion -- a sharing of ideas and concerns -- the points made will be more firmly fixed in your mind. The object is not to have a debate with a winner and a loser, but to allow for "give and take" and share pertinent ideas with the common goal of achieving safety in the workplace.

If you join in discussing safety ideas, you will encourage others to voice their opinions. Each person has a wealth of experience that can be tapped, if, and only if, it is shared.

Remember, your opinion will not change a rule or the obligation to follow a standard. It is foolish to say, "I don't ever require fall protection because there is no way I'll ever fall." But it does make sense to ask about the various fall protection systems and the circumstances under which they are to be used. It does make sense, to drive home the importance of fall protection, to relate true stories of workers who have fallen and whether or not they had fall protection and whether or not they were seriously injured.

Understand that the person giving the safety meeting may not know all the answers. In fact, if all employees in a safety meeting were truly involved in a safety meeting and actively discussing all the ramifications of any safety topic, there is a very good chance the instructor would have many items that would have to be researched.

That is really what a good instructor wants. Nothing could be more rewarding than having an audience that really cared about safety. The following meeting could be devoted to finalizing questions from the previous meeting and so on.

You, the instructor, and your fellow workers could look forward to a lively safety discussion to really get the day off to a great start.

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## TEACHING SAFETY

No matter what your particular skills are on the job site, over time they become second nature and, for you, the actual mechanics of your job become simple.

However, if you are ever asked to mentor (teach) another employee all the facets of your job, you must remember that to him everything is new and might very well seem complex.

You must be patient and encourage questions. You must seek questions and answer each of them thoroughly. Show the person how to perform a task, watch him perform the same task, maintain an interactive dialogue, and impress on that person that there is no such thing as a stupid question.

Of course, accomplishing the task, in and of itself, is important. But equally important is accomplishing the task safely. While teaching someone else, it is a good time to review your own safety practices and make certain that over time you have not developed some dangerous shortcuts.

There are reasons (or at least a reason) for every safety procedure and you must be able to verbalize them. You cannot say something like, "That's just the way it is done." and let it go at that. For example, if the task requires eye protection, there must be a specific hazard that forces this type of personal protective equipment (PPE). The hazard may be radiation such as light or heat, particles such as dust or metal chips, or a combination of these or other hazards. Welding would produce all sorts of eye hazards.

The above is obvious. However, what about a hazard that is totally painless? What about a sustained noise level above, say, 95 decibels? What about the inhalation of airborne particles in amounts above the permissible exposure limit (PEL)? The damage caused by these exposures may take years to present themselves. In the presence of these painless hazard exposures, are you taking shortcuts? Would you inadvertently pass on these bad habits to a new worker to whom you are teaching a job?

It is easy to fall into a trap with painless, unnoticeable job site hazards. You could always rationalize bad workplace behaviors with: "Just this one time won't hurt."; or, "If I had more time, I'd put on a respirator or ear protection, but right now I don't have the time."

When you're teaching someone how to perform your job, don't bypass safety procedures with something like, "Normally you use this type of PPE, but we'll skip it this time." A statement like that translates to: "In reality, I never bother with PPE and you shouldn't waste time on it either."

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### WHAT'S YOUR LIFE WORTH?

How do you go about measuring the value of your life? Is it measured in longevity, earning power, the happiness you give, the joy you receive, the concern you show for others, the money you make, the status you achieve? Of course, when putting a value, or worth, on your life, there are no absolutes -- no right or wrong way to make the determination. However, regardless of how you determine your worth, it is absolutely certain that if your life is cut short through an occupational accident, your value goes to zero! No more sharing, no more achieving, no more receiving -- no more anything!

As a child, you learn, through experience, that certain behaviors result in adverse consequences. You touch a hot stove, you get burned. You recklessly steer a sled into a tree, you get hurt. Simple cause and effect.

As you get older, and wiser, you learn not necessarily from personal experience, but from the vast knowledge of the experiences of others, that certain behaviors result in adverse consequences. You read about fatal automobile accidents, fatal house fires, drug overdose deaths, and so on. You don't have to experience these sets of events to fully comprehend their dire consequences.

Most safety rules are developed after a series of accidents -- repetitive in nature -- has occurred over a period of time. After studying the cause(s) of these repetitive accidents, procedures are developed which, if followed, will prevent a reoccurrence.

Because adherence to safety standards prevents serious injury and death, it follows that it also prevents minor injuries as an added benefit. For example, while control of hazardous energy procedures may prevent electrocution, it will also prevent minor electrical shocks. While fall protection prevents deaths from falls from heights, it also prevents broken bones from these same types of falls.

Take some time -- not while working on your job -- to reflect on all the safety procedures that pertain to your work. Do you understand them? Do they make sense? Do you see how they can prevent injury? Do you have unanswered questions? Do you know where to get answers? Do you have suggestions for working in a safer manner? Do you know how to evaluate and share your ideas?

Are you aware of unsafe acts you have performed? Do you know why you took chances? Was it to save time? Was it to save money? Was it to save face? Was it worth it?

Safety is everybody's business. Most importantly, safety is **your** business!

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### WHY HAVE SAFETY RULES?

It would be a little confusing, to say the least, if every other day traffic rules changed. Some days you'd stop on red, on others you'd go on red. Some days you'd stop on green, on others you'd go on green. Possibly on Sundays you'd go on yellow and stop on both green and red. What a disaster that would be -- total chaos!

We all hate rules, we all want to be free to "do our own thing", we all know what is best. But after a few days of the above traffic control scenario, we'd all be longing for rules and praying for some sort of order.

Some things just have to be regulated and codified. This is a safety meeting so it's a good bet that the suggestion will be made that safety must be regulated and codified and that's right!

We all must be "reading off the same page" when it comes to safety. You can't be required to use fall protection only when on a walking/working surface 6 feet or more above a lower level and the next guy be required to use it 5 feet or more above a lower level.

What about hard hats? One fellow might need to wear a hard hat if there were a possibility of being hit by a meteor shower while another might need to wear a hard hat to protect him from impact of sun rays. No logic! No sense!

How about a goofy respiratory protection rule that simply said, "If you're having trouble gasping for air, put on an air supplying respirator."? All silliness.

Safety rules are developed after taking tons of real workplace data and correlating accidents with types of behaviors. Industry standards and procedures, administrative and engineering controls, as well as specific items of protective equipment are developed by professional safety engineers and scientists and codified into standards that apply equally to all in similar circumstances.

Whether you are working on a job in Ohio or in Alabama, the same basic safety rules apply in the same basic circumstances.

You have to admit that sometimes rules and regulations are truly necessary particularly when it comes to safety. Many, if not all, safety rules were developed (and are being developed) after many serious accidents occurred that resulted in severe injuries, pain, disease and death. There is no known safety rule that does not address a serious hazard. There is no rule that says you must wear a sweater when the temperature is below 55 degrees because you might be chilly.

Safety rules are for your own good. If followed, they protect your life!

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### WORKING IN INCLEMENT WEATHER

Because of the infinite types of construction jobs, types of equipment, types of walking/working surfaces, types of PPE in use, levels of training achieved, etc., OSHA does not have specific weather criteria at which point work should stop and persons should seek shelter.

Certainly, properly equipped linemen are expected to work in the most hazardous of conditions such as wind, cold, snow, and electrical storms. However, they are protected by specialized PPE, specialized tools, and, most importantly, a high level of training.

A person working on a free standing metal tower in the middle of a field during an electrical storm is in a totally different position, from a safety standpoint, than a person working on a city street surrounded by tall buildings with the rumble of a storm far in the distance.

What OSHA does say, in 29 CFR 1926.20, General Safety & Health Provisions, is that the employer must essentially initiate and maintain safety programs to ensure that employees do not work in conditions that are unsanitary, hazardous, or dangerous to their health or safety and that frequent and regular inspections be made by a competent person.

A competent person is one who, by virtue of training or experience, has the authority to stop work if a safety hazard is identified and it cannot be immediately corrected.

For example, from experience a competent person would know if an electrical storm had the potential of harming employees who were working outside and, if it did, at that point, would stop work. Whether work is completely stopped for the day, moved indoors, or merely postponed for a few minutes would be a decision for the competent person on site.

Certain types of inclement weather present specific problems that the competent person must deal with. High winds, extreme heat, heavy snow, hail, tornadoes, hurricanes, flooding, bitter cold -- each type of extreme weather condition affects different aspects of construction depending on the equipment being used and the level of protection offered by the job site itself, as well as the preparedness of each employee.

It is important that an identified competent person call the shots during inclement weather conditions so that a knowledgeable decision can be made. It is also important that you know the increased hazards associated with inclement weather such as slippery surfaces, possible blowing down of structures, loss of improperly stored materials, flooding of trenches, caving-in of walls, electrocution, and so on, and the methods and procedures to protect yourself.

**HAZARDOUS**

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### ACCIDENTAL EXPOSURE TO POISONS

A poison can be defined as a chemical substance that causes harm when it comes into contact with living tissue. It is clear from reviewing Material Safety Data Sheets that poisons abound on the job site. While you don't think of solvents or gasoline, for example, as poisons, they are if ingested, inhaled, absorbed, or injected into your body in sufficient quantities to cause harm.

As a point of interest, even prescribed medical drugs which are designed solely to help living organisms can result in poisoning if misused through improper diagnosis or overdose.

Knowing the hazards of the chemical products with which you are working, the location and ready accessibility of MSDS, the signs and symptoms of overexposure, the methods of exposure, and the first aid procedures to be taken if exposure occurs are items that could be of life saving importance.

Below are some of the common job site chemicals which could cause harm and some of the symptoms of overexposure. Proper use, PPE requirements, and first aid procedures are found on appropriate MSDS.

Job site chemical poisons include gases such as carbon monoxide; corrosive acids and alkali used in cleaners and paint removers; arsenic compounds found in paints; bleaches; carbon tetrachloride in degreasers; petroleum distillates such as gasoline and kerosene; turpentine which is found in solvents and cleaning solutions; and xylene and toluene which are also found in solvents and degreasers.

The above types of products and literally all chemical products have the potential to poison your body.

The following is to emphasize the importance of MSDS and safe work practices.

Poisons can cause: skin irritation; burns about the mouth and throat; dehydration; stomach pain; nausea; vomiting; weak, rapid pulse; cold, clammy skin; confusion; delirium; coma; throat constriction; internal bleeding; electrolyte loss; mild to throbbing headaches; dizziness; convulsions; swelling; hallucinations; seizures; cardiac irregularities; paralysis; spasms; drowsiness; stupor; fever; muscle weakness; kidney failure; respiratory failure; abdominal pain; cramps; diarrhea; coughing; choking; high blood pressure; shallow breathing; bone marrow damage; drooling; and, of course, death.

Rather than experiencing even the mildest of the above consequences of accidental poisoning, wouldn't it be wiser to exercise caution when using any chemical product?

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## ARSENIC ABATEMENT

### ADMINISTRATIVE PROCEDURES

As a matter of policy, administrative procedures will not be used as a means to reduce an employee's time weighted average (TWA) exposure to inorganic arsenic. Workers will not be subjected to even minimum amounts of inorganic arsenic exposure over short periods of time to circumvent the more stringent requirements of engineering controls.

### ENGINEERING CONTROLS

The below engineering controls for working in a regulated area with possible inorganic arsenic exposure will be overseen by a Competent Person.

1. **Establish a Regulated Area** where worker exposures to inorganic arsenic, without regard to the use of respirators, are in excess of the permissible limit. The regulated area will be demarcated and segregated from the rest of the workplace in a manner that minimizes the number of persons who will be exposed to inorganic arsenic. Access to regulated areas shall be limited to authorized persons. Warning signs will contain the following information:

**DANGER  
INORGANIC ARSENIC  
CANCER HAZARD  
AUTHORIZED PERSONNEL ONLY  
NO SMOKING OR EATING  
RESPIRATOR REQUIRED**

2. **Enclose the Work Area** after all movable objects have been removed to prevent them from becoming contaminated with inorganic arsenic.
3. **Ensure the integrity of the enclosure** before operations begin and prior to each work shift throughout the entire period work is being conducted in the enclosure. This is accomplished best by running a hand over all seams in the plastic enclosure to ensure that no seams are ripped and the tape is securely in place.
4. **Control both entry to and exit from the enclosure.**
5. **Supervise all employee exposure monitoring.**
6. **Ensure the use of protective clothing and equipment** including: respirators; disposable Tyvek suits (or similar full body clothing); gloves; hats; boots or disposable shoe coverlets; eye and face protection.
7. **Ensure that employees are trained in the use of engineering controls, work practices, and personal protective equipment.** Shoveling and brushing may be used only where vacuuming or other relevant methods have been tried and found not to be effective. Where vacuuming methods are selected, the vacuums shall be used and emptied so to minimize the reentry of inorganic arsenic into the workplace.
8. **Ensure the use of hygiene facilities and the observance of proper decontamination procedures.** A decontamination enclosure to prevent cross-contamination of work and street clothing consists of a shower chamber, an equipment room, and a clean room. All employees will shower.

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### HAZARD COMMUNICATION TRAINING

When employees are exposed to specific hazards, OSHA requires that a written program be prepared to address those hazards. Hazard communication is one requirement that is certain to apply to construction work. Hazard communication deals with communicating to employees the hazards associated with chemical use in the workplace. It is not limited to “hazardous chemicals” as one would normally think of hazardous chemicals such as explosives, acids, or poisons, but rather it applies to all chemicals that present a health or physical hazard. This would include even sawdust created when wood that has been treated with chemicals is cut and such benign chemicals as hand cleaner (what would you do if you got a gritty hand cleaner in your eyes?). Of course, lubricants, fuels, adhesives, pastes, cement, and all manner of chemical products are potentially dangerous if inhaled, ingested, or injected into your body.

Information on the hazards associated with chemical products used in the workplace is provided on Material Safety Data Sheets (MSDS) as well as labels. Each chemical product that presents a hazard must have a readily available MSDS and all employees must know how to access that MSDS.

Specific training requirements include:

- a. methods and observations that may be used to detect the presence or release of a hazardous chemical in the work area (such as monitoring conducted by the employer, continuous monitoring devices, visual appearance or odor of hazardous chemicals when being released, etc.).
  1. you should be able to detect through sight or smell the chemicals with which you are working.
- b. the physical and health hazards of the chemicals in the work area.
  1. this information can be found on labels as well as MSDS. MSDS are substantially more comprehensive than labels.
- c. the measures employees can take to protect themselves from these hazards, including specific procedures implemented to protect employees from exposure to hazardous chemicals, such as appropriate work practices, emergency procedures, and personal protective equipment (PPE).
  1. all job site chemical products are perfectly safe if properly used and appropriate PPE is worn. However, in the event of an accident, you should know the emergency (immediate) procedures to take to protect yourself from harm.
- d. the details of the hazard communication program including an explanation of the labeling system and the MSDS, and how employees can obtain and use hazard information.
  1. you must know the location of the MSDS.

Additional hazard communication training will be given when a new chemical hazard is introduced into the workplace.

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## **HAZARDOUS ENERGY**

Obviously electrical energy has the potential to be hazardous. It is easy to fall into a trap where you shut-off the electricity to a piece of equipment, place a lock and/or a tag on the power supply box, and begin maintenance procedures. Is this enough to satisfy OSHA requirements, or more importantly, enough to protect you from the potential energy hazards associated with a specific piece of equipment while performing maintenance on it? It depends. It depends if you have performed a hazard evaluation that considers all forms of potential energy that could be suddenly, and unexpectedly, released and cause harm.

Pent-up energy could reside in hydraulic and/or pneumatic systems; counter-weights and/or flywheels; springs, etc.. There could even be thermal or chemical stored energy. Many items of equipment have multiple sources of hazardous energy.

The problem with stored energy is the tremendous force presented when it is accidentally and suddenly released, it will catch you off guard and probably cause serious injury. A simple example is something heavy falling off a hydraulic, screw, or ratchet and lever jack and crushing a person. The hazardous energy, in this case is the force of gravity pulling the heavy object rapidly and unexpectedly down. As a safety note, once a jack is raised, the item raised should be blocked to prevent it from falling. The same principle would apply to, say, working on a dozer blade that is held in the air by hydraulic pressure. If a valve failed or a hose ruptured, the blade would rapidly and unexpectedly fall. Of course, this can be prevented by physically blocking it in the raised position.

The point is, you should have an established and written procedure for performing maintenance on any item of equipment where there is a potential for the sudden release of hazardous energy.

The actual procedure for dealing with the energy would be on a control procedures form. Using both the Energy Source Evaluation Form (to identify the hazards) and the Control Procedure Form (to establish a method to prevent the release of these energy sources), your safety can be assured.

To help ensure these forms are used during maintenance procedures, it is a good practice to post a completed copy with each piece of equipment or at least have them readily accessible.

Each Energy Source Evaluation Form should contain the following: equipment name and location, model and/or serial number, procedure number, list of potential energy sources, means of isolation and their location, and name of authorized employee conducting the evaluation and date.

The Control Procedure Form should contain the following: shutdown procedures, machine location, lockout/tagout device application, how to release stored energy, verification of isolation, and lockout/tagout release procedures.

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### SILICA

Per the National Institute for Occupational Safety and Health (NIOSH), construction workers can be easily exposed to silica when using rock containing silica or concrete and masonry products that contain silica sand when performing such tasks as chipping, hammering, drilling, crushing, or hauling rock; abrasive blasting; and sawing, hammering, drilling, and sweeping concrete or masonry.

When working in areas where possible exposure to respirable crystalline silica dust exists, NIOSH has suggested the following:

- a. Recognize when silica dust may be generated and plan ahead to eliminate or control the dust at the source. Awareness and planning are keys to prevention of silicosis.
- b. Do not use silica sand or other substances containing more than 1% crystalline silica as abrasive blasting materials. Substitute less hazardous materials.
- c. Use engineering controls and containment methods such as blast cleaning machines and cabinets, wet drilling, or wet sawing of silica containing materials to control the hazard and protect adjacent workers from exposure.
- d. Routinely maintain dust control systems to keep them in good working order.
- e. Practice good personal hygiene.
- f. Wear disposable or washable protective clothes at the worksite.
- g. Shower (if possible) and change into clean clothes before leaving the worksite to prevent contamination of cars, homes, and other work areas.
- h. Conduct air monitoring to measure worker exposures and ensure that controls are providing adequate protection for workers.
- i. Use adequate respiratory protection when source controls cannot keep silica exposures below the NIOSH REL.
- j. Provide periodic medical examinations for all workers who may be exposed to respirable crystalline silica.
- k. Post warning signs to mark the boundaries of work areas contaminated with respirable crystalline silica.

Exposure to silica during construction activities can cause silicosis, a serious and potentially fatal respiratory disease. Silicosis, a scarring and hardening of lung tissue, can result when particles of crystalline silica are inhaled and become embedded in the lung.

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### TOLUENE-2,4-DIISOCYANATE

In the event that work is done where Toluene-2,4-diisocyanate is present, you should be aware of the following.

Toluene-2,4-diisocyanate is commonly referred to as TDI. TDI is a base ingredient for many polyurethane plastics and, unfortunately, is an irritant to all living tissue. OSHA has set a ceiling limit for the maximum level of exposure at 0.02 parts per million (PPM) or 0.14 milligrams per cubic meter of air (mg/m<sup>3</sup>). As a time weighted average over an eight-hour work day, the permissible exposure limit (PEL) is set at .005 PPM or .04 mg/m<sup>3</sup>.

From a safety standpoint, one must recognize safe working practices when there is a possible exposure to TDI. It should be noted that one cannot detect the odor of TDI until the permissible exposure limit is well exceeded.

Because proper ventilation is difficult to obtain in operations where TDI is poured, mixed, frothed, or sprayed, the National Institute for Occupational Safety and Health (NIOSH) recommends that unprotected employees (those without a respirator) not be permitted within 50 feet of TDI spraying operations outdoors. Any employee within ten feet of spraying operations should wear a positive-pressure, air-supplied hood; impervious gloves; tightly buttoned coveralls; and foot protection.

Respiratory problems are the most serious hazards associated with TDI. TDI vapor, even at low concentrations, may cause nausea, vomiting, abdominal pain, as well as breathing problems. If breathing problems develop, get the victim to fresh air immediately and call an emergency responder. If oxygen can be administered by trained personnel, it should be done. If breathing has stopped, attempt CPR.

When there is a chance of liquid TDI splashing into the eyes, the mucous membranes of the eyes (as well as the respiratory tract) are especially susceptible to TDI, employees should wear cup-type goggles. Of course, protective clothing and shoes should be worn. Eyes that have had TDI splashed on them should be flushed for at least 15 minutes and a physician should be called immediately.

Spills should be immediately cleaned up with a mixture of water, ammonia, and isopropyl.

Smoking and eating is not allowed in TDI work areas. If TDI is ingested, induce vomiting at least three times by giving the victim warm salt water, milk, and a laxative such as milk of magnesia. Call an emergency responder immediately.

Lastly, if skin contact with liquid TDI occurs, the affected part should be washed with water for at least 15 minutes and the contaminated clothing removed. Then treat the affected area with rubbing alcohol and wash with soap and water. Clothes soiled with TDI should never be taken home.

# **MEDICAL**

# ABM Enterprises NJ, Inc

## SAFETY MEETING

Note: Our company conducts scheduled Safety Meetings to focus attention on one major safety topic per meeting. Should an employee have a question on any subject related to safety or job procedure, it will be addressed by the person conducting the meeting.

### CARBON MONOXIDE POISONING

On the job site, the main sources of carbon monoxide (CO) poisoning are running an internal combustion engine indoors, running an internal combustion engine outdoors adjacent to the building ventilation system intake, and, of course, furnaces.

Carbon monoxide is odorless, tasteless, non-irritating -- and lethal. As a worker is exposed to more and more amounts of CO, his ability to save himself is impaired because its effects "sneak-up" and produce not only weakness, but confusion. It is easy to assume that, because you have worked in the presence of CO in the past that you can continue to do so in the future.

Imagine a sealed space a little larger than 20'X20'X20'. A 5.5-horsepower, gasoline-powered pressure washer operated within this space would produce concentrations of CO reaching 200 ppm within 5 minutes and 1,200 ppm (the immediately dangerous to life and health level) within 15 minutes. Remember that the OSHA permissible exposure limit (PEL) for CO is 50 ppm as an 8-hour time-weighted average (TWA).

The severity of symptoms of CO exposure is influenced by three main factors:

- a. the concentration of CO in the environment.
- b. how long the exposure lasts.
- c. work-load and breathing rate.

Assuming that workers have a moderate level of activity during exposures to CO, the following symptoms may present themselves:

<u>Exposure</u>	<u>Duration</u>	<u>Symptoms</u>
80-100 ppm	1-2 hours	can result in decreased exercise tolerance and, in persons who are at risk, may bring on chest pain and cause irregular heartbeat
100-200 ppm	1-2 hours	headache, nausea, and mental impairment
over 700 ppm	over 1 hr	more serious central nervous system effects, coma, and death

CO combines with the hemoglobin in the blood and forms carboxyhemoglobin which prevents the red blood cells from picking up oxygen in the lungs and transporting it to the tissues within the body including the brain.

For mild exposure, first aid involves getting a worker to fresh air. More serious first aid includes CPR and administration of pure oxygen by a first aid provider. Persons exposed to CO should never drive an automobile to a hospital -- they should be transported.

# ABM Enterprises NJ, Inc

## SAFETY MEETING

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### FIRST AID PROVIDER TRAINING

In the event of an accident, medical care must be readily available. In most circumstances, medical care can be accessed by calling 911 or some other emergency phone number which should be posted at the job site. However, if emergency medical care is not readily available, an employee, certified as having received first aid training, may be assigned as our first aid provider as an additional duty. If we are using a first aid provider, all persons must know how to access him immediately.

A first aid provider must fall within the provisions of a written exposure control plan which requires the provider be trained by a trainer knowledgeable in the subject matter covered by the elements in the training program as it relates to the workplace that addresses:

- a. ready access to the regulatory text, 29 CFR 1910.1030, Bloodborne Pathogens.
- b. the epidemiology and symptoms of bloodborne diseases.
- c. modes of transmission of bloodborne pathogens.
- d. ready access and understanding of the company exposure control plan.
- e. tasks and other activities that may involve exposure to blood and other potentially infectious materials.
- f. the use and limitations of methods that will prevent or reduce exposure including appropriate engineering controls, work practices, and personal protective equipment.
- g. information on the types, proper use, location, removal, handling, decontamination and disposal of personal protective equipment.
- h. the basis for selection of personal protective equipment.
- i. hepatitis B vaccine, including information on its efficacy, safety, method of administration, the benefits of being vaccinated, and that the vaccine and vaccination will be offered free of charge.
- j. appropriate actions to take and persons to contact in an emergency involving blood or other potentially infectious materials.
- k. the procedure to follow if an exposure incident occurs, including the method of reporting the incident and the medical follow-up that will be made available.
- l. the post-exposure evaluation and follow-up that the employer is required to provide for the employee following an exposure incident.
- m. the signs and labels and/or color coding requirements; and an opportunity for interactive questions and answers with the person conducting the training session.

By understanding the depth of training required of first aid providers, you should understand how important it is that **you do not** provide emergency first aid treatment unless you are assigned to do so as a certified first aid provider.

# ABM Enterprises NJ, Inc

## SAFETY MEETING

Note: Our company conducts scheduled Safety Meetings to focus attention on one major safety topic per meeting. Should an employee have a question on any subject related to safety or job procedure, it will be addressed by the person conducting the meeting.

### MEDICAL APPROVAL FOR RESPIRATOR WEAR

Your ability to wear a respirator depends on many items such as on your physical condition, the type and weight of respirator to be used, and the conditions of use such as: length of time, temperature, humidity, extent of manual labor, and any other additional work stresses. All these factors may place an undue burden on your body that presents an unacceptable health risk.

Prior to respirator selection and fit testing, you must receive medical approval for respirator wear. Only a physician or other licensed health care professional (PLHCP), armed with a copy of the OSHA standards, a clear idea of what types of respirators are to be worn, a knowledge of the atmospheric hazards, working conditions, and your physical condition, can grant this approval.

The final determination of whether a complete medical examination is required rests with the PLHCP. An additional medical evaluation will be made if the PLHCP, the respiratory protection program administrator, or your supervisor request it. Of course, if you experience medical problems or adverse symptoms related to respirator use, a reevaluation will be made.

Lastly, if a change occurs in workplace conditions that may result in a substantial increase in the physiological burden placed on you, a reevaluation may be required.

The above requirements apply to "general" respirator use. If you are working with certain materials such as lead or asbestos, a medical surveillance program will be initiated which requires certain tests be performed as part of a complete physical. These tests also establish a baseline on your blood and/or respiratory system upon which future medical comparisons may be made.

It is not uncommon for a PLHCP to require that an employee use a PAPR (positive air purifying respirator) in lieu of a negative pressure respirator (½-face or full-face) because these respirators do not require any exertion to pull inhaled air through a filtering device.

Do not answer the medical questionnaire dishonestly to avoid a medical examination. If you smoke or have shortness of breath, wheeze, or allergies, say so! Failure to answer the medical questionnaire to the best of your ability does a disservice to the PLHCP, the company, possibly your fellow workers, and certainly to yourself. The whole point of medical approval for respirator wear is to protect you and to ensure that you are not subjected to a health risk that could lead to disease, or heart or respiratory failure.

Respirators are designed to protect your health from both acute and chronic medical problems. The last thing you would want is to have the item that is designed to protect you actually cause harm. Do not hide information from the PLHCP.

# ABM Enterprises NJ, Inc

## SAFETY MEETING

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### PHYSIOLOGY AND WORKPLACE SAFETY

What in the world does “physiology” have to do with workplace safety? What in the world does “physiology” even mean? For the purposes of this safety meeting, physiology deals with the functions and vital processes of an organism (you).

Your very existence is dependent on a host of organs and functions working in concert within your body. Your body can protect itself from certain job site hazards (the blinking of your eye, the scabbing over of a minor cut, the cilia (hair-like structures) action in your respiratory system filtering out harmful particles, etc..

With a conscientious effort, you can, for example, easily protect your vital internal functions -- and life -- by maintaining your fluid levels particularly during periods of activity in damp heat. It goes without saying, but it must be said, that totally avoiding illegal substances is to your physiological advantage.

Failure to adhere to established safety practices can certainly lead to degradation of a body organ or function. Having your body hit, twisted, pierced, shocked, pinched, cut, caught, crushed, thrown, mangled, scraped, poisoned, or dismembered is not good.

There is a standard maxim for first aid: “Never do anything you are not trained to do.” The same can go for any workplace activity. If you don’t know how to do a job, don’t even start. Get help, ask questions, get instruction, learn, and follow the safety procedures.

You certainly want all your bodily functions and organs working in harmony and you can do this by:

- a. following established safety procedures.
- b. asking for assistance when needed.
- c. clarifying any safety issues before working.
- d. wearing appropriate personal protective equipment.
- e. not doing anything that will jeopardize your safety or the safety of your fellow workers.
- f. actively participating in safety meetings.

Work safely and keep your bodily functions and vital processes intact!

# **MOTOR VEHICLES**

# ABM Enterprises NJ, Inc

## SAFETY MEETING

Note: Our company conducts scheduled Safety Meetings to focus attention on one major safety topic per meeting. Should an employee have a question on any subject related to safety or job procedure, it will be addressed by the person conducting the meeting.

## MOBILE CRANES

A mobile crane is an indispensable piece of equipment on certain job sites. Its ability to lift massive weight to extreme heights allows work to be done that would be impossible without it. If you are not directly involved in crane or hoisting operations, stay clear! Crane safety involves the integrity of the crane itself, the knowledge and skill of the operator, and the actual hoisting procedures including setup, inspection, and operations.

It should be noted that most common crane accident involves crane or boom contact with energized power lines. However, all the below safety items are important and should be included in any safety audit. A review or inspection of:

- a. the entire construction area to determine how the crane operation affects other operations and crafts working with or around the crane.
- b. operator training and qualification.
- c. all crane records including frequent (performed by the operator at the start of each shift) and periodic (at 1 to 12 month intervals) inspections used to determine the need for repair or replacement of components to keep the machine in proper operating condition. Inspection and maintenance records, the operator's manual, and load charts must be readily available.
- d. the actual crane set-up to include proximity of electrical power lines; leveling; clearance for rotation; outriggers, if applicable; and stability (the relationship of the load weight, angle of the boom, and its radius to the center of gravity of the load).
- e. the structural integrity of the crane's main frame, crawler, track and outrigger supports, boom sections, and attachments.
- f. all wire ropes, cables, hydraulic lines, chains, hooks, etc..

Because working around or near electrical power lines is identified as the leading cause of crane accidents, there must be a minimum clearance of 10' from lines and:

- a. cranes should not handle materials or loads stored under electric power lines.
- b. operation of mobile cranes near de-energized electric power lines is not recommended until the following steps have been taken:
  1. the power company or owner of the power line has deenergized the lines.
  2. the lines are visibly grounded and appropriately marked at the job site.
  3. durable warning signs are installed at the operator's station and on the outside of the crane identifying the clearance requirements between the crane/load and electric power lines.
  4. a qualified representative of the power company or owner of the electric power line is on the job site to verify that the power lines have been de-energized or properly grounded.

# ABM Enterprises NJ, Inc

## SAFETY MEETING

Note: Our company conducts scheduled Safety Meetings to focus attention on one major safety topic per meeting. Should an employee have a question on any subject related to safety or job procedure, it will be addressed by the person conducting the meeting.

### POWERED INDUSTRIAL TRUCK TRAINING - 1

On construction sites, there are many types of powered industrial trucks. What exactly is a powered industrial truck? What standards govern training of operators? Who can conduct the training? What special hazards face operators in a construction setting?

Essentially, with the exception of earth moving (scrapers, loaders, crawler or wheel tractors, bulldozers, off-highway trucks, graders, agricultural and industrial tractors, and similar equipment), industrial trucks are driven or controlled by a walking operator and are used to carry, push, pull, stack or tier materials. This would include rough terrain straight-mast and extended-reach forklift trucks. Training requirements for this type of equipment is found in 29 CFR 1926.602, Material Handling Equipment, paragraph (d).

Operator training must be certified meaning that the employer certifies that the operator has received the required training and demonstrated an ability to operate a powered industrial truck in the type of working conditions found on the job site. The introduction of different equipment or different types of working conditions dictate additional training.

The actual training can be given by any person with the necessary knowledge, training and experience to train operators and evaluate their competency. An operator evaluation must be done. Different portions of the training may be performed by different persons as long as all portions of the required training are given.

A new employee who has had training does not have to necessarily repeat all his training, but the operator must successfully pass an evaluation before authorization to operate a powered industrial truck.

Refresher training, again followed by an evaluation, is required if an operator is observed driving unsafely, has been involved in an accident or near-miss, has received an evaluation that indicates unsafe operation, is assigned a different type truck, or if a workplace condition affecting safe operation changes.

Training is required at least every three years.

Unauthorized personnel shall not be permitted to ride on powered industrial trucks. A safe place to ride shall be provided where riding of trucks is authorized.

- a. if authorized personnel are being lifted by the lifting carriage or forks, the following additional precautions shall be taken for the protection of personnel being elevated.
  1. use of a safety platform firmly secured to the lifting carriage and/or forks.
  2. means shall be provided whereby personnel on the platform can shut off power to the truck.
  3. necessary protection from falling objects will be used.

# ABM Enterprises NJ, Inc

## SAFETY MEETING

Note: Our company conducts scheduled Safety Meetings to focus attention on one major safety topic per meeting. Should an employee have a question on any subject related to safety or job procedure, it will be addressed by the person conducting the meeting.

### POWERED INDUSTRIAL TRUCK TRAINING - 2

Powered industrial truck operators shall receive initial training in the following topics if applicable to our circumstances:

- a. operating instructions, warnings, and precautions for the types of truck the operator will be authorized to operate.
- b. differences between the truck and the automobile.
- c. truck controls and instrumentation: where they are located, what they do, and how they work.
- d. engine or motor operation.
- e. steering and maneuvering.
- f. visibility (including restrictions due to loading).
- g. fork and attachment adaptation, operation, and use limitations.
- h. vehicle capacity.
- i. vehicle stability.
- j. any vehicle inspection and maintenance that the operator will be required to perform.
- k. refueling and/or charging and recharging of batteries.
- l. operating limitations.
- m. any other operating instructions, warnings, or precautions listed in the operator's manual for the types of vehicle that the employee is being trained to operate.
- n. surface conditions where the vehicle will be operated.
- o. composition of loads to be carried and load stability.
- p. load manipulation, stacking, and unstacking.
- q. pedestrian traffic in areas where the vehicle will be operated.
- r. narrow aisles and other restricted places where the vehicle will be operated.
- s. hazardous (classified) locations where the vehicle will be operated.
- t. ramps and other sloped surfaces that could affect the vehicle's stability.
- u. closed environments and other areas where insufficient ventilation or poor vehicle maintenance could cause a buildup of carbon monoxide or diesel exhaust.
- v. other unique or potentially hazardous environmental conditions in the workplace that could affect safe operation.

# **POSTERS/FORMS**

# ABM Enterprises NJ, Inc

## SAFETY MEETING

Note: Our company conducts scheduled Safety Meetings to focus attention on one major safety topic per meeting. Should an employee have a question on any subject related to safety or job procedure, it will be addressed by the person conducting the meeting.

### SIGNING A SAFETY MEETING SHEET

When you sign the reverse side of this safety meeting sheet, you are acknowledging that:

- a. you physically attended the meeting.
- b. you paid attention.
- c. you have resolved any safety questions related to the meeting.
- d. you have asked pertinent safety questions that apply to your work, if any.

This is not a “legal” document, however it does provide a record of who has and who has not attended a safety meeting on a specific topic.

Additionally, your signature is required to emphasize the importance placed on safety.

When you sign a credit card slip, bank loan, mortgage papers, or any number of financial documents, you are obligating yourself, financially, to meet the terms of that agreement. Failure to comply could result in a serious, detrimental, hardship on you -- financially. You could wind up in serious legal trouble for failing to do what you said you would.

When you sign the back of a safety meeting sheet and then fail to follow accepted safety practices and procedures, you are not in legal trouble, but you may put yourself or a co-worker in harm’s way. Mishaps on construction job sites often result in an injury to an innocent party, not the employee who was actually responsible for the accident.

It would be foolish to assume that by having all persons participating in safety meetings will reduce our incident rate to zero and that there will never be a safety error made by any employee. However, by continually reinforcing safety concepts and allowing for safety issues to be raised not only by supervisors, but by employees also, there is a substantially lessened probability of future accidents and certainly the few incidents that may occur will be less severe.

Remind yourself that after each safety meeting you will be asked to acknowledge with your signature that you attended the meeting. This is the opposite of “signing your life away” -- this is a case of signing a commitment to preserve your limbs, body, internal organs, and all other body parts from harm. Equally important, you are acknowledging that you will exercise caution and not put a fellow worker at risk.

Sign up for safety!

# **PPE**

# ABM Enterprises NJ, Inc

## SAFETY MEETING

Note: Our company conducts scheduled Safety Meetings to focus attention on one major safety topic per meeting. Should an employee have a question on any subject related to safety or job procedure, it will be addressed by the person conducting the meeting.

### PERSONAL PROTECTIVE EQUIPMENT

At 10:56:20 p.m. EDT, July 20, 1969, the future of mankind was forever changed as Neil Armstrong placed his foot on the lunar soil at the Sea of Tranquillity. Neil Armstrong was wearing, conceivably, the most technologically advanced piece of personal protective equipment (PPE) developed up to that point in time -- his spacesuit.

His suit offered traction; mobility; and protection from puncture, temperature extremes and light radiation. It also offered something not found on normal PPE: total life support.

NASA had correctly assessed the potential dangers on the moon and developed appropriate PPE for the situation. You can bet that Neil Armstrong had plenty of training in the use of this particular type of PPE!

While not as extensive, nor expensive, as NASA's assessment of hazards, your job site hazard assessment still should follow the same general process of identifying, analyzing and matching existing or potential hazards with proper PPE selection.

It is vital that various work situations be examined by your PPE administrator and, if the hazards cannot be eliminated by engineering controls, appropriate PPE be selected that matches the hazard, the work situation, and the protection offered by the PPE.

NASA had no reason to be concerned whether Neil Armstrong would or would not wear his spacesuit. He was going to wear it and they knew it! Neil Armstrong knew the potential hazards and knew how the spacesuit would eliminate these hazards. You should understand why each item of PPE is used to negate what specific hazard. PPE should be selected considering the function of the PPE and its comfort factor. Ill-fitting PPE will either not be used or will not perform as designed.

While NASA created a spacesuit to eliminate the hazards to which Neil Armstrong was to be exposed, NASA did not waste a dime on protection from hazards that did not exist. PPE selection does not mean forcing all employees to wear all sorts of PPE all the time. It means requiring employees to wear the appropriate (selected) PPE while performing certain job functions or within identified job areas.

Appropriate PPE protects you from eye, hand, head, and foot injury. However, it goes beyond just goggles, gloves, hard hats, and boots. Warm or cool clothing is just as much PPE as a hard hat.

If Neil Armstrong's boss had visited him on the moon, do you think he would have been wearing a spacesuit? You bet he would! The hazards exist by virtue of the process (operations) going on and/or the nature of the job site. The need for PPE in a particular situation applies to everyone in that situation be they employees or management.

Providing a work environment that is free from hazard is our goal and having a comprehensive, workable PPE program is in the best interest of everybody.

# ABM Enterprises NJ, Inc

## SAFETY MEETING

Note: Our company conducts scheduled Safety Meetings to focus attention on one major safety topic per meeting. Should an employee have a question on any subject related to safety or job procedure, it will be addressed by the person conducting the meeting.

### RESPIRATORY PROTECTION TRAINING

It is obvious that you need breathable air to survive. When work must be performed in atmospheres that present a hazard to health, respiratory protection is required. Depending on the conditions, the respirator may be required to merely filter out harmful particulate matter suspended in the air or actually supply clean, breathable air. Type C, SCUBA (Self-Contained Breathing Apparatus), positive-pressure, negative pressure, ½-face, full face, power assisted -- there are many types of respirators and each has its limitations. Regardless of the respirator used, all employees must have specific training prior to donning a respirator.

Employees must fall under a respiratory protection program and, in addition to having medical approval for respirator use, must know and be able to demonstrate a knowledge of:

- a. why the respirator is necessary and how improper fit, usage, or maintenance can compromise the protective effect of the respirator.
- b. what the limitations and capabilities of the respirator are.
- c. how to use the respirator effectively in emergency situations, including situations in which the respirator malfunctions.
- d. how to inspect, put on and remove, use, and check the seals of the respirator.
- e. what the procedures are for maintenance and storage of the respirator.
- f. how to recognize medical signs and symptoms that may limit or prevent the effective use of respirators.
- g. the general requirements of 29 CFR 1910.134, Respiratory Protection, including Appendix D which deals with dust masks.

Further, it is required that annual training be received in respiratory use and additional training is required when:

- a. changes in the workplace or the type of respirator render previous training obsolete.
- b. inadequacies in the employee's knowledge or use of the respirator indicate that the employee has not retained the requisite understanding or skill.
- c. any other situation arises in which retraining appears necessary to ensure safe respirator use.

Improperly using the right respirator for a specific atmosphere or using the wrong respirator could result in exposure to a very serious health hazard.

# **ABM Enterprises NJ, Inc**

## **APPENDIX A**

### **TRAINING DOCUMENTATION**

# ABM Enterprises NJ, Inc

## APPENDIX A Training Documentation

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Certificate of Training  
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Demonstration of Operation Skills  
Certification of Forklift Operator Training  
Forklift Operator Cards

# ABM Enterprises NJ, Inc

## POLICY STATEMENT

### New Hire Safety Orientation

The safety director, or a designated competent person, will ensure that all new hires are aware of the accessibility of our safety program and, through interactive discussion or practical demonstration, be assured that the new hire understands the safety policies and procedures that pertain to the actual work the new hire will perform.

Further, each new hire will read (or have explained) the contents of our employee handbook and sign the Employee Acknowledgement form which states:

I have read and understand the contents of this Employee Handbook.

I will, to the best of my ability, work in a safe manner and follow established work rules and procedures.

I will ask for clarification of safety procedures of which I am not sure **prior** to performing a task.

I will report to the job site supervisor or competent person any unsafe acts or procedures and will ensure they are addressed and resolved before continuing work.

I understand that the complete safety program is located at:

62 Tintle Road  
Kinnelon, NJ 07405

and is available for my review.

It will be explained to all new hires that safety training and safety performance is an on-going process. Depending on circumstances, training will take the form of some or all of the following: safety meetings, on-the-job instruction, formal and informal training.

Lastly, all new hires will be informed of the importance of our inspection and enforcement policies and procedures.

---

Sandra A Coppola  
Safety Director

**Certificate of Training**  
**With Training Synopsis**

# ABM Enterprises NJ, Inc

## CERTIFICATE OF TRAINING

I certify the below listed person(s) have received interactive training by a competent person in the subject matter initialed below. All appropriate standards are available to our personnel. The prime training directive is found in 29 CFR 1926.21, Title: Safety training and education, paragraph (b)(2): "The employer shall instruct each employee in the recognition and avoidance of unsafe conditions and the regulations applicable to his work environment to control or eliminate any hazards or other exposure to illness or injury." Training, at a minimum, includes all items required by appropriate standard.

Initials of Trainer	Date	Subject
		All subjects contained in our Safety Program.
		Control of Hazardous Energy - Lockout/Tagout *Signature of Trainer: _____
		Exposure Control for Bloodborne Pathogens and Other Infectious Materials *Signature of Trainer: _____
		Fall Protection - *Signature of Trainer: _____
		Hazard Communication *Signature of Trainer: _____
		Permit-Required Confined Space Entry *Signature of Trainer: _____
		Personal Protective Equipment - General
		Personal Protective Equipment – Hearing *Signature of Trainer: _____
		Personal Protective Equipment - Respiratory *Signature of Trainer: _____
		Forklifts Trainer: _____ Evaluation Date: _____
		Scaffolds & Ladders
		Steel Erection Activities      Qualified Trainer: _____
		Multiple Lift Procedures      Qualified Trainer: _____
		Connector Procedures      Qualified Trainer: _____
		Controlled Decking Zone Procedures Qualified Trainer: _____
		Other: _____

**Note: The trainer for each subject listed above is both qualified and competent in the subject matter.**

\_\_\_\_\_  
(Employee Name - Print)

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\_\_\_\_\_  
(Employee Signature)

\_\_\_\_\_

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\_\_\_\_\_

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\_\_\_\_\_

Sandra A Coppola  
Safety Director

\_\_\_\_\_  
(Initials)

**See following three pages for training synopsis.**

## **TRAINING SYNOPSIS:**

### **Control of Hazardous Energy - 29 CFR 1910.147**

A complete understanding of the purpose and function of the energy control program and the knowledge and skills required for the safe application, usage, and removal of the energy controls. The training shall include the following:

- a. Each authorized employee will receive training in the recognition of applicable hazardous energy sources, the type and magnitude of the energy available in the workplace, and the methods and means necessary for energy isolation and control.
- b. Each affected employee will be instructed in the purpose and use of the energy control procedure.
- c. All other employees whose work operations are or may be in an area where energy control procedures may be utilized, will be instructed about the procedure, and about the prohibition relating to attempts to restart or reenergize machines or equipment which are locked out or tagged out.
- d. When tagout systems are used, employees will also be trained in the following limitations of tags: 1) tags are essentially warning devices affixed to energy isolating devices, and do not provide the physical restraint on those devices that is provided by a lock; 2) when a tag is attached to an energy isolating means, it is not to be removed without authorization of the authorized person responsible for it, and it is never to be bypassed, ignored, or otherwise defeated; 3) tags must be legible and understandable by all authorized employees, affected employees, and all other employees whose work operations are or may be in the area, in order to be effective; 4) tags and their means of attachment must be made of materials which will withstand the environmental conditions encountered in the workplace; 5) tags may evoke a false sense of security, and their meaning needs to be understood as part of the overall energy control program; and 6) tags must be securely attached to energy isolating devices so that they cannot be inadvertently or accidentally detached during use.

NOTE: Control of Hazardous Energy Training must be certified and kept up to date. The certification must include the employee's name and dates of training.

### **Exposure Control for Bloodborne Pathogens or Other Infectious Materials - 29 CFR 1910.1030**

An accessible copy of the regulatory text and an explanation of its contents; a general explanation of the epidemiology and symptoms of bloodborne diseases; an explanation of the modes of transmission of bloodborne pathogens; an explanation of the employer's exposure control plan and the means by which the employee can obtain a copy of the written plan; an explanation of the appropriate methods for recognizing tasks and other activities that may involve exposure to blood and other potentially infectious materials; an explanation of the use and limitations of methods that will prevent or reduce exposure including appropriate engineering controls, work practices, and personal protective equipment; information on the types, proper use, location, removal, handling, decontamination and disposal of personal protective equipment; an explanation of the basis for selection of personal protective equipment; information on the hepatitis B vaccine, including information on its efficacy, safety, method of administration, the benefits of being vaccinated, and that the vaccine and vaccination will be offered free of charge; information on the appropriate actions to take and persons to contact in an emergency involving blood or other potentially infectious materials; an explanation of the procedure to follow if an exposure incident occurs, including the method of reporting the incident and the medical follow-up that will be made available; information on the post-exposure evaluation and follow-up that the employer is required to provide for the employee following an exposure incident; an explanation of the signs and labels and/or color coding requirements; and an opportunity for interactive questions and answers with the person conducting the training session.

NOTE: The person conducting the training shall be knowledgeable in the subject matter covered by the elements contained in the training program as it relates to the workplace that the training will address.

### **Fall Protection - 29 CFR 1926.503**

Training must enable each employee to recognize the hazards of falling and explain the procedures to be followed in order to minimize these hazards. Specific training will include: 1) the nature of fall hazards in the work area; 2) the correct procedures for erecting, maintaining, disassembling, and inspecting the fall protection systems to be used; 3) the use and operation of guardrail systems, personal fall arrest systems, safety net systems, warning line systems, safety monitoring systems, controlled access zones, and other protection to be used; 4) the role of each employee in the safety monitoring system when this system is used; 5) the limitations on the use of mechanical equipment during the performance of roofing work on low-sloped roofs; 6) the correct procedures for the handling and storage of equipment and materials and the erection of overhead protection; and, 7) the role of employees in fall protection plans.

NOTE: The latest certification of training must be maintained and include the name of the employee trained, the date(s) of training, and the signature of the competent person who conducted the training or the signature of the employer.

### **Forklifts - 29 CFR 1910.178 (See Powered Industrial Trucks, below)**

## **Hazard Communication - 29 CFR 1926.59**

Employee training shall include at least: methods and observations that may be used to detect the presence or release of a hazardous chemical in the work area (such as monitoring conducted by the employer, continuous monitoring devices, visual appearance or odor of hazardous chemicals when being released, etc.); the physical and health hazards of the chemicals in the work area; the measures employees can take to protect themselves from these hazards, including specific procedures the employer has implemented to protect employees from exposure to hazardous chemicals, such as appropriate work practices, emergency procedures, and personal protective equipment to be used; and, the details of the hazard communication program including an explanation of the labeling system and the material safety data sheet, and how employees can obtain and use the appropriate hazard information.

## **Permit-Required Confined Space Entry - 29 CFR 1910.146**

Training will be provided so that all employees whose work is regulated by 29 CFR 1910.146 acquire the understanding, knowledge, and skills necessary for the safe performance of the duties assigned under this standard. Training will be given to each affected employee: a) before the employee is first assigned duties under this standard; and, b) whenever there is a change in permit space operations that presents a hazard about which an employee has not previously been trained. The training shall establish employee proficiency in the duties required by this standard and shall introduce new or revised procedures, as necessary, for compliance with 29 CFR 1910.146.

NOTE: Training must be certified and the certification must contain each employee's name, the signatures or initials of the trainers, and the dates of training. The certification shall be available for inspection by employees and their authorized representatives.

## **Personal Protective Equipment [General] - 29 CFR 1926.28 & 29 CFR 1910.132**

Each such employee shall be trained to know at least the following: when PPE is necessary; what PPE is necessary; how to properly don, doff, adjust, and wear PPE; the limitations of the PPE; and, the proper care, maintenance, useful life and disposal of the PPE. Each affected employee shall demonstrate: 1) an understanding of the training specified above and, 2) the ability to use PPE properly, before being allowed to perform work requiring the use of PPE.

## **Personal Protective Equipment [Hearing] - 29 CFR 1926.52 & 29 CFR 1910.95**

The effects of noise on hearing; the purpose of hearing protectors, the advantages, disadvantages, and attenuation of various types, and instructions on selection, fitting, use, and care; and the purpose of audiometric testing, and an explanation of the test procedures.

## **Personal Protective Equipment [Respiratory] - 29 CFR 1910.134**

Training will ensure that each employee can demonstrate knowledge of at least the following: a) why the respirator is necessary and how improper fit, usage, or maintenance can compromise the protective effect of the respirator; b) what the limitations and capabilities of the respirator are; c) how to use the respirator effectively in emergency situations, including situations in which the respirator malfunctions; d) how to inspect, put on and remove, use, and check the seals of the respirator; e) what the procedures are for maintenance and storage of the respirator; f) how to recognize medical signs and symptoms that may limit or prevent the effective use of respirators; and, g) the general requirements of 29 CFR 1910.134 including Appendix D.

## **Powered Industrial Trucks - 29 CFR 1910.178**

If the employee was hired:                      The initial training and evaluation of that employee must be completed:

Before December 1, 1999

By December 1, 1999.

After December 1, 1999

Before the employee is assigned to operate a forklift.

**Allowed exception to required training:** If an operator has previously received training in a topic specified below, and such training is appropriate to the truck and working conditions encountered, additional training in that topic is not required if the operator has been evaluated and found competent to operate the truck safely.

Forklift operators shall receive initial training in the following topics if applicable to our circumstances: a) operating instructions, warnings, and precautions for the types of truck the operator will be authorized to operate; b) differences between the truck and the automobile; c) truck controls and instrumentation: where they are located, what they do, and how they work; d) engine or motor operation; e) steering and maneuvering; f) visibility (including restrictions due to loading); g) fork and attachment adaptation, operation, and use limitations; h) vehicle capacity; i) vehicle stability; j) any vehicle inspection and maintenance that the operator will be required to perform; k) refueling and/or charging and recharging of batteries; l) operating limitations; m) any other operating instructions, warnings, or precautions listed in the operator's manual for the types of vehicle that the employee is being trained to operate; n) surface conditions where the vehicle will be operated; o) composition of loads to be carried and load stability; p) load manipulation, stacking, and unstacking; q) pedestrian traffic in areas where the vehicle will be operated; r) narrow aisles and other restricted places where the vehicle will be operated; s) hazardous (classified) locations where the vehicle will be

operated; t) ramps and other sloped surfaces that could affect the vehicle's stability; u) closed environments and other areas where insufficient ventilation or poor vehicle maintenance could cause a buildup of carbon monoxide or diesel exhaust; and, v) other unique or potentially hazardous environmental conditions in the workplace that could affect safe operation. Each operator will be made aware of the requirements of 29 CFR 1910.178.

NOTES: Trainees may operate a forklift only:

- a. Under the direct supervision of persons who have the knowledge, training, and experience to train operators and evaluate their competence; and
- b. Where such operation does not endanger the trainee or other employees.

Training will consist of a combination of formal instruction (e.g., lecture, discussion, interactive computer learning, video tape, written material), practical training (demonstrations performed by the trainer and practical exercises performed by the trainee), and evaluation of the operator's performance in the workplace.

All operator training and evaluation shall be conducted by persons who have the knowledge, training, and experience to train forklift operators and evaluate their competence.

Certification. The employer will certify that each operator has been trained and evaluated as required above. The certification shall include the name of the operator, the date of the training, the date of the evaluation, and the identity of the person(s) performing the training or evaluation.

### **Scaffolds & Ladders - 29 CFR 1926.454 & 29 CFR 1926.1060**

**Ladders (and Stairways):** Training, as necessary, will enable each employee to recognize hazards related to ladders and stairways and the procedures to be followed to minimize these hazards. Training will include, as applicable: 1) the nature of fall hazards in the work area; 2) the correct procedures for erecting, maintaining, and disassembling the fall protection systems to be used; 3) the proper construction, use, placement, and care in handling of all stairways and ladders; and, 4) the maximum intended load-carrying capacities of ladders.

**Scaffolds:** Training will enable those who perform work on scaffolds to recognize the hazards associated with the type of scaffold being used and to understand the procedures to control or minimize those hazards. The training shall include the following areas, as applicable: 1) the nature of any electrical hazards, fall hazards and falling object hazards in the work area; 2) The correct procedures for dealing with electrical hazards and for erecting, maintaining, and disassembling the fall protection systems and falling object protection systems being used; 3) the proper use of the scaffold, and the proper handling of materials on the scaffold; 4) the maximum intended load and the load-carrying capacities of the scaffolds used; and, 5) any other pertinent requirements that apply to our operations.

NOTE: Those employees who are involved in erecting, disassembling, moving, operating, repairing, maintaining, or inspecting a scaffold will be trained to recognize any hazards associated with the work in question. The training shall include the following topics, as applicable: 1) the nature of scaffold hazards; 2) the correct procedures for erecting, disassembling, moving, operating, repairing, inspecting, and maintaining the type of scaffold in question; 3) the design criteria, maximum intended load-carrying capacity and intended use of the scaffold; and, 4) any other pertinent requirements that apply to our operations.

# **Certificate of Retraining**

## **With Retraining Synopsis**

# ABM Enterprises NJ, Inc

## CERTIFICATE OF RETRAINING

I certify the below listed person(s) have received interactive retraining by a competent person in the subject matter initialed below. All appropriate standards are available to our personnel. The prime training directive is found in 29 CFR 1926.21, Title: Safety training and education, paragraph (b)(2): "The employer shall instruct each employee in the recognition and avoidance of unsafe conditions and the regulations applicable to his work environment to control or eliminate any hazards or other exposure to illness or injury." Retraining, at a minimum, will include all items required by appropriate standard.

Initials of Trainer	Date	Subject
		All subjects contained in our Safety Program.
		Control of Hazardous Energy - Lockout/Tagout *Signature of Trainer: _____
		Exposure Control for Bloodborne Pathogens and Other Infectious Materials *Signature of Trainer: _____
		Fall Protection - *Signature of Trainer: _____
		Hazard Communication *Signature of Trainer: _____
		Permit-Required Confined Space Entry *Signature of Trainer: _____
		Personal Protective Equipment - General
		Personal Protective Equipment – Hearing *Signature of Trainer: _____
		Personal Protective Equipment - Respiratory *Signature of Trainer: _____
		Forklifts Trainer: _____ Evaluation Date: _____
		Scaffolds & Ladders
		Steel Erection Activities Qualified Trainer: _____
		Multiple Lift Procedures Qualified Trainer: _____
		Connector Procedures Qualified Trainer: _____
		Controlled Decking Zone Procedures Qualified Trainer: _____
		Other: _____

**Note: The trainer for each subject listed above is both qualified and competent in the subject matter.**

\_\_\_\_\_  
 (Employee Name - Print)

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 \_\_\_\_\_  
 \_\_\_\_\_  
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 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

\_\_\_\_\_  
 (Employee Signature)

\_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

\_\_\_\_\_  
 Sandra A Coppola  
 Safety Director

\_\_\_\_\_  
 (Initials)

**See following three pages for training synopsis.**

## **Retraining Synopsis**

### **Control of Hazardous Energy - 29 CFR 1910.147**

- a. Retraining shall be provided for all authorized and affected employees whenever there is a change in their job assignments, a change in machines, equipment or processes that present a new hazard, or when there is a change in the energy control procedures.
- b. Additional retraining shall also be conducted whenever a periodic inspection under paragraph (c)(6) of this section reveals, or whenever the employer has reason to believe that there are deviations from or inadequacies in the employee's knowledge or use of the energy control procedures.
- c. Retraining shall reestablish employee proficiency and introduce new or revised control methods and procedures, as necessary.

NOTE: Control of Hazardous Energy Training must be certified and kept up to date. The certification must include the employee's name and dates of training.

### **Exposure Control for Bloodborne Pathogens or Other Infectious Materials - 29 CFR 1910.1030**

- a. At least annually.
- b. When changes such as modification of tasks or procedures or institution of new tasks or procedures affect the employee's occupational exposure. The additional training may be limited to addressing the new exposures created.

NOTE: The person conducting the training shall be knowledgeable in the subject matter covered by the elements contained in the training program as it relates to the workplace that the training will address.

### **Fall Protection - 29 CFR 1926.503**

When it is determined that an affected employee who has already been trained does not have the understanding and skill required by the initial training. Circumstances where retraining is required include, but are not limited to, situations where: 1) changes in the workplace render previous training obsolete; 2) changes in the types of fall protection systems or equipment to be used render previous training obsolete; or, 3) inadequacies in an affected employee's knowledge or use of fall protection systems or equipment indicate that the employee has not retained the requisite understanding or skill.

NOTE: The latest certification of training must be maintained and include the name of the employee trained, the date(s) of training, and the signature of the competent person who conducted the training or the signature of the employer.

### **Forklifts - 29 CFR 1910.178 (See Powered Industrial Trucks, below)**

### **Hazard Communication - 29 CFR 1926.59**

Whenever a new physical or health hazard the employees have not previously been trained about is introduced into their work area.

### **Permit-Required Confined Space Entry - 29 CFR 1910.146**

- a. Before there is a change in assigned duties;
- b. Whenever there is a change in permit space operations that presents a hazard about which an employee has not previously been trained;
- c. Whenever there is reason to believe either that there are deviations from the permit space entry procedures required by paragraph (d)(3) of 29 CFR 1910.146 or that there are inadequacies in the employee's knowledge or use of these procedures.

NOTE: Training must be certified and the certification must contain each employee's name, the signatures or initials of the trainers, and the dates of training. The certification shall be available for inspection by employees and their authorized representatives.

## **Personal Protective Equipment [General] - 29 CFR 1926.28 & 29 CFR 1910.132**

When there is reason to believe that any affected employee who has already been trained does not have the understanding and skill required. Circumstances where retraining is required include, but are not limited to, situations where:

- a. Changes in the workplace render previous training obsolete; or
- b. Changes in the types of PPE to be used render previous training obsolete; or
- c. Inadequacies in an affected employee's knowledge or use of assigned PPE indicate that the employee has not retained the requisite understanding or skill.

## **Personal Protective Equipment [Hearing] - 29 CFR 1926.52 & 29 CFR 1910.95**

Annually.

## **Personal Protective Equipment [Respiratory] - 29 CFR 1910.134**

Annually and when the following situations occur:

- a. Changes in the workplace or the type of respirator render previous training obsolete;
- b. Inadequacies in the employee's knowledge or use of the respirator indicate that the employee has not retained the requisite understanding or skill; or
- c. Any other situation arises in which retraining appears necessary to ensure safe respirator use.

## **Powered Industrial Trucks**

Every three (3) years or when the operator:

- a. Has been observed to operate the vehicle in an unsafe manner.
- b. Has been involved in an accident or near-miss incident.
- c. Has received an evaluation that reveals that the operator is not operating the truck safely.
- d. Is assigned to drive a different type of truck and/or a condition in the workplace changes in a manner that could affect safe operation of the truck.

## **Scaffolds & Ladders - 29 CFR 1926.454 & 29 CFR 1926.1060**

**Ladders (and Stairways):** As necessary. Observation of employee use of ladders (and stairways) will be used to determine if additional training is necessary.

**Scaffolds:** When there is reason to believe that an employee lacks the skill or understanding needed for safe work involving the erection, use or dismantling of scaffolds, retraining will be given so that the requisite proficiency is regained. Retraining is required in at least the following situations: 1) where changes at the worksite present a hazard about which an employee has not been previously trained; 2) where changes in the types of scaffolds, fall protection, falling object protection, or other equipment present a hazard about which an employee has not been previously trained; and, 3) where inadequacies in an affected employee's work involving scaffolds indicate that the employee has not retained the requisite proficiency.

# Training Cards

\_\_\_\_\_  
(Name)  
Has demonstrated, this date, an understanding of our Safety Program and will work in a safe manner and follow established work rules and procedures.  
Certificates of training are located at our main office:  
62 Tintle Road  
Kinnelon, NJ 07405  
\_\_\_\_\_  
(Date) Sandra A Coppola  
Safety Program Administrator

\_\_\_\_\_  
(Name)  
Has demonstrated, this date, an understanding of our Safety Program and will work in a safe manner and follow established work rules and procedures.  
Certificates of training are located at our main office:  
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Kinnelon, NJ 07405  
\_\_\_\_\_  
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Kinnelon, NJ 07405  
\_\_\_\_\_  
(Date) Sandra A Coppola  
Safety Program Administrator

# Forklift Instruction Guide

# FORKLIFT INSTRUCTION GUIDE

## PREFACE

This guide has been prepared to ensure that the training requirements contained in 29 CFR 1910.178, *Forklifts*, are met.

Prior to training, the Program Administrator should make a hazard assessment of truck operations and identify real or potential areas of concern such as:

**a. physical layout:**

1. are aisles sufficiently wide?
2. are there “blind” spots?
3. are other personnel kept clear of truck operations?
4. are dock plates & chocks in good repair?
5. are stacked items the proper height?
6. are fuel storage/battery charging areas properly maintained with appropriate fire extinguishers?
7. is the atmosphere in which the truck will operate appropriate?

**b. personal protective equipment (PPE):**

1. are PPE requirements identified?
2. is PPE available and its use enforced?

**c. trucks:**

1. are trucks properly inspected and maintained?
2. are owner’s/operator’s manuals available?

**d. operations:**

1. are vehicles being operated in a safe manner?

The Program Administrator or the designated competent (by training or experience) person who will conduct the training should understand the underlining reason for instruction and evaluation is to provide a safe work environment for the truck operator.

While it is not **legally** necessary to provide re-training on truck and work related topics if an operator has had training in those topics, for ease and consistency, we will provide the same **initial** training for all operators. This would include new, experienced, hires.

Initial training should consist of three distinct phases:

- a. interactive, formal training.
- b. practical training.
  1. This will include demonstrations performed by the trainer and practical exercises performed by the trainee.
- c. evaluation.
  1. This is an actual evaluation of the operator's performance in the workplace conducted by the Program Administrator or a designated competent person.

Forklift training must be certified.

# FORKLIFT TRAINING

## Materials needed:

- a. Our Forklift Program.
- b. 29 CFR 1910.178, *Powered Industrial Trucks*.
- c. The Owner's/Operator's Manual for our truck(s).
- d. Forklift Daily Check List.
- e. Forklift Quiz and Quiz Explanations.
- f. Answer Sheets, paper & pencils.

## Procedure:

- a. Use the following formal training as a guide to ensure all major topics are covered.
  1. The items in *italics* are notes to the instructor.
  2. Prior to teaching, fill in the blanks on pages:
- b. Encourage questions and group discussion. Identify and solve problems with the help of the employees.
- c. Administer the written (multiple-choice) quiz.
- d. Self-grade the quizzes using the Quiz Explanations as a starting point for discussion.

NOTE: How personnel do on the quiz is less important than their understanding of the material after answers are explained and discussed. Satisfy yourself that information pertinent to our truck operations -- especially safety information -- is retained by the operators.

## INTRODUCTION

We are committed to safety and providing a work environment that is free of recognized hazards. That same commitment is expected of all our employees.

As part of our continuing effort to provide a safer workplace for our employees, we have developed a training program for our forklifts operators.

Forklifts are an indispensable asset allowing us to move materials efficiently within our facility. However, because of their size, weight, power, and restricted visibility, these trucks present a potential hazard if improperly used. Only trained and authorized personnel will operate our industrial trucks.

This training will be interactive which means, to the extent possible, a dialogue will be established between all of us present. Not only are questions welcome, but real life examples of difficulties experienced with truck operations are encouraged. All of us will benefit by discussing these problems and finding solutions.

References for this training include:

- a. Our Forklift Program.
- b. 29 CFR 1910.178, Forklifts, upon which our program is based. This will be readily available for our operators to review and they are encouraged to read it.
- c. The Owner and/or Operator Manuals for our trucks.

All of the above references are readily available for review at any time. Just ask.

## **WHY IS TRAINING NEEDED?**

***Ask if anyone can answer that question. Try to get a discussion going to keep up interest and activity in the training.***

Because of their power, weight; size, restricted visibility, and, often, high center of gravity, operation of industrial trucks takes skill and attention to detail. One moment of inattention can lead to a major mishap in an instant. Additionally, the load presents potential hazards if not properly secured, balanced, and/or properly placed on the truck.

***Ask if anyone has heard of a truck accident or mishap (not necessarily at this facility). More than likely, someone would have heard about a truck falling off a dock edge, through a trailer floor, or hitting an object or person. What about falling loads?***

While many safety features are designed into forklifts such as seat belts, lights, fire extinguishers, audible alarms, etc., accidents still happen and they are generally the result of operator error.

There is a general agreement that training for all persons (including part-time, seasonal, and temporary employees) who operate forklifts will significantly reduce the above accident and injury rate.

## **THE TRUCKS**

Forklifts are designed to move items quickly, safely, and cleanly. As a point of interest, forklifts include: fork trucks; tractors; platform lift trucks; motorized hand trucks; and other specialized industrial trucks powered by electric motors or internal combustion engines.

Generally, trucks are powerful and nimble with many safety features built into them. However, each type of truck has its limitations which could include stability, capacity, and visibility both with and without a load.

***Ask if anyone has had a problem with stability, capacity or visibility.***

To get an idea of the value of forklifts, in a typical factory, 40% of all activity involves material handling. In a warehouse operation, material handling approaches 100% of the activity.

***Ask if anyone knows the percentage of truck activity in our facility. The number is approximately: \_\_\_\_\_%.***

## **RULES REGARDING INDUSTRIAL TRUCKS**

1. No person shall operate one of our trucks without written authorization.
2. No riders are allowed unless:
  - a. the truck is specifically designed for such use.
  - b. the rider is authorized for the performance of a job.
3. Unsafe acts will result in the revocation of your authority to operate a truck and retraining will be required.
4. At the beginning of each shift, the operator will inspect the truck using our Forklift Daily Check List.

***Go over the Check List and answer all questions related to its use.***

- a. Safety deficiencies will be noted on the Check List and the truck will not be used until they are corrected.
- b. No truck will be operated with safety defects.
- c. If cosmetic damage will not stop operations.

## **METHODS TO AVOID MAJOR INDUSTRIAL TRUCK HAZARDS**

***Ask if anyone can identify a major category of truck accidents which result in injury.***

The major categories are:

- a. physically hitting a person/object with the truck or load.
- b. having a load fall and hit the operator or other person.
- c. having the truck tip and crush the operator or other person.
- d. fire or explosion during refueling/recharging.

***Ask what procedures might prevent these accidents.***

## HITTING A PERSON/OBJECT

- a. Never drive up to a person standing in front of a fixed object.
- b. When possible, stay within delineated travel lanes or aisles.
- c. Be seen and/or heard.
- d. Ensure that adequate lighting is available.
- e. Maintain a clear view of travel. If the load blocks or restricts your view, drive with the load trailing (backwards).
- f. Slow down, sound horn, and do not pass where vision is restricted.
- g. Operate the truck at speeds that will allow it and the load to be stopped in a safe, smooth, manner.
- h. Be aware of floor conditions. Remove loose objects in the travel lanes. Slow down on wet or slippery floors.
- i. Of course, stunt or reckless driving is prohibited.
- j. Be aware of the height of the truck and, if equipped, its mast and load. Carelessness can damage ceiling, lights, pipes, etc..
- k. Never allow anyone to stand or pass under an elevated portion of any truck at any time.

**Ask if anyone has had this type of accident. If yes, discuss what would prevent a reoccurrence.**

## FALLING LOADS

- a. Know your load -- do not "overstack". Because practically all loads lifted or hauled by a forklift are not secured to the truck, ensure the load is properly stacked. Cartons generally should be interlaced or banded.
- b. If lifting a load or pallet, get the forks (or other engaging means) as far under the load as possible.
- c. Travel with the load in the lowest position for stability as well as prevention of hitting objects overhead. If using forks, tilt the load backward for stabilization.
- d. Do not exceed the truck's rated capacity or stack loads too high.
- e. Do not make "jerky" movements such as slamming the brakes or high speed turns.

- f. A load backrest extension will reduce the possibility of part of the load falling rearward.
- g. When using a fork lift, the forks may be tilted forward only for picking up or setting down a load.

**Ask if anyone has had this type of accident. If yes, discuss what would prevent a reoccurrence.**

## **TIPPING**

Tipping or falling off an edge (or dock) is a preventable accident by following the guidelines below. If your truck tips, keep your body and limbs within the safety of the cage. Wear a seat belt if the truck is so equipped.

- a. Stay within travel lanes.
- b. If entering a trailer, ensure:
  - 1. the trailer brakes are engaged.
  - 2. the trailer is secured from movement by means of chocks and/or a locking mechanism.
  - 3. the tractor is either shut off or removed from the trailer.
  - 4. the trailer is squared up with the dock opening and dock plates are secure.
  - 5. the trailer floor is capable of supporting the forklift and its load.
  - 6. the lighting within the trailer is adequate.

**NOTE:** Falling off a dock edge because a trailer has moved is invariably a serious accident. Do not count on the tractor-trailer driver to lock his brakes or even trust that his brakes work. Physically check and ensure the trailer into which you are taking your forklift is securely against the dock. If possible, the trailer should be actually attached to the dock, but in all cases, it should be chocked.

- c. Travel with the load in the lowest possible position and avoid sharp turns at higher speeds as well as abrupt truck movements.
- d. Be aware of the surface on which you are traveling -- its traction, ability to hold weight, slope, and surface.

**Ask if anyone has had this type of accident. If yes, discuss what would prevent a reoccurrence.**

## **FIRE/EXPLOSION DURING REFUELING/RECHARGING**

Refueling accidents are not common experiences, however should they occur, they would be sudden and possibly catastrophic. Follow the manufacturer's owner's manual and local fire laws.

- a. There is absolutely NO SMOKING or open flame during any portion of the refueling/recharging process.
- b. An appropriate (B:C) fire extinguisher must be readily available.

**Ensure that refueling/recharging procedures are clearly understood.**

**Conduct an interactive discussion on the appropriate truck-related and workplace-related topics listed below.**

**For example, you could start each subparagraph below with, "Do you understand ....?"**

### **TRUCK-RELATED TOPICS**

- a. Operating instructions, warnings, and precautions for the types of truck the operator will be authorized to operate.
- b. Differences between the truck and the automobile.
- c. Truck controls and instrumentation: where they are located, what they do, and how they work.
- d. Engine or motor operation.
- e. Steering and maneuvering.
- f. Visibility (including restrictions due to loading).
- g. Fork and attachment adaptation, operation, and use limitations.
- h. Vehicle capacity.
- i. Vehicle stability.
- j. Any vehicle inspection and maintenance that the operator will be required to perform.
- k. Refueling and/or charging and recharging of batteries.
- l. Operating limitations.
- m. Any other operating instructions, warnings, or precautions listed in the operator's manual for the types of vehicle that the employee is being trained to operate.

## **WORKPLACE-RELATED TOPICS**

- a. Surface conditions where the vehicle will be operated.
- b. Composition of loads to be carried and load stability.
- c. Load manipulation, stacking, and unstacking.
- d. Pedestrian traffic in areas where the vehicle will be operated.
- e. Narrow aisles and other restricted places where the vehicle will be operated.
- f. Hazardous (classified) locations where the vehicle will be operated.
- g. Ramps and other sloped surfaces that could affect the vehicle's stability.
- h. Closed environments and other areas where insufficient ventilation or poor vehicle maintenance could cause a buildup of carbon monoxide or diesel exhaust.
- i. Other unique or potentially hazardous environmental conditions in the workplace that could affect safe operation.

Lastly, remind all personnel that the reference materials are readily available for their use and that should a safety concern develop, it will be resolved before proceeding with work.

## **PRACTICAL TRAINING**

### **Materials Needed:**

- a. A “Demonstration of Operational Skills” form for each trainee.
- b. A forklift.
- c. The Forklift Daily Check List.
- d. Typical items to be moved, placed, or lifted.

### **Procedure:**

- a. Establish a protected training area that has been cordoned off to prevent injury to persons not involved with truck training.
- b. Establish stations which are representative of typical operations such as:
  1. lifting, pulling, pushing, stacking materials.
  2. maneuvering in tight spaces, narrow aisles, or blind spots.
  3. entering trailers.

- c. Demonstrate:
  - 1. inspecting the truck.
  - 2. performing the tasks required at each station.
  - 3. fuel/charging the truck.
  - 4. securing the truck as if the shift was completed.
- d. Observe:
  - 1. the trainee performing the above tasks.
  - 2. complete a “Demonstration of Operational Skills” for each trainee.

As with all training, an interactive approach should be taken with the operator being encouraged to ask questions and resolve any safety issues.

## **EVALUATION**

### **Materials needed:**

- a. A Certification of Truck Operator Training Form.
- b. Operator’s Licenses.

**NOTE: The trainee may not be authorized as an operator until an evaluation of performance during actual operations is made by the Program Administrator or a designated competent person.**

**Prior to this certification, all truck operations must be under the direct supervision and observation of a competent person.**

### **Procedure:**

- a. Observe the employee performing actual operations safely in accordance with the training received.
- b. Complete our Certification of Truck Operator Training Form.
- c. Provide a completed Operator’s License to the individual.

# Forklift Quiz

# FORKLIFT

## QUIZ

**Circle the correct answer.**

1. To become an authorized forklift operator, one must:
  - a. read and understand all pertinent information in the Owner's Manual.
  - b. understand the hazards associated with truck operations and how to avoid them.
  - c. demonstrate skills in actual truck operation.
  - d. all of the above.
  
2. Who is allowed to operate an industrial truck?
  - a. Anyone over 25 years of age.
  - b. Anyone who can turn it on.
  - c. One who has demonstrated his/her knowledge and ability to safely operate the truck and has authorization to do so.
  
3. A malfunctioning truck may be used:
  - a. with extreme caution.
  - b. only after being properly repaired by authorized personnel.
  - c. by ground controls only.

4. Trucks should be inspected:
  - a. daily.
  - b. weekly.
  - c. monthly.
  
5. There is absolutely NO SMOKING or open flame during any portion of the refueling/recharging process.
  - a. True.
  - b. False.
  
6. Rated load capacities are:
  - a. general guidelines established by the manufacturer.
  - b. must never be exceeded.
  - c. are used to determine fluid levels.
  
7. Industrial trucks are so stable they may be driven on any grade.
  - a. True.
  - b. False.
  
8. Because of the driver protection and the rubber tires, there is no danger if overhead electrical lines are hit by a truck component or load.
  - a. True.
  - b. False.

9. Loads should always be carried as close to the ground as possible to lower the center of gravity.
  - a. True.
  - b. False.
  
10. The surface on which a truck travels should be checked for:
  - a. load bearing capacity.
  - b. traction.
  - c. lack of debris.
  - d. all of the above.
  
11. Primary hazards that present themselves during truck operations include:
  - a. hitting a person/object; falling loads; tipping; and fire/explosion during refueling/recharging.
  - b. flat tires; leaking fuel tanks; and excess debris.
  - c. hazardous atmospheres and excessive noise.
  
12. Accidents involving forklifts result in approximately:
  - a. 90,000 injuries and 100 deaths per year.
  - b. 1,000,000 injuries and 350 deaths per year.
  - c. three (3) billion dollars in property damage per year.

## **Forklift Quiz Answer Sheet**

# ABM Enterprises NJ, Inc

## FORKLIFT QUIZ

### ANSWER SHEET

\_\_\_\_\_  
(Name)

\_\_\_\_\_  
(Date)

**Circle the correct, or best, answer.**

1. a. b. c. d.
2. a. b. c. d.
3. a. b. c. d.
4. a. b. c. d.
5. a. b. c. d.
6. a. b. c. d.
7. a. b. c. d.
8. a. b. c. d.
9. a. b. c. d.
10. a. b. c. d.
11. a. b. c. d.
12. a. b. c. d.

# Forklift Quiz Scoring Sheet

# ABM Enterprises NJ, Inc

## FORKLIFT QUIZ

### SCORING SHEET

1. d.
2. c.
3. b.
4. a.
5. a.
6. b.
7. b.
8. b.
9. a.
10. d.
11. a.
12. a.

# Forklift Quiz Explanations

## FORKLIFT

### QUIZ EXPLANATIONS

1. To become an authorized forklift operator, one must:
  - a. read and understand all pertinent information in the Owner's Manual.
  - b. understand the hazards associated with truck operations and how to avoid them.
  - c. demonstrate skills in actual truck operation.
  - d. all of the above.**

**The actual standard on which this training is based states, as far as training goes, that a method must be devised to train operators in the safe operation of forklifts. By successfully completing the above tasks, it is our opinion that the goal of zero accidents will be achieved.**

2. Who is allowed to operate an industrial truck?
  - a. Anyone over 25 years of age.
  - b. Anyone who can turn it on.
  - c. One who has demonstrated his/her knowledge and ability to safely operate the truck and has authorization to do so.**

**Improperly used forklifts are potentially very dangerous items of equipment. Therefore, only authorized personnel may operate them. Should an operator be found to be lacking in any of the required skills for safe operation, re-training will be given. Intentional recklessness and/or disregarding safety guidelines will result the operator's authorization being revoked.**

3. A malfunctioning truck may be used:
  - a. with extreme caution.
  - b. only after being properly repaired by authorized personnel.**
  - c. by ground controls only.

***There are two (2) points to this question. One, to emphasis that any truck that is mechanically defective will be taken out of service until repaired, and, two, only authorized maintenance personnel may do the actual repairs. Of course, operators are allowed to replenish fluids as allowed in the Operator's Manual.***

4. Trucks should be inspected:
  - a. daily.**
  - b. weekly.
  - c. monthly.

***There are three (3) main categories of items to inspect on our Forklift Daily Checklist: 1) Visual Overall Truck Condition; 2) Fluids; and 3) Truck Operations. Be sure to check each item indicating that it is O.K., deficient, or not applicable. This inspection checklist is part of our maintenance procedures and will ensure that not only are our trucks safe, they will perform at their expected capacities and lifetimes.***

5. There is absolutely NO SMOKING or open flame during any portion of the refueling/recharging process.
  - a. True.**
  - b. False.

***Refueling propane requires at least an 8B:C rated fire extinguisher and recharging batteries requires immediate access to eye flush and body drenching.***

6. Rated load capacities are:
  - a. general guidelines established by the manufacturer.
  - b. must never be exceeded.**
  - c. are used to determine fluid levels.

***Rated capacities must never be exceeded. Remember, you are dealing with powerful, heavy, expensive machinery capable of serious work. At the least, going beyond truck capacities may damage the truck (or load), and, at the most, you may seriously injure yourself or a fellow employee if something gives way.***

7. Industrial trucks are so stable they may be driven on any grade.
  - a. True.
  - b. False.**

***Forklifts are extremely stable when properly driven, loaded, and operated within its stated limits. Exceeding a truck's limit, such as the grade on which it may be driven, is asking for a sudden, possibly violent, certainly tragic accident.***

8. Because of the driver protection and the rubber tires, there is no danger if overhead electrical lines are hit by a truck component or load.
  - a. True.
  - b. False.**

***This is blatantly false. Any reasonable person would know that there is danger in hitting any object. However, remember not only the driver of the truck is put at risk through careless operations, other persons are as well.***

9. Loads should always be carried as close to the ground as possible to lower the center of gravity.

a. True.

b. False.

***Not only does this lower the center of gravity, it greatly reduces the chance of injury should the load fall. If lowering the load blocks your line of sight, travel with the load trailing.***

10. The surface on which a truck travels should be checked for:

a. load bearing capacity.

b. traction.

c. lack of debris.

d. all of the above.

***Not only is the above an OSHA requirement, it makes good sense. Slow down when traction is poor (a wet floor, for example). Serious accidents can occur when trailer floors fail, dock plates slip, or there is some sort of surface collapse.***

11. Primary hazards that present themselves during truck operations include:

a. hitting a person/object; falling loads; tipping; and fire/explosion during refueling/recharging.

b. flat tires; leaking fuel tanks; and excess debris.

c. hazardous atmospheres and excessive noise.

***One of the main purposes of our training has been to point out the primary hazards involved with forklift operations and the methods and procedures to avoid them.***

12. Accidents involving forklifts result in approximately:
- a. **90,000 injuries and 100 deaths per year.**
  - b. 1,000,000 injuries and 350 deaths per year.
  - c. three (3) billion dollars in property damage per year.

***Ninety thousand injuries and 100 deaths per year is a terrible price to pay for disregarding standard safety procedures. Most accidents are preventable. With a concerted effort by all personnel from the highest levels of management to the newest hire, needless accidents and injuries can be eliminated.***

## **Demonstration of Operation Skills**

# ABM Enterprises NJ, Inc

## DEMONSTRATION OF OPERATION SKILLS

The truck operator whose signature appears below has demonstrated his/her ability to perform the below listed tasks in a satisfactory manner.

= O.K.

= Not Applicable

A truck walk-around and safety check.

A check of all fluid levels.

A check of horn, lights, brakes, fire extinguisher, etc..

Fueling the truck.

Starting the truck.

Driving around obstacles (such as empty boxes) both in a forward and reverse direction.

Lifting a stack of empty pallets and placing them on another empty pallet.

Securing the truck after use (engaging the parking brake).

Special maneuvers appropriate for job requirements such as ramps, trailer entry, narrow aisles, high reach, etc..

Notes:

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\_\_\_\_\_  
(Operator's Signature)

\_\_\_\_\_  
(Program Administrator's Signature)

\_\_\_\_\_  
(Date)

# **Certification of Forklift Operator Training**

# ABM Enterprises NJ, Inc

## Certification of Forklift Operator Training

I certify the below listed personnel have received training/refresher training as required by 29 CFR 1910.178, *Powered Industrial Trucks*.

Name(s) of competent person(s) who performed the training:  
(If other than the Program Administrator)

\_\_\_\_\_  
(Print Name)

\_\_\_\_\_  
(Print Name)

Date(s) of training:

\_\_\_\_\_  
(From)

\_\_\_\_\_  
(To)

<u>NAME</u>	<u>Initial Training</u>	<u>Refresher Training</u>	<u>Evaluation Date</u>
_____	<input type="checkbox"/>	<input type="checkbox"/>	_____
_____	<input type="checkbox"/>	<input type="checkbox"/>	_____
_____	<input type="checkbox"/>	<input type="checkbox"/>	_____
_____	<input type="checkbox"/>	<input type="checkbox"/>	_____
_____	<input type="checkbox"/>	<input type="checkbox"/>	_____
_____	<input type="checkbox"/>	<input type="checkbox"/>	_____
_____	<input type="checkbox"/>	<input type="checkbox"/>	_____
_____	<input type="checkbox"/>	<input type="checkbox"/>	_____
_____	<input type="checkbox"/>	<input type="checkbox"/>	_____
_____	<input type="checkbox"/>	<input type="checkbox"/>	_____

\_\_\_\_\_  
(Program Administrator's Signature)

\_\_\_\_\_  
(Date)

# Forklift Operator Cards

