L.L. Pelling Co,. Inc.
Safety Handbook

SAFETY POLICY STATEMENT

L.L. Pelling Company, Inc. is entirely committed, both morally and legally, to protecting the safety of all of their employees and others that may be in the work area.

If we operate in a safe manner and have no major accidents, most likely we will have an overall success, including profits.

Everyone here has the responsibility of preventing accidents and injuries regardless of where they are working or what they are working on.

Employees must report accidents, injuries, or unsafe conditions immediately!

The outline of our general **Safety Policy Program** is as follows:

Safety is the responsibility of every employee.

Doing your job in accordance with the safety policy and safety rules will be a requirement for continued employment.

Production and safety are compatible. A good safety record will result in good production.

Individuals employed by L.L. Pelling Company can expect and deserve a safe place to work.

Every individual must be concerned with the safety of fellow workers.

Traffic and safety rules/regulations must be always followed while using company vehicles, equipment and tools.

Safety practices will apply to everyone and must be a part in all operations. No job, including shop work, surveying, etc., will be considered efficiently done unless every precaution and safety rule has been followed.

We all have to work together in order to achieve an outstanding safety record. Without a good safety record, our insurance costs increase. If a bad safety record continues, then insurance becomes impossible to acquire. This could mean that the doors would close, and we would all be out of work.

Good attendance at safety meetings is essential!

Brett Finnegan, President
L.L. Pelling Company, Inc.

COMPANY SAFETY POLICY

POLICY RESPONSIBILITES

A. Management Will:

Enforce this safety policy.

Establish and provide safety training for all employees.

Establish procedures for treatment of injuries. Management and key employees will participate in First Aid and CPR Training every two years.

Conduct safety inspections and file reports.

Investigate accidents and file full reports on them. Try to determine the cause and make safeguards to prevent them from happening again.

Promote safety to all employees constantly.

Make available all necessary personal protective equipment, job safety materials and first aid equipment.

Implement the entire safety program at the work level.

Conduct weekly toolbox safety meetings and strive for 100% attendance.

B. Employees Will:

Refrain from any unsafe act that might endanger himself/herself or fellow workers.

Work according to good safety practices as posted, instructed and discussed.

Use all safety devices provided for his/her protection.

Report any unsafe situation or "act" to supervisors immediately.

Assume their share of responsibility for thoughtlessness or deliberate acts that cause injury to themselves or fellow workers.

Be a safe worker **off** the job as well as **on**.

Report all injuries and violations immediately to your supervisor.

C. **Right to Know Law**:

A Right to Know Law is in effect in Iowa. This concerns hazardous chemicals on the job site that you may come in contact with. You should be aware of the following:

A list of hazardous substances is kept at the main office and plant sites. Safety Data Sheets are kept at the main office, shop, plant sites and in the supervisor's vehicle at the job sites as well as electronically on SDS Binderworks through LL Pelling's Intracompany website under Safety and SDS Sheets. L.L. Pelling Office fax number is (319) 626-4605.

If you should have any questions concerning any hazardous substance, you should refer to the Safety Data Sheets, ask your supervisor or call Julie Maxfield, Safety Director at (319) 626-4600.

If there is an accidental spill or any mishap in which you believe a hazardous substance may endanger you or others, inform your supervisor immediately.

D. **Subcontractors**:

All subcontractors of L.L. Pelling Company, Inc. and their personnel are by contract subject to safety rules while working on L.L. Pelling Company, Inc. projects including PPE (Personal Protective Equipment). They are responsible for their own action's safety-wise.

Table of Contents

Safety Department	**7**
Discipline Policy	**7**
Alcohol and Drugs	**8**
Work Related Injuries	**9**
Non-Work Related Medical Conditions	**10**
Individual Safety Rules	**10**
Housekeeping	**12**
Right to Know/Hazard Communication	**12**
Personal Protective Equipment	**13**
Material Handling and Lifting	**18**
Lock Out/Tag Out	**18**
Ladders	**18**
Stairs	**20**
Electrical	**20**
Trenching and Excavating	**21**
Fire Protection and Prevention	**21**
Flammable and Combustible Liquids	**22**
Compressed Gas Cylinders	**22**
Welding and Cutting	**23**
Motorized Equipment	**24**
Tools and Equipment	**24**
First Aid and Medical Services	**30**

Confined Spaces **31**

Silica Exposure Control Plan **31**

Cell Phone Usage **53**

Employee Acknowledgement **55**

Safety Department

The Safety Department is in place to ensure the safety of all L.L. Pelling Co. Employees, Subcontractors, Owners, Staff and the General Public on all of our projects. If you have any questions about this handbook or any other safety related items, please do not hesitate to call any of the safety staff at the numbers listed below.

Brett Finnegan	Office 319-626-4600	Cell 319-330-5194
Joel Gryp	Office 319-626-4600	Cell 319-631-0589
Julie Maxfield	Office 319-626-4600	Cell 319-350-0781

Discipline Policy

This policy describes the policy for administering fair and consistent discipline for unsatisfactory conduct involving violations of company rules and procedures, as well as any deviation from safety rules and programs at L.L. Pelling Co. Included in safety related violation would be failure to wear appropriate PPE, failure to follow established safety policies or practices, failure to follow manufacturer recommendations, failure to conduct hazard evaluations, failure to maintain appropriate housekeeping, any failure during a safety inspection, worksite inspections at jobsites by management such as the president, vice president, general managers, supervisors, safety director or by the safety committee, etc.

We believe it is important to make sure that all employees are treated fairly and that disciplinary actions are prompt, consistent, and impartial. The major purpose of a disciplinary action is to correct the problem, prevent it from happening again, and prepare the employee for satisfactory performance in the future.

Although your employment is based on mutual consent and both you and L.L. Pelling Co. have the right to terminate employment at will, with or without cause or advance notice, L.L. Pelling Co. may use progressive discipline at its discretion.

Disciplinary action may be any of the following four steps and enforced by the individual's department manager:

1) verbal warning,
2) written warning,
3) suspension with or without pay, or
4) termination of employment.

We will look at how severe the problem is and how often it has happened when deciding which step to take. There may be circumstances when one or more steps are bypassed. Upon an infraction, the employee will meet with the president or vice president, field operations manager, immediate supervisor, and safety director (if safety related infraction occurs), in order to review the policy/rules broken and to set future expectations outlining appropriate behaviors. If an infraction of safety procedures is indicated, then an investigation will be conducted to establish corrective actions and root cause for the violation.

In most cases, progressive discipline means that we will normally take these steps in the following order:

1) a first offense may call for a verbal warning, which will be documented in writing;
2) a next offense may be followed by a written warning;
3) another offense may lead to a suspension; and,
4) still another offense may then lead to termination of employment.

In very serious situations, some types of employee problems may justify either a suspension, or, in extreme situations, termination of employment, without going through the usual progressive discipline steps.

You should also look at the L.L. Pelling Co. Employee Handbook and its policies. That policy lists examples of unacceptable conduct that might result in immediate suspension or termination of employment. However, some of the examples of unsatisfactory conduct listed may result in the progressive discipline process described above instead of immediate suspension or termination.

By using progressive discipline, we hope that most employee problems can be corrected at an early stage, benefiting both the employee and L.L. Pelling Co.

Alcohol and Drugs

L.L. Pelling Co., Inc., has a vital interest in the safety and well being of our employees as well as the general public. It is well recognized that individuals who use illegal drugs or abuse alcohol are more likely to have workplace accidents, incur greater amounts of lost time, and perform their jobs in a substandard manner.

Therefore, it is L.L. Pelling Co., Inc.'s intent to continue to promote a safe and secure work environment, free of illegal drug use and alcohol abuse. It is also our intent to comply with all U.S. Department of Transportation rules and regulations (49 CFR Part 40), the Drug Free Workplace Act of 1988, the Americans with Disabilities Act and the Family Medical Leave Act and Iowa Code 730.5 Private Sector Drug-Free Workplaces.

All applicants will be notified of L.L. Pelling Co., Inc., drug and alcohol use and testing policy at the time they apply for a position with L.L. Pelling Co., Inc. Every employee will comply with the following rules and regulations. The L.L. Pelling Co., Inc. drug screening program includes: pre-employment, post-accident, post injury, random, reasonable suspicion and follow-up testing. **Any questions or concerns regarding L.L. Pelling Co., Inc., Drug and Alcohol Policy shall be directed to the Designated Employee Representative (DER), Julie Maxfield, (319) 626-4600.**

The goal of L.L. Pelling Co., Inc., policy and the testing of employees is to ensure a drug and alcohol-free work environment, and to reduce and help eliminate drug and alcohol related accidents, injuries, fatalities and property damage. The following conduct is prohibited:

- Employees are prohibited from using, being under the influence, or possessing illegal drugs.
- Employees are prohibited from using or being under the influence of legal drugs that can adversely affect the ability to work safely.
- Employees are prohibited from buying, selling, soliciting to buy or sell, transport or possess illegal drugs while on or in L.L. Pelling Co., Inc., time or property.
- Employees are prohibited from using alcohol within 8 hours of performing a safety sensitive function (D.O.T. requires a minimum of 4 hours).
- Employees are prohibited from using or being under the influence of alcohol at any time while on duty, 8 hours post-accident, or until tested post-accident.
- Employees are prohibited from possessing ANY amount of alcohol (including medications or over-the-counter remedies containing alcohol) while on duty. This is a new DOT regulation.
- Testing positive for drugs and/or alcohol while on duty.
- Refusing to be tested for drugs and/or alcohol when circumstances warrant.
- Reporting for duty or remaining on duty to perform a safety-sensitive function with and alcohol concentration of 0.02 or greater.

An employee who violates this policy will be subject to disciplinary action by L.L. Pelling Co., Inc., which may include termination, as mandated by D.O.T. and L.L. Pelling Company Policy. In addition, any driver who is convicted by the judicial system of a felony for a drug or alcohol related matter is subject to immediate termination. An employee, who is arrested for any reason that might adversely impact the safe operation of company equipment or the public safety, may be suspended without pay pending resolution of the situation.

Work Related Injuries

1. The employee must report the work-related incident that caused (or could have caused) illness or injury to his/her Supervisor and the Workers' Compensation Coordinator on ***the day of the incident***. This is accomplished by completing the Incident Report available from his/her supervisor and should be done regardless of whether medical treatment is initially given or not. 2.

2. Failure to report a work-related incident within 24 hours of the incident may result in corrective action. Failure to follow the **Iowa Notice Statute** may jeopardize Workers' Compensation benefits.

3. All medical treatment for the alleged injury or illness (except initial one-time treatment) must be authorized by the Workers' Compensation Coordinator or Supervisor.

4. A urine drug test **must** be performed on all employees involved in a work-related incident in which $1,000 or more property damage has occurred or when medical evaluation or treatment is needed. The employee's failure to give consent as requested will result in termination per L.L. Pelling Co., Inc., Drug and Alcohol-Free Workplace Policy in the employee handbook.

5. Following medical treatment, the injured employee must receive written clearance to return to work.

Non-Work Related Medical Conditions

1. All non-work-related medical conditions that may affect your ability to perform your work must be reported to your supervisor. Examples including but not limited to:

    - Prescription medication that causes dizziness or drowsiness.
    - Health conditions that may require special attention in the event of an emergency, diabetes, epilepsy, heart conditions, etc.
    - Fear of heights.
    - Dizzy spells.
    - Vertigo

2. All non-work-related injuries that may affect your ability to perform your work must be immediately reported to your supervisor. Examples: injuries from car accidents, sports, home, etc.

3. To protect both employee and the company, we may require a work release from your treating physician prior to returning to work.

Individual Safety Rules

1. Employees may not operate equipment or vehicles unless they are familiar with the operation and have been authorized to do so. A valid drivers' license is required in all cases. A commercial driver's license with special endorsements may also be required in some cases. Seat belts should be worn at all times by both drivers and passengers in company vehicles. We expect our employees to observe the speed limit and obey traffic laws.

2. Do not ride on equipment in a way that is not authorized and designated by the equipment manufacturer.

3. Employees should park vehicles on the job site in a manner that they can drive forward when leaving. One should as a last resort park directly behind another vehicle. If parking directly behind another vehicle is the only option, park far enough back so your vehicle can be spotted in mirrors or offset on the driver's side so the rear vehicle can be easily seen. Always look carefully before backing up and do not back up unless absolutely necessary.

4. Employees working at construction sites or plants must dress appropriately for construction work (i.e. blue jeans, tee shirts with sleeves that cover the shoulders and midriff, or button down shirts with tails tucked into the jeans).

5. Employees must not wear jewelry or loose ill-fitting clothing that could get caught in machinery and equipment or impair rapid movement, potentially causing an accident.

6. Employees are not allowed to wear shorts or cut-off pants.

7. Substantial 4 inch or greater leather shoes or boots are to be worn at construction sites, shops, and at plants. Leather tennis shoes or other court shoes or hiking shoes are not considered substantial.

8. Wear Class 2, Level 2 safety vest that always makes you highly visible. At night, retroreflective gaters shall be always worn also.

9. Loader operators have the right of way at the asphalt plants. Make eye contact before walking or driving behind a loader, truck, roller, or any other piece of equipment including bi-directional equipment.

10. Always lockout, tag and try equipment that is being serviced for safety.

11. Keep feet and legs clear of equipment, especially compaction equipment.

12. Do not walk between two pieces of equipment, especially pavers and trucks or chip spreaders and trucks.

13. Equipment operators should stay well away from employees doing handwork on the ground.

14. Use extreme caution and personal protective equipment when working with hot oil.

15. Enter and exit equipment using the three points of contact rule.

16. Be aware of overhead obstructions and navigate around them.

17. Get help in lifting heavy objects and lift with your legs, minimizing twisting your back.

18. Cell phones should only be used for company business and not while operating equipment or driving trucks.

19. Employee owned cell phones should only be use for company business and during normal breaks in production, not while operating equipment or driving trucks.

20. Hard hats are required at posted areas in the asphalt plants if outside of a vehicle.

21. Employee personal vehicles are to be parked in the designated Employee Parking area in a neat and orderly fashion.

22. Do not use defective or damaged tools. This includes broken or loose handles or dull edges. Turn them in to the supervisor for replacement.

23. Drivers of equipment and trucks must do pre-trip inspections and post trip inspections that are documented.

24. Possession of deadly weapons is prohibited.

All Safety policies whether LLP/Pelco companies or the owners must be always followed.

Housekeeping

Take pride in your workplace or site and keep it clean and orderly. Dirty and disorderly conditions are the cause of many accidents. Access to first aid kits, fire extinguishers, and escape exits shall be always unobstructed.

Improper housekeeping and material storage can create or hide numerous hazards such as:

- Slip and Trip Hazards
- Chemical Exposure
- Contact with Sharp Objects
- Fire Explosion and Hazards
- Overloading of Storage Shelves and Bins

Each employee's personal assistance is needed to help keep the drinking dispensers, toilets, and washrooms clean and sanitary. Please observe and practice a code of decency for the health and safety of all employees. Housekeeping is not only important for the safety of employees but contributes to the image we convey to the public. Your help in making our plant sites and job sites as clean and orderly as possible is very important and very much appreciated.

Right to Know/Hazard Communication

To ensure that information about the dangers of all hazardous chemicals used by L.L. Pelling Co., Inc. is known by all affected employees, the following hazardous information program has been established. Under this program, you will be informed of the contents of the OHSA Hazard Communications standard, the hazardous properties of chemicals with which you work, safe handling procedures and measures to take to protect yourself from these chemicals.

This program applies to all work operations in our company where you may be exposed to hazardous chemicals under normal working conditions or during an emergency situation. All divisions of this company will participate in the Hazard Communication Program. Copies of the Hazard Communication Program are available in the North Liberty Office for review by any interested employee.

Each new employee will receive initial training on the hazard communication standard and this plan before starting work through a health and safety orientation. Training will also take

place prior to introducing a new chemical hazard into any section of this company. Training also occurs anytime when a non-routine hazard task needs to be completed.

LLP/Pelco has a written Hazardous Communication Program. This program applies to potentially hazardous chemicals that employees may come in contact with on the job. Employees should be aware of the following:

1. A list of hazardous substances expected to be used on the jobsite will be posted at each jobsite if required.
2. Information about such potentially hazardous substances will be detailed on the Safety Data Sheets (SDS).
3. Safety Data Sheets inform employees about hazardous substances on our jobsites will be available on the jobsites, shops or at the Safety Department available in the office in North Liberty, IA.
4. If any employee should have a question regarding any potentially hazardous substance, they should refer to the Safety Data Sheet or ask their immediate supervisor.
5. If there should be an accidental spill or any other such mishap in which you believe a hazardous substance is involved which might endanger yourself or others, notify your supervisor immediately.

Personal Protective Equipment

Eye and Face Protection
To help prevent eye ad face injuries, including those resulting from flying particles, molten metal, liquid chemicals, acids or caustic liquids, chemical gases or vapors, or light radiation, for example, it is the policy of the company that as a condition of employment, all regular full time, part time and temporary employees working in designated work areas and/or job assignments are required to wear protective eye and face protection devices that comply with 1989, 1989 (R-1998), or 2003 editions of ANSI Z87.1, "American Nation Standard Practice for Occupational and Educational Eye and Face Protection," or devices our company can demonstrate to be just as effective.

Eye and Face Protector Use
Safety Glasses - Protective eye glasses are made with safety frames, tempered glass or plastic lenses, temples and side shields which provide eye protection from moderate impact and particles encountered in job tasks such as grinding. These are available in clear or tinted (providing protection from fatigue from sun).

Over the Glasses Safety Glasses - Protective eye glasses that are to be worn over prescription glasses that provide similar protection to safety glasses to insure protection along with proper vision. They are made with safety frames, tempered glass or plastic lenses, temples and side shields which provide eye protection from moderate impact and particles encountered in job tasks such as grinding. These are available in clear or tinted (providing protection from fatigue from sun).

Single Lens Goggles – Vinyl framed goggles of soft pliable design provide adequate eye protection from many hazards. The goggles are available with clear lenses, perforated, port vented or non-vented frames. Single lens goggles provide similar protection to safety glasses and may be worn in combination with glasses or corrective lenses to insure protection along with proper vision.

Face Shields – These normally consist of an adjustable headgear and face shield of tinted/transparent acetate or polycarbonate materials. Face shields are available in various sizes, tensile strength, impact/heat resistance and light ray filtering capacity. Face shields will be used in operations when the entire face needs protection and should be worn to protect eyes and face against flying particles, metal sparks and chemical/biological splash. Face shields are to be worn in combination with safety glasses when grinding, cutting or sawing.

Welding Shields – These shield assemblies consist of vulcanized fiber or glass fiber body, a ratchet/button type adjustable headgear or cap attachment and a filter and cover plate holder. These shields will be provided to protect worker's eyes and face from infrared or radiant burning light burns, flying sparks, metal spatter and slag chips encountered during welding, brazing, soldering, resistance welding, bare or shielded electric arc welding and oxyacetylene welding and cutting operations.

Filter Lenses for Protection Against Radiant Energy			
Operations	**Electrode Size 1/32"**	**Arc Current**	**Protective Shade**
Shielded metal arc welding	Less than 3	Less than 60	7
	3-5	60-160	8
	5-8	160-250	10
	More than 8	250-550	11
Torch brazing			3
Torch soldering			2
Note: as a rule of thumb, start with a shade that is too dark to see the weld zone. Then go to a lighter shade which gives sufficient view of the weld zone without going below the minimum. In oxyfuel gas welding or cutting where the torch produced a high yellow light, it is desirable to use a filter lens that absorbs the yellow or sodium line in the visible light of the(spectrum) operation.			

Selection Chart Guidelines for Eye and Face Protection		
The following chart provides general guidance for the proper selection of eye and face protection to protect against hazards associated with the listed hazard source operations.		
Source	**Hazard**	**Protection**
Impact – Grinding machining, using an air compressor, sawing, drilling	Flying fragments, objects, particles, sand, road debris, etc.	Glasses with side protection, goggles, face shield For severe exposure use face shield.
Heat – Arc welding	Hot sparks	Face shields, glasses with side protection.
Chemicals – Transport unloading, chemical handling	Splash	Glasses used with face shield
Dust – General dusty conditions	Nuisance dust	Glasses, goggles

Head Protection

To help prevent head injuries, including those resulting from falling objects, bumping the head against a fixed object, or electrical shock, it is the policy of the company that as a condition of employment, all regular full time and part time employees working in designated work areas and/or job assignments are required to wear head protection that complies with 1986, 1997 or 2003 ANSI Z89.1, "American National Standard for Industrial Head Protection," or devices our company can demonstrate to be just as effective.

Employees in the following work areas are required to wear head protection:

Asphalt Plants, Quarries, Oil Terminals and when a General contractor requires us to do so or if there is any danger of falling object hazards.

All supervisors and managers are responsible for ensuring employees under their charge are in compliance with this policy.

All employees who work in designated work areas and/or job assignments are responsible for wearing company provided head protection to comply with this policy. Failure to comply will result in disciplinary action up to and including discharge.

All employees required to wear head protection must routinely inspect and properly care for their head protection.

Where falling object hazards are present, helmets must be worn. Some examples include: working below other workers who are using tools and materials which could fall; working around or under conveyor belts which are carrying parts or materials; working below machinery or processes which might cause material or objects to fall; and working on exposed energized conductors.

Foot Protection

To help prevent foot injuries, ankle injuries, slips and falls it is the policy of the company that as a condition of employment, all regular full time, part time employees working in designated work areas and/or job assignments are required to wear foot protection.

Employees in the following designated work areas are required to wear foot protection that consists of a 4" leather work boot or shoe with a substantial sole that offers ankle protection. Because of the risk of thermal burns with the steel toe and asphalt, we do not require steel toed footwear.

All employees who work in designated work areas are responsible for purchasing and wearing foot protection to comply with this policy. Failure to comply will result in disciplinary action up to and including getting sent home.

The new employee is responsible for reporting to his or her first day of work wearing approved foot protection.

Hand Protection

Hand protection is required when employees' hands are exposed to hazards such as those from skin absorption of harmful substances; severe cuts or lacerations; sever abrasions; punctures; chemical burns; thermal burns; and harmful temperature extremes.

Skin contact is a potential source of exposure to toxic materials; it is important that the proper steps be taken to prevent such contact. Gloves should be selected on the basis of the material being handled, the particular hazard involved, and their suitability for the operation being conducted. One type of glove will not work in all situations.

Most accidents involving hands and arms can be classified under four main categories: chemicals, abrasions, cutting and heat. There are gloves available that can protect workers from any of these individual hazards or combination of hazards.

Gloves should be replaced periodically, depending on frequency of use and permeability to the substance handled. Gloves overtly contaminated should be rinsed and then carefully removed after use.

Gloves should also be worn whenever it is necessary to handle rough or sharp-edged objects, and very hot or very cold materials. The type of glove materials to be used in these situations include leather, welder's gloves, aluminum backed gloves, and other type of insulated glove materials.

Careful attention must be given to protecting your hands when working with tools and machinery. Power tools and machinery must have guards installed or incorporated into their design that prevent hands from contacting the point of operation, power train or other moving parts. To protect the hands from injury due to contact with moving parts, it is important to:

- Ensure that guards are always in place
- Always lock out machines or tools and disconnect the power before making repairs

- Treat a machine without a guard as inoperative; and
- Do not wear gloves around moving machinery, such as drill presses and grinders.

Respiratory Protection
The use of a respirator other than a dust mask requires special training, a physical from a medical professional and fit testing. If you have not received this training, you may not perform work.

Respirators shall be worn while operating dust-producing tools and equipment, while painting in the paint bay, while working on a dusty enclosed area and whenever appropriate.

Respirators will be furnished when working under conditions where harmful amounts of dust, toxic fumes, mist or vapors may be inhaled.

Voluntary use of Dust Masks
For those situations where respirator use is not required by OSHA or the employer, but is permitted by employers upon request by employees, the employer may allow voluntary use if the respirator use will not in itself create a hazard. If voluntary respirator use is permissible, the employer must provide the basic advisory information on respirators, as presented in Appendix D of 1910.134, in any written or oral format. In addition, those elements of a written respiratory protection program necessary to ensure that any employee using a respirator voluntarily is medically able to use that respirator, and that the respirator is cleaned, stored, and maintained so that its use does not present a health hazard to the user must be implemented.

Hearing Protection
Hearing protection devices are the first line of defense against noise in environments where engineering controls have not reduced employee exposure to safe levels. Hearing protective devices can prevent significant hearing loss, but only if they are used properly. A good rule of thumb is to wear hearing protection whenever you must raise your voice to be heard by someone less than two feet away.

1. The most popular hearing protection devices are earplugs which are inserted into the ear canal to provide a seal against canal walls.

2. Earmuffs close the entire external ears inside rigid cups. The inside of the muff cup is lined with acoustic foam and the perimeter of the cup is fitted with a cushion that seals against the head around the ear by the force of the headband.

Preformed earplugs and earmuffs should be washed periodically and stored in a clean area, and foam inserts should be discarded after each use. It is important to wash hands before handling preformed earplugs and foam inserts to prevent contaminants from being placed in the ear which may increase your risk of developing infections.

Traffic Control
A Class 2, Level 2 safety vest, Class 3, Level 2 T-Shirt or a Class 3, Level 2 Coat will be worn on all L.L. Pelling Co. job sites and at plants. At night, Class E gators with retro-reflective material must be worn at all times as well.

Material Handling and Lifting

Jobs within our company with high rates of back injuries tend to be those requiring a great amount of manual load handling. Eliminating and/or minimizing back injuries can result in lower workers' compensation costs and promote the wellbeing of employees. It is the policy of our company to provide a place of employment that is free from recognized hazards that cause or are likely to cause death or serious harm to employees or the public.

First, identify those jobs that involve many of the risk factors. Second, for those identified jobs, specific lifting tasks should be singled out for further analysis. Once specific lifting tasks are identified and assessed, if required, examine options to eliminate or minimize those lifting related back injuries. Look at:

- Elimination of the lifting
- Substitution of the nature of task, if elimination is not possible
- Control stress level imposed on the back when lifting if the two previous approaches do not work.
- When lifting equipment is impractical (awkward size), two-man lifts are performed.
- Manual lifting equipment may be used only by a trained employee.
- Use mechanical means whenever it is possible (i.e. forklift)

Lock Out Tag Out

This program has been established to assure that our employees are protected from unintended motion or release of stored energy. It allows employees to utilize procedures for attaching LO/TO devices to energy –isolating devices that will otherwise disable the machine or equipment.

If a piece of equipment is locked out and tagged out, you are not allowed to remove the lock and tag (unless you are the owner of the lock and tag that put it on the piece of equipment) or operate that piece of equipment.

You are only allowed to LO/TO a piece of equipment if you are trained and authorized to do so by L.L. Pelling Co.

Ladders

All portable ladders provided by L.L. Pelling Co., Inc. for use by employees are constructed according to OSHA specification in order to ensure safety under normal conditions of usage.

Work Practices

1. When ascending or descending, the climber must face the ladder.

2. Portable ladders are designed as a one man working ladder based on a 200-pound load and will be used accordingly.

3. Portable rung and cleat ladders will be used at such a pitch that the horizontal distance from the top support to the foot of the ladder is ¼ of the working length of the ladder (the length along the ladder between the foot and the top support).

4. The ladder will be so placed as to prevent slipping, or it will be lashed, or held in position. The ladder base section must be placed with a secure footing.

5. Employees will equip all portable rung ladders with nonslip bases when there is a hazard of slipping. However, nonslip bases are not intended as a substitute for care in safely placing, lashing or holding a ladder that is being used on oily, metal, concrete or slippery surfaces. These nonslip bases can be found in your parts room in the North Liberty Shop.

6. The top of the ladder must be placed with the two rails supported, unless equipped with a single support attachment.

7. On two-section extension ladders, the minimum overlap for the two sections in use will be according to OSHA specifications.

8. Portable rung ladders with reinforced rails will be used only with the metal reinforcement on the underside.

9. The bracing on the back legs of step ladders is designed solely for increasing stability and not for climbing.

Ladders will not be:

- Used in a horizontal position as platforms, runways or scaffolds.
- Placed in front of doors opening toward the ladder unless the door is blocked open, locked or guarded.
- Placed on boxes, barrels or other unstable basis to obtain additional height.
- Tied or fastened together to provide longer sections. They must be equipped with the hardware fittings necessary if the manufacturer endorses extended uses.
- Used to gain access to a rood unless the top of the ladder extends at least 3-feet above the point of support, at eave, gutter or roofline.
- Used as a brace, skid, guy or gin pole, gangway or for other uses that that for which they were intended, unless specifically recommended for use by the manufacturer.

Inspection and Maintenance

1. Ladders will regularly be inspected and properly maintained by supervisors. Ladders will be inspected before each use by the employee to ensure safety and serviceability.

2. Ladders will be maintained in good usable condition at all times.

3. The joint between the steps and side rails is kept tight, all hardware and fittings are securely attached, and the movable parts operate freely without binding or undue play.

4. Metal bearings of locks, wheels, pulleys, etc., will be frequently lubricated.

5. Safety feet and other auxiliary equipment will be kept in good condition to insure proper performance.

6. Ladders which have developed defects will be withdrawn from service for repair or destruction and tagged or marked as *Do Not Use*.

7. If ladders are exposed to oil and grease, equipment will be cleaned and kept free of oil, grease or slippery materials.

Fixed Ladders

Fixed ladders are provided according to OSHA specifications for design, clearance and pitch.

All fixed ladders are maintained in a safe condition.

Fixed ladders are inspected before each use by the employee.

Fixed Industrial Stairs

Fixed Industrial stairs are provided in our facility in the following circumstances:

1. For access from one structure level to another where operations necessitate regular travel between levels,
2. For access to operating platforms at any equipment which requires attention routinely during operations, and
3. Where access to elevations is daily or at each shift for such purposes as gauging, inspection, regular maintenance, etc., where such work may expose employees to acids, caustics, gases or other harmful substances or for which purposes the carrying of tools or equipment by hand is normally required.

All fixed industrial stairs are provided according to OSHA specifications for stair strength, stair width, angle of stairway rise, stair treads, stairway platforms, railings and handrails and vertical clearance.

Electrical

1. Locate all underground utilities before you dig. Refresh locates when originals have faded or have disappeared.

2. Consider all wire live until checked out by a qualified electrician.

3. All extension cords should be marked for heavy duty, round with three wires.

4. All cords should be visibly inspected prior to use. Any cord that is worn or damaged shall be taken out of service and tagged "DO NOT USE".

5. The use of ground fault circuit interrupters (GFCI) is required when using electrical equipment.

6. Stay in your truck if a power line has fallen on it until the electric company declares it a de-energized wire.

Trenching and Excavating

All utilities must be located prior to digging.

1. Excavations and trenches shall be inspected by a competent person daily or as conditions change. This inspection must be documented.

2. All excavations and trenches more than 5 feet deep, on which people are exposed, shall be guarded by a protective system such as shoring, sloping or shielding.

3. Ladders, stairways or equivalent shall be provided in all trenches 4 feet or more in depth and shall be located as to require no more than 25 feet of travel. Transferring of personnel in a bucket is prohibited.

4. Excavated material, tools or equipment shall be stored no closer than 4 feet from the edge of the excavation or trench.

5. Working under the bucket and/or suspended loads is prohibited.

Fire Protection and Prevention

1. Good housekeeping is essential. All areas should be kept clean and neat. Unnecessary materials that will burn such as cardboard, wood, and paper should be disposed of daily. Spills of gasoline, oil, paint or flammable solvents must be cleaned up promptly.

2. Be familiar with the location and operation of fire extinguishers in your work area.

3. After a fire extinguisher has been used, report it to your supervisor so the fire extinguisher can be recharged.

4. Suitable fire extinguishing equipment shall be immediately available in the following work areas: welding, cutting and grinding operations, powered equipment, fuel dispensing and storage areas.

Flammable and Combustible Liquids

Material Storage

Proper storage procedures are required for dry, raw materials, finished product flammables and compressed gases storage to prevent fires, keep exits and aisles clear and avoid injuries and illnesses. General rules for material storage are as follows:

Materials Storage

1. Materials may not be stored any closer than 18-inches to walls or sprinkler heads. A minimum of 3-feet side clearance will be maintained around doorways and emergency exits. Passageways and aisle will be properly marked and a minimum of six-feet in width. Materials, forklifts, pallet jacks, etc., may not be stored in aisles or passageways.

2. Aisles and passageways will be kept clear of debris. All spills of materials will be immediately cleaned up by the person responsible.

Flammable Storage

1. All flammables will be stored in OSHA approved flammable storage cabinets or be stored outside (at least 50-feet from any structure).

2. Fuels, solvents and other flammables (not stored in original shipping containers) will be stored in OSHA approved self-closing containers with flame arrester. Flammables may not be stored in containers (open parts baths, etc.).

3. Flammable storage areas will be kept dry and well ventilated. No storage of combustible materials, open flames or exposed electrical components are permitted in the flammable storage area.

4. Flammable or combustible materials may not be stored in electrical rooms. Electrical rooms must be kept clean and dry at all times.

5. All flammable and combustible containers must be labeled.

Compressed Gas Cylinders

Gas Cylinder Shipment Receiving

1. Inspect bottle for defects and proper markings/labels

2. Ensure stamped date on bottle has not expired

3. Inspect valve assembly and adapter thread area

4. Ensure SDS is on file or with shipment

5. Follow SDS requirements for storage

Gas Cylinder Storage

1. Cylinder cap securely in place when not in use
2. Marked with contents and if empty/full
3. Stored upright and secured to a stationary structure in a shaded and well-ventilated area
4. Cylinders not stored within 50 feet of exposed electrical components or combustible materials
5. Cylinders are protected from accidental rupture
6. Chemically reactive gases not stored within 50 feet of each other
7. Do not store LP Gas inside building
8. Stored oxygen cylinders must be separated by at least 20 feet from fuel gas cylinders and flammable or combustible materials.

Gas Cylinder Movement

1. Must be secured upright to a cart or cylinder trolley
2. Cap securely fastened

Gas Cylinder Usage

1. Inspect valve adapter threads
2. Inspect all fasteners, hoses and regulators prior to hooking up to cylinder
3. Use only for approved purposes
4. Use in upright position
5. Fasten cylinder to structure or cart
6. Regulators must be of same rated pressure as cylinder
7. Keep cylinder valve shut when not in use; don't depend on regulators

Welding and Cutting

1. Proper eye protection must be worn during welding or cutting.

2. Arc welding and cutting operations shall be shielded to protect other workers from direct arc rays.

3. Welding and cutting is not allowed in a confined space without proper permits, equipment and air monitoring.

4. Fire extinguishers must be immediately available at all welding and cutting operations.

5. A "Hot Work" permit is required for all welding and cutting operations in occupied or finished buildings.

6. Before welding or cutting, work areas must be cleared of all trash, flammable and combustible products.

7. Fuel gas and oxygen cylinders shall be secured in the upright position. Cylinder valves must be kept closed when not in use.

8. Only trained employees are allowed to use welding or cutting equipment.

9. Use a striker to light the torch. Do not use matches or a lighter.

10. Hoses and leads shall be placed to not create a tripping hazard or obstruction.

Motorized Equipment

1. Where seatbelts are installed, their use is mandatory. This includes company trucks.

2. Only authorized employees shall operate vehicles and mobile equipment.

3. Vehicles and equipment shall not be left unattended unless the motor has been shut off, brake set, the gears engaged, and keys removed.

4. Employees, other than the operator, shall be prohibited from riding in or upon vehicles and mobile equipment, including buckets, forks, trailers and pickup beds.

5. Vehicles and equipment shall be inspected at the beginning of each shift to ensure the equipment is in safe operating condition.

6. Back up alarms must be installed and functioning on all equipment in which the rear vision is obstructed.

Tools and Equipment

1. All hand and power tools supplied by L.L. Pelling Co. or employees of L.L Pelling Co. will be maintained in safe working order.

2. Hand tools shall be inspected regularly and before using. Tools or handles that are cracked, broken, or deformed shall be removed from service.

3. Impact tools such as wedges, pins and chisels shall be kept free of mushroomed heads.

4. Portable power tools shall be inspected regularly and before using.

5. Tools with missing or broken guards, nicked or frayed electrical cords, broken plugs, broken switches, damaged equipment housing, or missing or broken tool retainer shall not be used and shall be tagged and removed from service.

6. Power tools shall be de-energized prior to servicing and maintenance. (Servicing/maintenance includes removing lodged items from power tool). The simplest way to de-energize electric power tools is to unplug them.

Hand Tools

Hand tools are non-powered. They include anything from axes to wrenches. The greatest hazard posed by hand tools result from misuse and improper maintenance.

1. Employers should caution employees that saw blades, knives or other tools be directed away from aisle areas and other employees working in close proximity. Knives and scissor must be sharp. Dull tools can be more hazardous than sharp ones.

2. Appropriate Personal Protective Equipment (PPE) e.g., safety glasses, gloves etc. should be worn due to hazards that may be encountered while using portable power tools and hand tools.

3. Safety requires that floors be kept clean and dry as possible to prevent accidental slips with or around dangerous hand tools.

4. Around flammable substances, sparks produced by iron and steel hand tools can be a dangerous ignition source. Where the hazard exists, spark resistant tools made from brass, plastic, aluminum or wood will provide safety.

Power Tools

Power tools can be hazardous when improperly used. There are several types of power tools based on the power source that they use: electric, pneumatic, liquid fuel, hydraulic and powder actuated.

General precautions for power tools that should be observed by users:

1. Never carry the tool by the cord or hose

2. Never pull the cord or the hose to disconnect it from the receptacle

3. Keep cords away from heat, oil and sharp edges

4. Disconnect tools when not in use, before servicing, and when changing accessories such as blades, bits and cutters

5. All observers should be kept at a safe distance away from the work area

6. Secure work with clamps or a vise, freeing both hands to operate the tool

7. Avoid accidental starting. The worker should not hold a finger on the switch button while carrying a plugged-in tool

8. Tools should be maintained with care. They should be kept sharp and clean for best performance. Follow instruction in the user's manual for lubricating and changing accessories

9. The proper apparel should be worn. Loose clothing, ties or jewelry can become caught in moving parts.

10. All portable electric tools that are damaged shall be removed from use and tagged "Do Not Use" and turned into Kevin in the parts room in North Liberty.

Hazard Controls for Portable Power Tools

Portable power tools are designed for particular tasks and if used for other purposes other hazards may be created. Additionally, the extreme mobility of these tools and their power sources creates significant hazards. Therefore, controls should be in place to minimize or eliminated hazards associated with portable power tools include:

Guards

1. Hazardous moving parts of a power tool need to be safeguarded. For example, belts, gears, shafts, pulleys, sprockets, spindles, drums, flywheels, chains or other reciprocating, rotating or moving parts of equipment must be guarded if such parts are exposed to contact by employees.

2. Guards, as necessary, should be provided to protect the operator and others from the following: Point of operation, In-running nip points, Rotating parts, and Flying chips and sparks

3. Safety guards must **never** be removed when a tool is being used. For example, portable circular saws must be equipped with guards. An upper guard must cover the entire blade of the saw. A retractable lower guard must cover the teeth of the saw, except when it makes contact with the work material. The lower guard must automatically return to the covering position when the tool is withdrawn from the work.

Safety Switches

1. The following handheld powered tools must be equipped with a momentary contact "on-off" control switch: drills, tappers, fastener drivers, horizontal, vertical and angle grinders with wheels larger than 2-inches in diameter, disc and belt sanders, reciprocating saws, saber saws, and other similar tools.

2. The following hand-held powered tools may be equipped with only a positive "on-off" control switch: platen sanders, disc sanders with discs 2-inches or less diameter; grinders with wheels 2-inches or less in diameter; routers, nibblers, shears, scroll saws and jigsaws with blade shanks less than 1-inch wide.

3. Other hand held powered tools such as circular saws having a blade diameter greater than 2-inches, chain saws and percussion tools without positive accessory holding means must be equipped with a constant pressure switch that will shut off the power when the pressure is released. Also known as a dead man switch.

Electric Tools

Employees using electric tools must be aware of several dangers; the most serious is the possibility of electrocution. Among the chief hazards of electric powered tools re burns and slight shocks which lead to injuries and even heart failure.

These general practices should be followed when using electric tools:

1. Electric tools should be operated within their design limitations

2. Gloves and safety footwear are recommended during use of electric tools

3. When not in use, tools should be stored in a dry place

4. Electric tools should not be used in damp or wet locations

5. Work areas should be well lighted

Powered Abrasive Wheel and Tools

Powered abrasive grinding, cutting, polishing and wire buffing wheels create special safety problems because they may throw off flying fragments.

1. Before an abrasive wheel is mounted, it should be inspected closely, and sound or ring tested to be sure that it is free from cracks or defects. To test, wheels should be tapped gently with a light non-metallic instrument. If they sound cracked or dead, they could fly apart in operation and so must not be used. A sound and undamaged wheel will give a clear metallic tone or "ring".

2. To prevent the wheel from cracking, the user should be sure it fits freely on the spindle. The spindle nut must be tightened enough to hold the wheel in place without distorting

the flange. Follow the manufacturer's recommendations. Care must be taken to assure that the spindle wheel will not exceed the abrasive wheel specifications.

3. Due to the possibility of a wheel exploding during start up, the employee should never stand directly in front of the wheel as it accelerates to full operating speed.

4. Portable grinding tools need to be equipped with safety guards to protect workers not only from the moving wheel surface but also from flying fragments in case of breakage.

5. Floor stand and bench mounted abrasive wheels, used for external grinding, shall be provided with safety guards. Their maximum regular exposure of the grinding wheel periphery and sides shall be not more than 90 degrees except that when work requires contact with the wheel below the horizontal plane of the spindle, the angular exposure shall not exceed 125 degrees.

6. Floor and bench mounted grinders shall be provided with work/tool rests which are rigidly supported and readily adjustable. Such work rests shall be kept at a distance **not to exceed 1/8-inch** from the surface of the wheel.

7. Floor and bench mounted grinders shall be equipped with an adjustable tongue guard, rigidly supported and readily adjustable. Such tongue guard shall be kept at a distance **not to exceed ¼-inch** from the surface of the wheel.

8. When safety guards are required, they shall be mounted as to maintain proper alignment with the wheel, and the guard and its fastenings shall be sufficient strength to retain fragments of the wheel in case of accidental breakage. The maximum angular exposure of the grinding wheel periphery and sides shall not exceed 180 degrees.

In addition, when using a powered grinder:

- Always use eye protection
- Turn off the power when not in use
- Never clamp a hand-held grinder in a vise

All employees using abrasive wheels shall be protected by safety glasses and a face shield.

Liquid Filled Tools

All gasoline powered tools shall be stopped while being refueled, serviced or maintained and fuel shall be transported, handled and stored in approved safety cans. All cans shall be properly labeled.

1. Leakage or spillage of flammable or combustible liquids shall be disposed of promptly and safely.

2. When gasoline powered tools are used in enclosed spaces, the applicable requirement for concentrations of toxic gases and use of PPE shall apply.

Pneumatic Tools

Pneumatic tools are powered by compressed air and include chippers, drills, hammers and sanders.

1. Eye protection is required and face protection is recommended for employees working with pneumatic tools.

2. Noise is another hazard. Working with noisy tools such as jackhammers requires proper, effective use of hearing protection.

3. When using pneumatic tools, employees must check to see that they are fastened securely to the hose to prevent them from becoming disconnected. A short wire or positive locking device attaching the air hose to the tool will serve as an added safeguard.

4. A safety clip or retainer must be installed to prevent attachments such as chisels on a chipping hammer, from being unintentionally shot from the barrel.

5. Compressed air guns should never be pointed toward anyone. Users should never "dead-end" it against themselves or anyone else.

Powder Actuated Tools

Powder actuated tools operate like a loaded gun and should be treated with the same respect and precautions. In fact, they are so dangerous that they must be operation only by specially trained employees who are **certified** to do so.

Safety precautions to remember include the following:

1. These tools should not be used in an explosive or flammable area.

2. Before using the tool, the work should inspect it to determine that it is clean, that all moving parts operate freely, and that the barrel is free from obstructions.

3. The tool should never be pointed at anyone.

4. The tools should not be loaded unless it is to be used immediately. A loaded tool should never be left unattended, especially where it would be available to unauthorized persons.

5. Hands should be kept clear from the barrel end.

6. If a powder actuated tool misfires, the employee should wait 30 seconds, and then try firing again. If it still will not fire, the user should wait another 30 seconds so that the faulty cartridge is less likely to explode, and then carefully remove the load. The bad cartridge should be put in water.

7. Suitable eye and face protection are essential when using a powder actuated tool.

8. The muzzle end of the tool must have a protective shield or guard centered perpendicularly on the barrel to confine any flying fragments or particles that might otherwise create a hazard when the tool is fired. The tool must be designed so that it will not fire unless it has this kind of a safety device.

9. If the tool develops a defect during use it should property be tagged "Don Not Use" and taken out of service immediately until it is properly repaired.

Hydraulic Power Tools

The fluid used in hydraulic power tools must be an approved fire-resistant fluid and shall retain its operating characteristics at the most extreme temperatures to which it will be exposed.

1. The manufacturer's recommended safe operating pressure for hoses, valves, pipes, filters and other fittings shall not be exceeded.

Jacks

All jacks – lever and ratchet jacks, screw jacks, and hydraulic jacks, must have a device that stops them from jacking up too high. Also, the manufacturer's load limit must be permanently marked in a prominent place on the jack and should not be exceeded.

To set up a jack, make certain the following:

1. The base rests on a firm level surface

2. The jack is correctly centered

3. The jack bears against a level surface, and

4. The lift force is applied evenly.

5. Proper maintenance of jacks is essential for safety.

6. All jacks must be inspected before each use and lubricated regularly.

7. If a jack is subjected to an abnormal load or shock, it should be thoroughly examined to make sure it has not been damaged.

8. Hydraulic jacks exposed to freezing temperatures must be filled with adequate antifreeze liquid.

First Aid and Medical Services

1. First aid supplies are available on the jobsites, shops and office.

2. The telephone number of the assigned clinic, hospital and EMS ambulances shall be conspicuously posted.

3. Each occupational injury or illness must be reported to your supervisor immediately.

Confined Space

A confined space is defined as: any space that has limited means of entry or exit and is not designed for continuous human occupancy. Manholes, driers, tanks are examples of confined spaces. Confined spaces are extremely dangerous and shall not be entered with proper training, a permit and authorization.

Silica Exposure Control Plan

We at L.L. Pelling Co. have a duty to protect our workers from silica dust exposure on construction projects. Studies show that when common construction work tasks involving the sanding, drilling, chipping, grinding, cutting, sawing, sweeping, and blasting of concrete and concrete products are conducted without using dust controls, workers are exposed to airborne silica concentrations at levels far above the occupational exposure limits. Long-term or heavy short-term exposures to airborne silica dust can cause a disabling, sometimes fatal lung disease called *silicosis*. Crystalline silica dust (e.g., quartz dust) is also a carcinogen.

By establishing an exposure control plan (ECP) that meets the requirements of the Occupational Health and Safety Administration, it protects workers from overexposure to silica dust. L.L Pelling Co's Silica Exposure Control Plan covers:

- What is silica?
- Purpose of the ECP
- Responsibilities
- Risk identification, assessment, and control
- Education and training
- Safe work procedures
- Health monitoring
- Documentation

What is silica?

Silica is a basic component of sand, quartz and granite. Crystalline forms of silica include quartz and less common forms such as cristobalite and tridymite. These forms of silica are responsible for silicosis and other pulmonary diseases while non-crystalline forms of silica have not been associated with these diseases.

Quartz is the second most common mineral in the earth's crust. Cristobalite and tridymite occur naturally but are commonly created by industrial processes where quartz is heated to high

temperatures. Crystalline silica is commonly referred to as silica sand, free silica, quartz and cristobalite.

Some common materials that contain silica include:

- Rock and sand
- Topsoil and fill
- Concrete, cement, and mortar
- Masonry, brick, and tile
- Granite, sandstone, and slate
- Asphalt (containing rock and stone)
- Fibrous-cement board containing silica

Silica is so common that many workplace activities that create dust can expose workers to airborne silica. In the United States, the Occupational Health and Safety Administration (OSHA) has established permissible exposure limits (PELS) for mineral dusts in 29 CFR 1910.1000.

How are workers exposed to silica?

Silica is a primary component of many common construction materials, and silica-containing dust can be generated during many construction activities, including:

- Abrasive blasting (e.g., of concrete structures)
- Jack hammering, chipping, or drilling rock or concrete
- Cutting brick or tiles
- Sawing or grinding concrete
- Tuck point grinding
- Road construction
- Loading, hauling, and dumping gravel
- Demolition of structures containing concrete
- Sweeping concrete dust

Unprotected workers performing these activities, or working in the vicinity, can be exposed to harmful levels of airborne silica. Workers in other industries can also be exposed to silica, for example in the manufacture of toothpaste or pottery, or when loading coal (which can contain quartz) into the hold of a ship.

Health hazards

Crystalline silica dust can cause a disabling, sometimes fatal disease called silicosis. The fine particles are deposited in the lungs, causing thickening and scarring of the lung tissue. The scar tissue restricts the lungs' ability to extract oxygen from the air. This damage is permanent, but symptoms of the disease may not appear for many years.

A worker may develop any of three types of silicosis, depending on the concentrations of silica dust and the duration of exposure:

- Chronic silicosis—develops after 10 or more years of exposure to crystalline silica at relatively low concentrations
- Accelerated silicosis—develops 5 to 10 years after initial exposure to crystalline silica at high concentrations
- Acute silicosis—develops within a few weeks, or 4 to 5 years, after exposure to very high concentrations of crystalline silica

Initially, workers with silicosis may have no symptoms; however, as the disease progresses, a worker may experience:

- Shortness of breath
- Severe cough
- Weakness

These symptoms can worsen over time and lead to death.

Exposure to silica has also been linked to other diseases, including bronchitis, tuberculosis, and lung cancer.

Purpose of the Silica Exposure Control Plan

We have a duty as an employer to protect our workers from silica exposure on our worksites. Studies show that construction work tasks involving the sawcutting of asphalt or concrete, grinding of pavement markings, and the milling of asphalt or concrete generate airborne silica levels well in excess of safe levels. Effective controls are available to protect workers from harmful exposure.

A combination of control measures will be required to achieve this objective. We commit to being diligent in our efforts to select the most effective control technologies available, and to ensure that the best practices, as described in this Exposure Control Plan, are followed at our worksites.

The work procedures we establish will protect not only our workers but all workers on our worksites and the public.

Responsibilities

Due to the significant risk posed by respirable silica, it is critical that all personnel involved in operations that could potentially create silica dust take specific action to ensure that, as much as possible, a hazard is not created.

The employer is responsible for

- Ensuring that the materials (e.g., tools, equipment, personal protective equipment) and other resources (i.e., worker training materials) required to fully implement and maintain this exposure control plan (ECP) are readily available where and when they are required.
- Providing a job specific ECP for each project when needed, which outlines in detail the work methods and practices that will be followed on each site. Considerations will include
  - Availability and delivery of all required tools/equipment
  - Scope and nature of grinding work to be conducted
  - Control methods to be used
  - Level of respiratory protection required
  - Coordination plan
- Conducting a periodic review of the effectiveness of the ECP. This would include a review of the available dust-control technologies to ensure these are selected and used when practical.
- Initiating sampling of worker exposure to concrete dust when there are non-standard work practices for which the control methods to be used have not been proven to be adequately protective.
- Ensuring that all required tools, equipment, and personal protective equipment are readily available and used as required by the ECP.
- Ensuring supervisors and workers are educated and trained to an acceptable level of competency.
- Maintaining records of training, fit-test results, crew talks, and inspections (equipment, PPE, work methods/practices).
- Coordinating the work with the prime contractor and other employers to ensure a safe work environment.
- Periodic dust sampling by our insurance company to ensure dust levels are below OSHA PELS.

The supervisor (foreman) is responsible for

- Obtaining a copy of the ECP from the employer, and making it available at the worksite
- Selecting, implementing, and documenting the appropriate site-specific control measures
- Providing adequate instruction to workers on the hazards of working with silica-containing materials (e.g., concrete) and on the precautions specified in the job-specific plan covering hazards at the location
- Ensuring that workers are using the proper respirators and have been fit-tested, and that the results are recorded
- Directing the work in a manner that ensures the risk to workers is minimized and adequately controlled
- Communicating with the prime contractor and other sub-contractors to ensure a safe work environment

The worker is responsible for

- Knowing the hazards of silica dust exposure
- Using the assigned protective equipment in an effective and safe manner

- Setting up the operation in accordance with the site-specific plan
- Following established work procedures as directed by the supervisor
- Reporting any unsafe conditions or acts to the supervisor
- Knowing how and when to report exposure incidents

Risk identification, assessment, and control

Please use Table 1 of the L.L. Pelling Silica Control Plan to identify job tasks that silica exposure may occur and follow proper procedures.

Work activities that may generate airborne silica dust—For silica, the route of exposure is through the inhalation of airborne dust. The employer should have a qualified person review the planned work activities to identify those that may generate airborne silica

Identify workers at risk of exposure—For example, workers who finish concrete would be at greater risk of exposure than plumbers or electrical workers

Amount of exposure—Some work activities generate more dust than others, and the amount of exposure should be estimated. Published resources are available that provide air sampling data and compare silica dust levels from various construction activities

Duration of exposure—Workers who grind concrete for a full shift would be at greater risk than workers jack hammering for an hour.

Worker exposure measurements

PELS (8-Hour TWA) for crystalline silica (***as respirable quartz***) is either 250 mppcf divided by the value "%SiO_2 + 5" or 10 mg/m^3 divided by the value "%SiO_2 + 2". OSHA PELS (8-Hour TWA) for crystalline silica (***as total quartz***) is 30 mg/m^3 divided by the value "%SiO_2 + 2". The OSHA PELS (8-hour TWA) for cristobalite and tridymite are ½ the values calculated above using the count or mass formulae for quartz.

Threshold Limit Value (TLV) for respirable crystalline silica (including quartz) of 0.025 milligrams per cubic meter (mg/m^3). This is a concentration to which nearly all workers could be exposed for eight hours a day, five days a week, without adverse health effects.

Studies show that when construction work tasks involving the drilling, chipping, grinding, cutting, and sawing of concrete and concrete products are conducted without using effective dust controls, workers are exposed to airborne silica concentrations at levels far above the PELS.

Risk control options

Effective control options must be used to eliminate or reduce the risk to workers from the hazards of silica dust exposure. The following hierarchy of control measures must be followed:

- Elimination/substitution (e.g., using products with less silica or using work methods that would eliminate the need for surface grinding)
- Engineering controls (e.g., water, local exhaust ventilation, enclosure)
- Administrative controls (e.g., coordination of tasks with subcontractors, signage)
- Personal protective equipment (e.g., coveralls, respiratory protection)

L.L. Pelling Co., Inc. commits to developing knowledge and expertise about these controls, and to establishing policies/procedures to protect workers from harmful exposure and to minimize reliance on respirators. Effective engineering controls such as HEPA vacuum attachments and wetting methods, which control silica dust at its source, are readily available. These controls have been proven to reduce airborne dust levels significantly when selected and operated in accordance with best practices. We know that engineering controls alone do not reduce airborne silica to safe levels; so in most cases other control measures, including respiratory protection, will be necessary.

The Occupational Health and Safety Administration directs employers to use the best control technology available for the task and circumstance. If we take on a job that could release an unusually high amount of dust, and we are unsure of the adequacy of our control measures, we will conduct air sampling in order to ensure that control methods are protective.

We will reduce or eliminate worker exposure to silica dust by selecting a combination of the following controls listed in order of preference:

1. Elimination and substitution
2. Engineering
3. Administrative
4. Personal protective equipment

Appendix A is a table that can be used as a risk assessment tool and an aid for making decisions regarding engineering controls and personal protective equipment (including respiratory protection). The table is divided into:

- **Tasks**—Different work activities, such as grinding, chip hammering, and abrasive blasting
- **Control methods**—Recommended practices for isolating the work area (barriers and enclosures), local exhaust ventilation, and wetting methods
- **Personal protective equipment**—Recommended respiratory (and other) protection for different work activities (including air purifying respirators, pressure demand respirators, and disposable coveralls)
- **Comments**—Other information that might be important, depending on the engineering controls and personal protective equipment that are selected for the project.

For example, when sawcutting of concrete, the recommendations could include

- Erect a barrier to prevent entry into the work area by unprotected workers.
- Use a saw with wet dust suppression
- Use half-mask air purifying respirators or dust mask respirator (depending on the nature of the work).
- Use eye protection
- Use face shield
- Wear disposable coveralls (depending on the nature of the work).
- Always consider using hearing protection when powered equipment is used.

Elimination and substitution

We recognize the importance of planning the work in order to minimize the amount of silica dust generated.

- During the project planning phase, we will advocate for the use of methods that reduce the need for cutting, grinding, or drilling of concrete surfaces.
- Whenever possible, we will schedule work when concrete is still wet, because we know that much less dust is released at that time.

Personal hygiene

Good personal hygiene is essential for protection against crystalline silica.

- Do not eat, drink or use tobacco products in dusty areas
- Wash hands and face before eating, drinking and smoking

Engineering control of dust

Our dust control systems may employ three well-established techniques:

- Local exhaust ventilation (LEV)
- Wet dust suppression (WDS)

LEV system

- These systems include a shroud (a suction casing that surrounds the wheel/stone), a hose attachment, and a vacuum system. The dust-laden air is collected within the shroud, drawn into the hose attachment, and conveyed the length of the corrugated hose to the vacuum, where it is filtered and discharged. Many grinders can be purchased with LEV dust control attachments, which are uniquely designed for the equipment and the work activity (e.g., there are specific grinders with LEV manufactured for tuck point grinding). Where a shroud cannot be purchased for a grinder, shrouds can be custom fabricated for grinders of all different

sizes. For example, shrouds for corner and 90-degree areas can be fabricated or purchased. Silica dust is very abrasive to LEV equipment, which must be regularly inspected for damage and properly maintained

When LEV is used in our work, we will employ the following systems and safe work practices:

- Vacuum attachment systems to capture and control the dust at its source whenever possible.
- Dust control systems (used regularly and well maintained).
- Grinding wheels operated at the manufacturers' recommended rpm (operating in excess of this can generate significantly higher airborne dust levels).
- Retrofit shrouds or exhaust cowlings for corner grinding; use manufacturer-specified rpm speeds and a well-maintained HEPA vacuum.
- Diamond stone grinders, which allow for the use of a more efficient suction casing on the grinder, whenever practicable.
- HEPA or good quality, multi-stage vacuum units approved for use with silica dust
- Work planning, so that concrete grinding can be completed when wet (dust release can be significantly reduced).
- Good housekeeping work practices (for example, use vacuums with high-efficiency particulate air (HEPA) filters, or use wet sweeping).
- Train workers and supervisors on how to properly use and maintain the equipment.
- Isolate operators of saws, loaders, trucks and other equipment in positive pressure, air-conditioned cabs.

Water spray systems

These systems are designed to apply water to the cutting or grinding surface to wet the surface and prevent the resulting dust from becoming airborne. Many construction tools/equipment types can be purchased with wet spray attachments. Water can also be manually applied to the concrete surface before and during the work (grinding, drilling, cutting, etc).

Wetting is very effective at reducing dust release at the source and, in fact, may be more effective than local exhaust ventilation for slab and masonry cutting. A drawback to this method of dust control is that the dust is not collected—the wet slurry must be cleaned up so that the dust does not dry and become airborne.

Wet down roadways at quarries and construction sites.

Many of the tools used in concrete finishing can be fitted with wetting attachments. These grinders generally have smaller grinding surfaces that can be used in unique work locations such as window casements.

Water spray systems are available for both stationary and portable masonry and other concrete- or block-cutting tools (e.g., saws).

Work surfaces can also be wetted manually or using a water "mister" (e.g., during concrete chipping and jack hammering). A separate water supply system would have to be available on site from a plumbed facility or a portable pressurized tank.

When water spray systems are used in our work, we will follow these safe work practices:

- Pneumatic grinders will be used instead of electric-powered grinders if water is the method of control.
- Pressure and flow rate of water will be controlled in accordance with tool manufacturers' specifications (for cutting saws, a minimum of 0.13 gallons/minute [0.5 liters of water per minute] should be used).
- When sawing concrete or masonry, we will use only saws that provide water to the blade.
- Wet slurry will be cleaned from work surfaces when the work is completed, using a wet vacuum or wet sweeping.

Barriers

Barriers are used to isolate the work area from the rest of the project and to prevent entry by unauthorized workers. They do not prevent dust drift and should only be used where natural ventilation is sufficient and dust release is controlled. Barriers will be constructed to notify other workers that concrete grinding work is underway and access to the immediate work zone is restricted to authorized personnel

When barriers or enclosures are used in our work, we will follow these safe work practices:

- The site foreman will determine the type and design of barrier or enclosure (based on the work activity and the work area) and ensure it is constructed in accordance with the site risk assessment. Barriers may be simple hazard-flagging ribbon.

Administrative controls

Administrative controls involve activities that are not directly related to the actual physical work but are important strategies to support the exposure control plan and ensure that all workers are protected from exposure to silica dust. Examples of administrative controls include:

- Posting warning signs
- Rescheduling grinding at different times than other work
- Relocating unprotected workers away from dusty work

We will follow these safe work practices:

- Exposure control plans and the site risk assessment will be submitted to the general contractor prior to the start of work.

- We will establish procedures for housekeeping, restricting work areas, personal hygiene, worker training, and supervision.
- As part of our project planning, we will assess when silica dust may be generated and plan ahead to eliminate or control the dust at the source. We recognize that awareness and planning are key factors in the prevention of silicosis.
- Warning signs will be posted to warn workers about the hazards of silica and to specify any protective equipment required (for example, respirators).
- Work schedules will be posted at the boundaries of work areas contaminated with silica dust.
- Work that generates silica dust will be conducted after hours, when access to other unprotected workers cannot be restricted.

Site-specific exposure control plan

The employer may require a specific exposure control plan (ECP) for each worksite. This plan would be based upon the corporate ECP and would include the following:

- Contractor name, address, and contact information (names and phone numbers)
- Worksite information (project name, location, and site contacts)
- Scope of work and list of tasks
- Site-specific hazards and risk assessment
- Dust (and other) control procedures and equipment
- Safe work procedure
- Worker training checklist

Examples of site-specific ECP forms are included in Appendix B.

Personal protective equipment

Respirators

Respirators should not be relied on as a primary means of preventing or minimizing exposure to silica dust.

- Select respiratory protective equipment (RPE) very carefully, as different types can give widely varying levels of protection. Employers may be able to rely on available exposure data to select the appropriate respiratory protection. Improper selection can result in serious worker exposure.
- The Occupational Health and Safety Administration requires the development of a respiratory protection program that sets out in detail how respiratory protective equipment will be selected, supervised, and maintained.

Respiratory protection

- All workers who wear respirators will do so in adherence with our respirator program.
- Respiratory protection will be selected based upon the site-specific risk assessment.

- Only NIOSH-approved respirators will be used.
- Workers who wear respirators will be clean-shaven. Filtering face piece respirators give little or no protection to workers with beards, and even a minor growth of stubble can severely reduce the effectiveness of respiratory protection.
- All workers who wear respirators will be fit-tested.
- Workers will be properly trained in the use of respirators, and a high standard of supervision, inspection, and maintenance will be followed.

Protective clothing

Workers will wear protective clothing as specified in our task-specific safe work procedures to prevent contamination of worker clothing. Workers will not use compressed air to clean themselves, their clothing, or their equipment.

Education and training

We will train all workers potentially exposed to airborne silica dust in the following:

- Hazards associated with exposure to silica dust
- The risks of exposure to silica
- Signs and symptoms of silica disease
- Safe work procedures to be followed
- Use of respirators and other personal protective equipment (e.g., donning and doffing of personal protective equipment, and cleaning and maintenance of respirators)
- Use of control systems (e.g., LEV and wet methods)
- How to seek first aid (for example, the location and use of eyewash stations)
- How to report an exposure to silica dust

Records of training will be kept, as specified in the Occupational Health and Safety Administration.

Safe work procedures

Safe work procedures and hygiene practices are on-the-job activities that reduce the exposure potential from contaminated surfaces and work areas. Silica can also accumulate on the hands, clothing, and hair. From there it can be disturbed, re-suspended in air, and inhaled. Workers should therefore be able to wash and shower at the end of each shift. There should be no smoking, eating, or drinking in contaminated areas, and lunches should be stored in an uncontaminated area. It is important to follow safe work and hygiene practices whenever silica is present.

Health monitoring

Workers who are exposed to silica dust on an ongoing basis should be enrolled in a medical monitoring program, which might include physical examinations, chest x-rays, and pulmonary function testing.

Documentation

Records must be kept of the following:

- All workers who are exposed to respirable silica dust while on the job
- Worker education and training sessions
- Respirator fit testing
- Equipment maintenance and repair
- Worksite inspections

The exposure control plan will be reviewed at least annually and updated as necessary and records will be kept by the Julie Maxfield, Safety Director, L.L. Pelling Co., Inc.

Appendix A: Risk assessment and controls table

Task		Control methods	Personal protective equipment	Comments
Grinding	Concrete interior/exterior and other flat surfaces	• Barrier or enclosure systems are required to restrict access to the work area. • Local exhaust ventilation (LEV)—use concrete grinders with HEPA vacuum attachments. • Grinding using wet method of dust control may be an option for specific circumstances. These circumstances must be listed on the site work plan. • Personal protective equipment.	• Half-mask air purifying respirator equipped with 100 series HEPA filters. • Full-face air purifying respirator or powered air purifying respirator (PAPR) with P100 series HEPA filters, when heavy work and poor dilution ventilation in work area. • Disposable coveralls are recommended for all grinding work and are required for stairwell and similar work. • Eye protection should be worn when using a half-face respirator.	• Vacuum systems equipped with HEPA filtration are the best control options for flat surface grinding. Ensure they are well designed for this type of work. A variety of suitable systems are readily available. • Very little visible dust should be present in the air. • Inspect the LEV unit frequently to ensure it is operating properly and the filters are not overloaded. • Hearing protection should be worn when using powered equipment. • When LEV and wet grinding systems cannot be used, dry grinding is permitted, provided a full enclosure system is constructed. Workers should wear full-face respirators and disposable coveralls.
	Tuck point grinding	• Barrier or enclosure systems are required to restrict access to and contain the work area. • Local exhaust ventilation (LEV)—use specially designed tuck point grinders with HEPA vacuum attachments. • A specially designed oscillating tool is available for mortar removal. The tool can be purchased with an LEV attachment. • When LEV cannot be used, construct an enclosure including a negative air unit for dilution ventilation. • Personal protective equipment.	• Full-face air purifying respirator equipped with 100 series HEPA filters. • For challenging jobs where LEV or wetting control cannot be used, full-face piece supplied-air respirators operated in pressure-demand mode or full-face piece supplied air respirators operated in continuous-flow mode will be required. • Disposable coveralls should be worn for tuck point grinding work.	• Hearing protection should be worn.
	Floor grinding	• Barrier or enclosure systems are required to restrict access to and	• Half-face air purifying respirator equipped with P100 series HEPA	• Portable shot blaster (floor smoothing) systems equipped with dust controls

Task		Control methods	Personal protective equipment	Comments
	Floor grinding cont.	contain the work area. • Local exhaust ventilation—a variety of specially designed floor grinding systems are available equipped with HEPA filtration. These systems should be used when practical. • Wet grinding may be an option, provided acceptable slurry cleanup procedures are documented and followed. • Personal protective equipment.	filters. • Full-face air purifying respirator or powered air purifying respirator (PAPR) with P100 series HEPA filters, when working in an enclosed area and visible dust is observed. • Disposable coveralls should be considered. • Eye protection should be worn when using a half-mask respirator. • Hearing protection should be considered when using powered equipment.	are available for floor grinding. • When large amounts of concrete are to be removed, filter systems should be more substantial (e.g., two vacuums connected in series—one large course filter system followed by a finer filter system). This will improve efficiency of the overall unit. • Vacuum systems will likely need to be cleaned and inspected frequently.
Jack ham-mering	Outdoor parking lots, roads, sidewalks, PCC Curb & Gutter	• Barriers must routinely be established to restrict access to these work areas. • Wet methods can be used and are often very effective. • Personal protective equipment.	• Eye protection should be worn when using a N95 dust mask respirator. • Hearing protection should be considered when using powered equipment.	• Wet methods could include a portable airless sprayer, air mister, or hose sprayer. Slurry should be cleaned up when the work is completed to avoid secondary dust exposure hazard.
Cutting of concrete slab, concrete masonry products & asphalt		• Barrier or enclosure systems are required to restrict access to and contain the work area. • Wetting methods of control can be very effective and should be used as a first choice when saw cutting concrete or concrete products (see comment). • LEV systems for concrete saws must be considered as a dust control when wet methods cannot be used. • Personal protective equipment.	• Half-face or full-face air purifying respirator with 100 series HEPA filters when wet or LEV controls used. • Disposable coveralls should be worn when using full-face respirators. • Eye protection should be worn when using a half-mask respirator and N95 dusk mask respirator. • Hearing protection should be considered when using powered equipment.	• A water flow rate of 0.13 gallons/minute (0.5 liters per minute) is the recommended minimum for saws equipped with wetting controls. • Caution—water may produce electrocution and slipping hazards. • Slurry cleanup of interior surfaces must be part of the work plan.

Task		Control methods	Personal protective equipment	Comments
Cleanup	General cleanup	• Barrier to restrict access to and contain the work area. • Full enclosure systems can be used in dust-sensitive areas or when unprotected workers cannot be restricted from entering cleanup work areas. • Use vacuum (HEPA-equipped) when practical. • Wetting of dust prior to sweeping/scooping to be used when practical. • Planning for bulk/coarse debris cleanup followed by fine-dust cleanup can reduce the amount of dry sweeping. • Dust suppressants should be used if dry sweeping is the only practical option.	• Half-mask air purifying respirator when vacuum systems or wet sweeping methods are used. • Eye protection should be worn when using a N95 dust mask and half-mask respirator. • Hearing protection should be considered when using powered equipment.	• Dust-suppressing agents or absorbents are only marginally effective in minimizing airborne dust during sweeping. • Safe work procedures must be followed. • Rolling a seam of dust suppressant into fine, settled dust is reported to work better than a wide-spread scattering.

Notes

LEV = local exhaust ventilation

PAPR = powered air-purifying respirator

Appendix B: Sample site-specific exposure control plan forms

Date control plan completed:			
Prime contractor:		Superintendent:	
Project manager:		CSO/First aid attendant:	
Project:	Address:		
Company completing work:			
Address:		Contact:	
Contact phone:		Contact fax:	
On-site supervisor(s):			
Worker(s):			
Scope of work to be completed:			
Work start date:		Duration: ☐ Days ☐ Months ☐ Years	
Employer responsible for:			
Supervisor responsible for:			
Worker responsible for:			

HAZARDS IDENTIFIED (other than)	**CONTROL MEASURE(S)**
☐ Falls	
☐ Slipping	
☐ Confined space	
☐ Workers above	
☐ Workers below	
☐ Noise	
☐ Electrical	

Overview of work procedure (How are you going to work safely?):

Workers trained in (training records must be available for review):			
Proper use of grinding equipment	Y☐ N☐	Proper use of admin controls	Y☐ N☐
Proper use of engineering controls	Y☐ N☐	Proper use of PPE	Y☐ N☐
Proper disposal methods	Y☐ N☐	Other (fall protection, swing stages, etc.)	Y☐ N☐
Respirators (Refer to ECP for respirator requirements)			

Required: Y☐ N☐	Available: Y☐ N☐	Fit-tested: Y☐ N☐
PPE required for scope of work (other than respirator)		
☐ Coveralls ☐ Gloves ☐ Rubber boots ☐ Eye protection ☐ Reflective vest ☐ Hearing protection		
Documents to be attached to control plan (☑ if present)		
☐ Exposure control program ☐ Respiratory protection program ☐ Training records ☐ SWP (tools and equipment)		

Project management signature	Position:	Date:
Contractor supervisor signature	Position:	Date:

Task/risk management matrix (relating to silica dust) use table 1 for codes, separate with a comma (,)

#	Date/Duration		Task	Controls		PPE	Supplies/ Equipment
				Engineering	Administrative		

Notes (For task/risk management matrix above. Use # to indicate which task the note relates to.)

SITE INSPECTION CHECKLIST (complete pre-work & periodically during project)

Engineering controls		Problem noted (DETAIL)	Problem corrected (DETAIL)
Available at site	Y☐ N☐		
Operating correctly	Y☐ N☐		
Used appropriately	Y☐ N☐		
Effective in dust control	Y☐ N☐		
Administrative controls			
Available at site	Y☐ N☐		
Used appropriately	Y☐ N☐		
In place before work start	Y☐ N☐		
Effective	Y☐ N☐		

Cleanup			
Vacuum used properly	Y☐ N☐		
Large pieces picked up	Y☐ N☐		
Vacuum capacity maintained	Y☐ N☐		
Pre-filters in place	Y☐ N☐		
Vacuum attachments used	Y☐ N☐		
Collection bags in place	Y☐ N☐		
Waste properly disposed of	Y☐ N☐		

TABLE 1 (Codes for task/risk management matrix)

Engineering controls		Administrative controls		PPE		Supplies/Equipment	
1	Exhaust fan	1	Signage	1	Respirator	1	Hand grinder
2	LEV	2	After hours work	2	Gloves	2	Ceiling grinder
3	Wetting	3	Scheduling	3	Coveralls	3	Floor grinder
4	Partial enclosure			4	Hearing protection	4	Disposal bags
5	Full enclosure			5	Eye protection	5	HEPA filter (vacuum)
6	Shroud			6	Reflective vest	6	HEPA filter (respirator)
7	Barriers			7	Rubber boots (CSA)	7	Shovel
				8	Fall arrest	8	Lifeline

Site-specific silica exposure control plan

Location: _____ **Date:** _____

Work description:

Primary silica control options (check those options used and explain use if needed)

♦ Substitution controls (using procedures or products that do not create silica; must review SDSs)

Other means of demo: _____

Different products: _____

Other substitutions: _____

♦ Engineering controls (when using ventilation, draw air out and don't expose others to exhaust dusts)

Vacuuming: _____

Wetting: _____

Ventilation: _____

Isolation: _____

Other means: _____

♦ Administration controls (reducing exposure by work schedules, timing, or planning options)

Control points: _____

Work schedule: _____

Other means: _____

Secondary silica control options (check those options used and explain use if needed)

♦ Personal protective equipment

Half-mask respirators:		Cartridge type:		Fit tests confirmed:	
Full-face respirators:		Cartridge type:		Fit tests confirmed:	
Supplied air units:					
Coveralls required:					

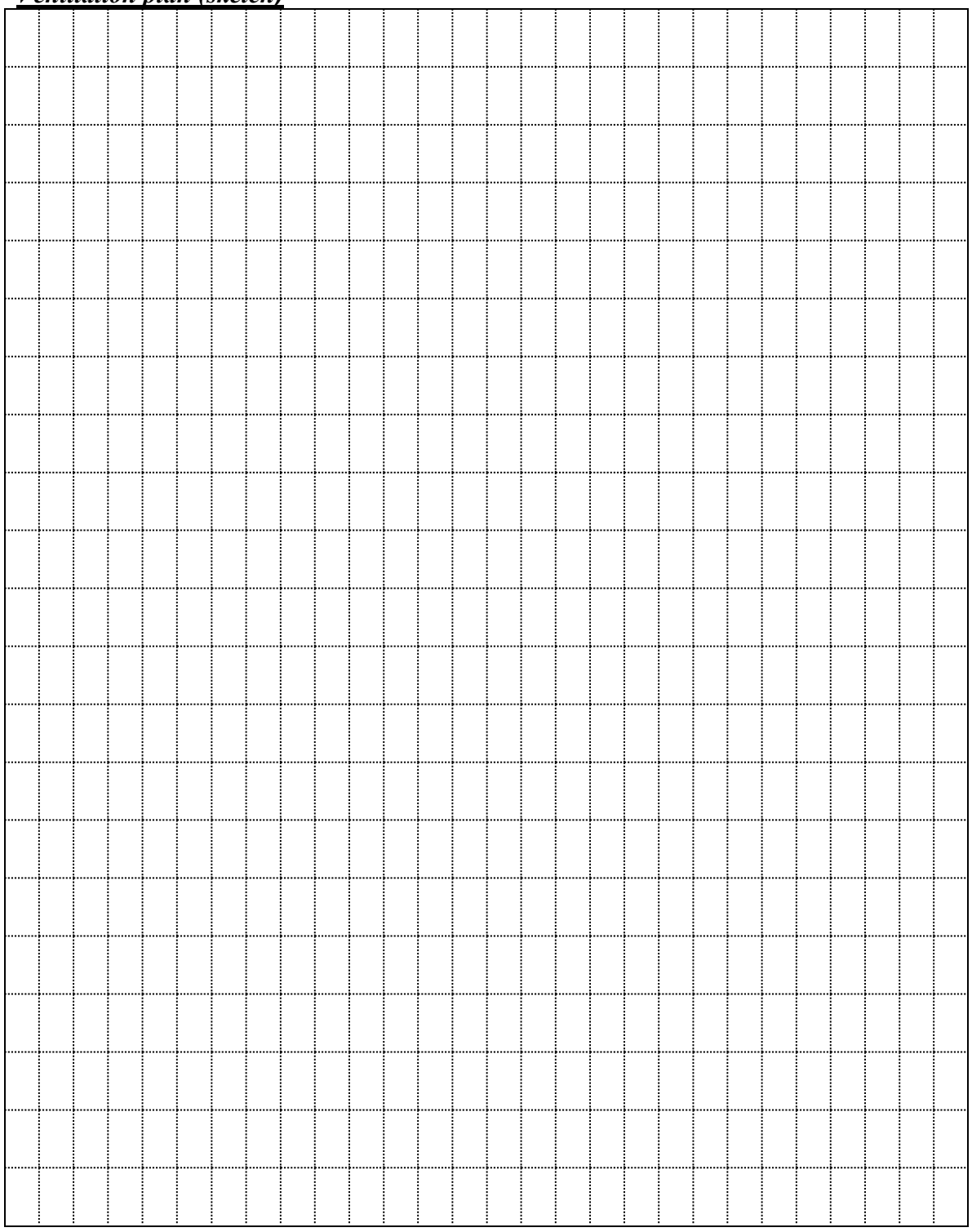
♦ Hygiene and decontamination options (reducing exposures after work has stopped or during breaks)

Water or washing facilities on site: _____

Vacuuming clothing/self: _____

Safe work procedures and other details:

Ventilation plan (sketch)



⇦ Show direction of airflow including makeup air locations and discharge air outlets

Area or location in building of ventilation plan (e.g., floor #, wing)	Date plan was reviewed by workers and posted for workers to see

Types of neg. air fans
& no.'s *

* Indicate on plan by number the location of the negative air fans

Ventilation safety checklist

- ☐ Makeup air free of possible contaminants
- ☐ Exhaust fan operation has failure warning
- ☐ Dilution fans not stirring up dust
- ☐ Wetting of materials used to keep dust down
- ☐ Workers not placed between contaminants created and exhaust inlet ports
- ☐ Discharge air not affecting others
- ☐ All workers equipped with approved respirators

Note: Attach additional sheets if needed or other documents if required due to hazards or work conditions.

Print supervisor's name	Supervisor's signature

Cell Phones

To protect the safety of our employees and visitors to our sites, use of cell personal phones is prohibited during working hours. LLP will take the necessary steps to ensure that all employees have adequate means of communication. Your safety and the safety of your co-workers, our customers, and the general public depends on your attentiveness and concentration on the job.

Effective January 3, 2012, The Federal Motor Carrier Safety Regulations has restricted the use of mobile phones by Commercial Motor Vehicle drivers. This rule restricts drivers from holding a mobile telephone to conduct voice communications and dialing a mobile phone if required to press more than one button while driving a CMV. The use of hands-free technology, however, will still be allowed as long as the driver is not dialing or answering by having to use more than one button. It is L.L. Pelling's policy to be compliant with all Federal, State and Local laws.

Employee Acknowledgement of Receipt of Safety Handbook

Forward to:

L.L. Pelling Co., Inc., Safety Director
PO Box 230
North Liberty, IA 52317

I have received a copy of the L.L. Pelling Co. Safety Handbook. I understand that it **is my responsibility** to know and be familiar with the contents and agree to comply with these policies. Failure to comply with the safety policies will result in disciplinary action. **The policies and procedures in this handbook apply whether I sign this form or not.**

Print Name: _____

Signature: _____

Date: _____