Employee Safety Handbook

TCI Companies, Inc.

March 11, 2022

An Employee Guide to Safety Policies and Procedures to support a Safety-Conscious Work Environment

Commitment to Safety

TCI Companies, Inc. recognizes that our people drive the business. As the most critical resource, employees will be safeguarded through training, provision of appropriate work surroundings, and procedures that foster protection of health and safety. All work conducted by TCI Companies, Inc.'s employees will take into account the intent of this policy. No duty, no matter what its perceived result, will be deemed more important than employee health and safety.

TCI Companies, Inc. is firmly committed to the safety of our employees. We will do everything possible to prevent workplace accidents and we are committed to providing a safe environment for all employees.

We value our employees not only as employees but also as human beings critical to the success of their family, the local community, and TCI Companies, Inc.

Employees are encouraged to report any unsafe work practices of safety hazards encountered on the job. All accidents/incidents (no matter how slight) are to be immediately reported to the supervisor on duty.

A key factor in implementing this policy will be the strict compliance to all applicable federal, state, local and Company policies and procedures. Failure to comply with these policies may result in disciplinary actions.

Respecting this, TCI Companies, Inc. will make every reasonable effort to provide a safe and healthful workplace that is free from any recognized or known potential hazards. Additionally, TCI Companies, Inc. subscribes to these principles:

1. All accidents are preventable through implementation of effective Safety and Health Control policies and programs.

2. Safety and Health controls are a major part of our work every day.

3. Accident prevention is good business. It minimizes human suffering, promotes better working conditions for everyone, holds TCI Companies, Inc. in higher regard with customers, and increases productivity. This is why TCI Companies, Inc. will comply with all safety and health regulations that apply to the course and scope of operations.

4. Management is responsible for providing the safest possible workplace for Employees. Consequently, management of TCI Companies, Inc. is committed to allocating and providing all of the resources needed to promote and effectively implement this safety policy.

5. Employees are responsible for following safe work practices and company rules, and for preventing accidents and injuries. Management will establish lines of communication to solicit and receive comments, information, suggestions and assistance from employees where safety and health are concerned.

6. Management and supervisors of TCI Companies, Inc. will set an exemplary example with good attitudes and strong commitment to safety and health in the workplace. Toward this end, Management must monitor company safety and health performance, working environment and conditions to ensure that program objectives are achieved.

7. Our safety program applies to all employees and persons affected or associated in any way by the scope of this business. Everyone's goal must be to constantly improve safety awareness and to prevent accidents and injuries.

Everyone at TCI Companies, Inc. must be involved and committed to safety. This must be a team effort. Together, we can prevent accidents and injuries. Together, we can keep each other safe and healthy in the work that provides our livelihood.

Mike Barth
President

Gena Thompson
Risk Manager

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Employee Safety Responsibilities

The primary responsibility of the employees of TCI Companies, Inc. is to perform his or her duties in a safe manner in order to prevent injury to themselves and others.

As a condition of employment, employees MUST become familiar with, observe, and obey TCI Companies, Inc.'s rules and established policies for health, safety and preventing injuries while at work. Additionally, employees MUST learn the approved safe practices and procedures that apply to their work.

Before beginning special work or new assignments, an employee should review applicable and appropriate safety rules.

If an employee has any questions about how a task should be done safely, he or she is under instruction ***NOT*** to begin the task until he or she discusses the situation with his or her supervisor. Together, they will determine the safe way to do the job.

If, after discussing a safety situation with his or her supervisor, an employee still has questions or concerns, he or she is required to contact the Safety Coordinator.

NO EMPLOYEE IS EVER REQUIRED to perform work that he or she believes is unsafe, or that he or she thinks is likely to cause injury or a health risk to themselves or others.

General Safety Rules

Conduct

Horseplay, "practical jokes", etc. are forbidden. Employees are required to work in an injury-free manner displaying accepted levels of behavior. Conduct that places the employee or others at risk, or which threatens or intimidates others, is forbidden.

Drugs and Alcohol

Use and/or possession of illegal drugs or alcohol on company property or on company time are forbidden. Reporting for work while under the influence of illegal drugs or alcohol is forbidden.

Housekeeping

You are responsible to keep your work area clean and safe. Clean-up several times throughout the day, disposing of trash and waste in approved containers, wiping up any drips/spills immediately, and putting equipment and tools away as you are finished with them.

Injury Reporting

All work-related injuries must be reported to your supervisor immediately. Failure to immediately report injuries can result in loss of Workers' Compensation benefits. After each medical appointment resulting from a work-related injury, you must contact your supervisor to discuss your progress. You must also give your supervisor any paperwork that you received at the appointment.

TCI Companies, Inc. provides Transitional Return to Work (light duty) jobs for persons injured at work. Transitional work is meant to allow the injured or ill employee to heal under the doctor's care while she/he remains productive. Employees are required to return to work immediately upon release.

Employee Safety Responsibilities

Off-Site Safety

a. Employees of TCI Companies, Inc. are required to follow all safety and security procedures during off-site visits.
b. If your contact person does not advise you regarding safety hazards, consider the following:
c.

- Emergency exit location(s);
- Keep your eye on the path you are walking and avoid any tripping/slipping hazards. When on stairs maintain three point contact (hand on rail and feet on stairs.)
- When visiting construction sites, eye protection, hearing protection, and hard hats are required. This equipment will be in the possession of the TCI Companies, Inc. employee and not provided by the client.
- Wear shoes that support your feet and are slip re sistant.
- Avoid clothing that is either constrictive or too loose; loose clothing can get caught in machinery or other equipment.

These rules are established to help you stay safe and injury free. Violation of the above rules, or conduct that does not meet minimum accepted work standards. May result in discipline, up to and including discharge.

When working at a customer location, employees are required to follow the above rules, as well as all customer rules and procedures, and work in a manner that reflects positively on the company. Before operating any equipment at the customer location, permission must first be secured from the customer contact.

Safety Orientation Training

The company is committed to providing safety and health related orientation and training for all employees at all levels of the Company. The Company will maintain and support a program to educate and familiarize employees with safety and health procedures, rules, and safe work practices. The training subjects and materials have been developed using industry best practices criteria and site-specific data.

The training may include, but not be limited to the following:

1. Company specific accident and incident data
2. Hazards associated with the work area
3. Hazards associated with a specific job or task
4. Operation of specific equipment
5. Personal protective equipment
6. Emergency procedures
7. Employee accident reporting requirements
8. Return to work program
9. Any OSHA required training not included or addressed above

Periodic Inspections

It is the policy of our Company that workplaces are subject to periodic safety and health inspections to ensure implementation and execution of our policies and procedures as relates to employees, contractors, and vendors.

All employees are responsible for cooperating during these inspections and managers and supervisors are responsible for initiating corrective actions to improve items discovered during the walk-through inspection.

Incident Reporting

1. Any work-related or suspected injury/illness must be reported immediately to your supervisor, Job Site Foreman and to Human Resources (Mike or Gena). Failure to promptly report an injury/illness may result in disciplinary action.
2. Gena will issue a First Report of Injury Form for the injured to take to the treating medical practitioner. (We will send you to the practitioner of our choice for evaluation and post injury/illness drug test.) The employee must return this form to Gena by the next business day.
3. After each practitioner appointment, the employee must report to his/her supervisor and Mike or Gena to review his/her progress.
4. TCI Companies, Inc. provides light duty work for employees recovering from injury. Employees are required to return to light duty work immediately upon release.
5. An accident investigation will be conducted to determine the root cause of the accident. The injured employee will be asked to participate in the investigation.

Disciplinary Action Policy

Disciplinary actions may entail verbal, written and final warnings, suspensions and termination. Not all of these actions may be followed in all instances. TCI Companies, Inc. reserves the right to exercise discretion in discipline. Prior warning is not a requirement for termination. All disciplinary actions will be documented; documentation will be placed in personnel files.

TCI Companies, Inc. reserves the right to take any disciplinary action the company considers appropriate, including termination, at any time. In addition to those situations discussed elsewhere in this handbook, listed below are some examples where immediate termination could result. This list is general in nature and is not intended to be all inclusive:

- Discourtesy to a customer, vendor or the general public resulting in a complaint or loss of good will
- Refusal or failure to follow directions from management; insubordination
- Breach of confidentiality relating to employer, employee, customer or vendor information
- Altering, damaging or destroying company property or records, or another employee's property
- Dishonesty
- Providing false or misleading information to any company representative or in any company records, including the employment application, benefits forms, time cards, expense reimbursement forms and similar records
- Fighting or engaging in disorderly conduct on the company's or a customer's premises or off-site while representing the company
- Violations of any of company's employment policies including, but not limited to, confidentiality, security, solicitation, insider trading, conflict of interest and code of conduct
- Conduct or performance issues of a serious nature
- Failure of a drug or alcohol test

TCI Companies, Inc. recognizes that personal issues can sometimes affect your performance. The Employee Assistance Program (EAP) is available to employees and their families to provide confidential help with a wide variety of personal problems, issues and concerns.

Use of EAP services, however, does not excuse you from complying with company policies and procedures, or from achieving job requirements or expectations during or after receiving EAP assistance. Participation in the EAP will not prevent the company from taking disciplinary action when warranted.

Return to Work Program

It is our goal to prevent work-related injuries from happening. We are always concerned when one of our employees is injured or ill due to a work-related condition. We believe that such absences cost both TCI Companies, Inc. and its employees. We want our injured employees to get the best possible medical treatment immediately to assure the earliest possible recovery and return to work.

TCI Companies, Inc. has a workers' compensation program available for employees who have suffered work-related injuries. The program's administrator will determine, based upon their guidelines, whether you are eligible for wage loss or medical expenses under that program.

TCI Companies, Inc. wants to provide meaningful work activity for all employees who become unable to perform all, or portions, of their regular work assignment. Thus, we have implemented a Transitional Duty program (light duty). Transitional Duty is a temporary program, not to exceed six months.

Employee Procedures

• All work-related injuries should always be reported immediately to your supervisor no later than the end of the shift on which the injury occurs.

• If a **post-accident drug screen** is not performed the **same day** as the injury, the employee will only be paid up to one hour while taking time out to have the drug screen sample collected.

• You must complete and sign an Injury Report.

• When medical treatment is sought, the injured employee must advise their supervisor that they are seeking treatment and obtain a Transitional Duty Evaluation form. Regardless of their choice of physicians, the Transitional Duty Evaluation form must be completed for each practitioner visit. TCI Companies, Inc. will not accept general note stating that you are only to be off of work.

• Under this program, temporary transitional work is available for up to sixty (60) days (with a review of your progress every 30 days) while you are temporarily unable to work in your regular job capacity. Transitional duty beyond sixty (60) days, up to a maximum of six (6) months, will be evaluated on a case-by-case basis.

• If you unable to return to your regular job, but are capable of performing transitional duty, you must return to transitional duty. Failure to do so will result in your being eligible for full disability benefits under the workers' compensation program, and may result in disqualification for certain employee benefits and, in some cases, be a basis for termination.

• Employees who are unable to work and whose absences TCI Companies, Inc. approves must keep us informed on a weekly basis of their status. Failure to do so will result in a reduction in benefits available and discipline, up to and including termination from employment.

• If you are unable to return to work to your regular job or transitional duty, your absence must be approved under the Family Medical Leave Act (FMLA) program. For this purpose, you need to complete a Family Medical Leave Request form and submit it to the Human Resources Department. You must also have your practitioner complete both the Transitional Duty Evaluation and Medical Certification form.

• Employees who are not eligible for leave under FMLA must return to transitional duty or regular work if at all possible. If you are unable to return to any available work, your job position may be filled after a reasonable time. When able to do so, you will be entitled to return to a suitable position, if available and consistent with any limitations. However, you must keep us regularly informed of your status and any changes in your condition.

• Employees must provide a Transitional Duty Evaluation form indicating they are capable of returning to full-duty. Permanent restrictions will be evaluated on a case-by-case basis and related to the performance of essential job functions. No permanent light duty positions will be created.

• Cooperate with our third-party administrator and provide accurate and complete information as soon as possible so that you receive all benefits to which you are entitled. If you have problems or concerns, please contact your Job Site Forman and the Human Resources Department.

Emergency Action Plan

Reference Standard

Occupational Safety and Health Administration Subpart E, Emergency Action Plans:
29 CFR 1910.38

Purpose

This procedure establishes minimum procedures for responding to various emergencies in our facility.

Scope

This procedure applies to all of our company employees, all contractors and vendors performing work on company property, and all other individuals who are visiting or have business with our company.

Responsibilities

- Management is responsible for plan development and periodic review of this plan. Management is also responsible for appropriate employee training.
- Management and supervisors are responsible for enforcement of this program.
- Employees shall comply with all procedures outlined in this policy.
- Contractors and vendors shall comply with all procedures outlined in this policy.

Definitions

911 Notification System: Method that is used by our facility to call outside emergency services (police, fire, EMS)
Contractor: A non-company employee being paid to perform work in our facility.
Defensive Action: Response to a chemical spill or release that does not require personal protective equipment or hazardous material response training. Examples are: closing an open valve, placing absorbent material in front of a running spill or closing a door.
Emergency: An unplanned event that could jeopardize the safety of people or property in our facility. An emergency can originate on our site or off-site: either can impact the people and property within our facility.
Emergency Coordinator: A staff member who is responsible for decision making during the initial phase of an emergency (generally this stage is defined by: discovery, activating the alarm, evacuation, employee accounting, initial response by off-site emergency services, etc.) An Emergency Coordinator will be assigned whenever the facility is operating.
Evacuation Location: The location that employees, visitors and contractors report to following an evacuation.
Vendor: A non-company employee being paid to perform a service in our facility.
Visitor/Contractor Log: A written log maintained at the entrance for visitors, contractors and vendors. Each non-employee is required to sign-in upon entering our facility and sign-out when leaving.

Procedure

Overview

All actions taken during an emergency will serve to protect the life and safety of employees, contractors, visitors and our facility neighbors. To the extent possible, we will minimize damage to property and the environment. Our emergency response activity will never knowingly jeopardize the safety of any individual.

Evacuation Routes and Maps

All evacuation exit routes are permanent and are maintained as accessible and passable at all times. Evacuation maps are posted at various locations throughout our facility. These maps reflect the location of the evacuation routes, exits and evacuation destination locations. Appendix A contains copies of these maps.

Accounting for Personnel

Employee roster sheets will be used for personnel accounting following an evacuation. Supervisors or designees will be responsible for using the roster sheets to accomplish a head count immediately following evacuation. Visitor, Contractor and Vender Logs will be used to account for individuals in these groups.

Individuals who have disabilities that may impair their ability to evacuate will be encouraged to discuss the issue with Human Resources or another member of management. Necessary arrangements will be made confidentially to assist with evacuation.

Contractors, Vendors and Visitors

Contractors, vendors and visitors should evacuate to the outdoor area adjacent to the door through which they entered and signed the Visitor/Contractor Log. The receptionist or an alternate will perform the head count. During severe weather evacuations contractors, vendors and visitors should evacuate to the Shelter area assigned to their host.

Emergency Alarm System and Emergency Services Notification

In the event of an emergency the following methods can be used to communicate:

- Word of mouth
- The paging system (if facility is so equipped)

911 Notification System: Outside emergency services (police, fire, EMS) will be contacted as follows:
First call Mike Barth 309-208-5892 . Second call Gena Thompson 309-965-2057

General Emergency Guidelines

- Stay calm and think through your actions
- Know the emergency numbers: Fire/Police/Ambulance 911
- Human Resources (309-965-2057)
- In the event of any emergency, do not take elevators; use the stairs
- Do not hesitate to call or alert others if you believe that an emergency is occurring
- First aid supplies are located in every truck for use by those who are authorized and properly trained

Evacuation

- Employees will be notified of a fire alarm either by the alarm system or by a paged announcement
- Upon becoming aware of the fire alarm, employees should immediately evacuate the job site. Do not delay evacuation to get personal belongings or to wait for co-workers. Also, all doors should be closed as the last person passes through. (Note: never use elevators during fire alarm situations.)
- Supervisors should be the last persons to leave the area. Check the job site to be sure that all personnel have evacuated
- Any employee having mobility, visual, hearing, or other condition, which may hinder them from becoming aware of an emergency or evacuating, should request special assistance through Human Resources
- Upon exiting the building, all personnel should report for a headcount
- If any employee is missing, an immediate report should be made to the incident commander who will in turn report to the first available fire department officer
- Employees should stay together in a group so that periodic updates on the situation can be issued
- The order to re-occupy a job site or building will be issued by the incident commander
- In the event of inclement weather, the incident commander will make arrangements for all personnel to move to shelter

Fire Emergency

Employees discovering a fire will take the following action:

1. Alert others in the area who are at risk and notify a member of management who will initiate the 911 Notification System
2. Initiate the fire alarm procedure
3. Turn off involved equipment
4. Consider using a fire extinguisher, *if trained and authorized to do so*
5. Evacuate

Upon being alerted of a fire evacuation, all employees, visitors, contractors and vendors will:

1. Turn off equipment (if safe to do so)
2. Walk in an orderly and quiet manner to the exit closest to you *not blocked by fire, smoke or other hazards and exit the building*
3. Do not delay evacuation or re-enter hazardous areas to retrieve personal possessions such as keys, coats purses, or lunches
4. Report to designated fire Evacuation Location for head count. See Appendix B for Evacuation Locations
5. Stay together with their assigned group until further instructions are given
6. The facility will not be reoccupied until approved by the fire department

Note: The supervisor or other designated employee will be the last to exit the department. S/he will check lavatories and other cut-off rooms to assure evacuation and will close doors upon leaving.

Medical Emergency

In the event of a medical emergency the following actions will be taken:

1. Notify a member of management who will initiate the 911 Notification System Evaluate scene safety-if there is any concern all personnel should stay at a safe distance
    a. Call Mike first (309) 208-5892 then Gena (309) 965-2057
2. Do not move the ill/injured person (unless s/he is in danger from their surroundings)
3. Avoid all contact with blood and other bodily fluids (never attempt to provide first aid unless you are trained and equipped to do so)
4. A calm employee may stay with the ill/injured person to provide comfort
5. The supervisor will assign at least two employees to wait for the EMS responders at the parking lot entrance and guide the responders to the scene of the emergency
6. All uninvolved personnel should clear the area
7. If there has been any blood or bodily fluid release, trained personnel will clean and sanitize the area after the emergency phase has concluded
8. Fill out Employer's First Report of Injury form

Severe Weather

A weather alert radio is monitored in our facility at all times. In the event that a warning is issued for our facility the following actions will be taken:

1. Turn off equipment (if safe to do so)
2. Walk in an orderly and quiet manner to the designated severe weather Evacuation Location. See Appendix B for Evacuation Locations
3. A head count will be conducted to account for all personnel
4. When the severe weather warning expires personnel will be released from the shelter

Note: The supervisor or other designated employee will be the last to exit the department. S/he will check lavatories and other cut-off rooms to assure evacuation and will close doors upon leaving.

Hazardous Chemical Spill or Release

Hazardous chemical spills or releases can be recognized visually by seeing evidence of a chemical escaping from its' normal containment or by detecting an unusual odor. If a chemical spill is suspected all personnel will do the following:

1. Alert others in the area who are at risk and notify a member of management who will initiate the 911 Notification System
2. Turn off equipment (if safe to do so)
3. Walk in an orderly and quiet manner to the exit closest to you *not blocked by the chemical release*
4. Report to designated fire Evacuation Location for head count. See Appendix B for Evacuation Locations
5. The Emergency Coordinator or another member of management will observe the wind direction if applicable and determine the best shelter area for evacuated personnel
6. Stay together with their assigned group until further instructions are given
7. The facility will not be reoccupied until approved by the fire department

No employee will take any action other than defensive actions to attempt to control a hazardous chemical spill or release unless s/he has been trained and equipped to respond.

Electrical Utility Failure

In the event of an electrical failure the following procedure will be followed:

1. If the failure is in a partial area of the facility notify a supervisor or member of management
2. Turn off equipment using normal controls
3. Expect sudden equipment restart-stay away from the point of operation and other moving surfaces
4. Do not attempt to move around dark areas-supervisors will use flashlights to guide employees to a safe area to wait for power restoration
5. After power is restored follow supervisor's directions for equipment restart

Workplace Violence

Workplace violence will be handled as follows:

1. Any employee who witnesses a violent act, threat of violence or is otherwise concerned should report it to a member of management
2. If immediate action is necessary, s/he will:
    - advise personnel most at risk to take shelter behind closed doors or to evacuate to other areas of the facility
    - contact emergency services or delegate another person to do so
    - notify the Emergency Coordinator who will evaluate the situation, meet the police, expand the evacuation and coordinate a head count

3. If immediate action is not deemed necessary, the member of management will notify the Emergency Coordinator of the incident. The Emergency Coordinator will begin an immediate investigation and evaluate the threat to personnel.

Emergency Duties

Emergency Coordinator

1. Verify that necessary Emergency Services have been notified
2. Coordinate the employee accounting procedure in the case of evacuation emergency

3. Meet responding Emergency Service units and:
    - issue a situation report
    - keep in contact to provide needed information
    - advise them of evacuation status (during evacuation emergencies)
4. Issue updated instructions to personnel as necessary taking into account comfort of evacuees, duration of the evacuation, time of day, etc.
5. Coordinate incidents of workplace violence

Supervisors

1. Assist with responding to all emergencies and communicate emergency instructions to employees
2. Communicate facts surrounding an emergency occurring in their area to the Emergency Coordinator
3. Develop plans to assist employees with disabilities to evacuate safely
4. Verify all employees are evacuated before leaving
5. Perform the head count procedure to account for all employees and communicate missing personnel to the Emergency Coordinator
6. Be the initial contact and coordinator for incidents involving workplace violence

Critical Operations Duties

Employees who are required to remain behind during evacuation, or who are assigned special response duties, will be fully trained and equipped to ensure their safety and readiness.

Training

At a minimum, training will be conducted:

- Upon hire
- When this plan changes
- When employee duties change

Training will consist of:

1. Methods of alerting employees of an emergency
2. Employee duties upon discovering an emergency
3. Evacuation routes and Evacuation Locations
4. Procedures to be followed upon notification of emergency
5. Special Critical Operations duties assigned to employees

Report to OSHA

•Fatalities: Within eight hours of an employee death from a work-related incident

▪In-patient hospitalization: Within 24 hours of one or more employees, amputation, or loss of eye from work-related incident

>Information to give to OSHA

1. Establishment Name
2. Location of incident
3. Nature of injury and number of persons
4. Contact Person
5. Telephone Number
6. Brief description of the incident

Revision History Record:

Revision Number	Section	Revised By	Description
0	NA	NA	Original document.

Emergency Contact Information

Call 911 for the following:

Fire Department

Police Department

Emergency Medical Services (Ambulance)

Hospital

TCI Companies. Inc. Telephone Numbers

Mike Barth: 309-208-5892

Joe Barth: 309-208-5886

Office: 309-965-2057

Sexual Harassment Policy

TCI Companies, Inc. does not tolerate harassment of our job applicants, employees, clients, guests, vendors, customers, or persons doing business with us. Any form of harassment related to an employee's race, color, sex, religion, national origin, age, citizenship status, veteran status, or handicap is a violation of this policy and will be treated as a disciplinary matter. For these purposes, the term harassment includes, but is not limited to, slurs, jokes, or other verbal, graphic, or physical conduct relating to an individual's race, color, sex, religion, or national origin; sexual advances; requests for sexual favors and other verbal, graphic, or physical conduct of sexual nature.

Violation of this policy by an employee shall subject that employee to disciplinary action, up to and including immediate discharge.

Examples of conduct prohibited by this policy include but are not limited to:

- Unwelcome sexual flirtation, advances, or propositions;
- Verbal comments related to an individual's age, race, gender, color, religion, national origin, disability or sexual orientation;
- Explicit or degrading verbal comments about another individual or his/her appearance;
- The display of sexually suggestive pictures or objects in any workplace location including transmission or display via computer;
- Any sexual offensive or abusive physical conduct;
- The taking of or the refusal to take any personnel action based on an employee's submission to or referral of sexual overtures; and
- Displaying cartoons or telling jokes that relate to an individual's age, race, gender, color, religion, national origin, disability, or sexual orientation.

If you believe that you are being subjected to workplace harassment, you should:

1. Tell the harasser that his/her actions are not welcome and they must stop, if you feel comfortable enough to do so.
2. Report the incident immediately to your manager, the Human Resources Manager.
3. Report any additional incidents that may occur to one of the above resources.

Any reported incident will be investigated. Complaints and actions taken to resolve complaints will be handled as confidentially as possible, given TCI Companies, Inc.'s obligation to investigate and act upon reports of such harassment.

Workplace Violence

• Any employee who feels that she/he has been threatened should immediately report their concern to the supervisor and to Human Resources.

• If any person is observed exhibiting threatening behavior or making threatening statements, the person discovering the situation should warn others in the area and immediately notify Human Resources and stay away from the person exhibiting threatening behavior.

• Depending upon the level of concern, the police department (911) should be called immediately.

• Never attempt to confront any person exhibiting threatening behavior.

If you have reason to believe that events in your personal life could result in acts of violence occurring at work, you are urged to confidentially discuss the issue with Human Resources so that a prevention plan can be developed.

Access to Employee Exposure & Medical Records

Employee and former employees, who are, have been, or will be exposed to toxic substances or harmful physical agents, such as noise, can have access to exposure and medical records maintained by TCI Companies, Inc.

Vehicle Use Policy

To: All drivers of TCI Companies, Inc.

Effective: Up on hire

- This policy applies to:

  -Vehicles owned, leased, or rented to TCI Companies, Inc.

  -Personally owned vehicles driven my employees on behalf of TCI Companies, Inc.

TCI COMPANIES, INC. has made a commitment of safety, service, and quality to both our employees and customers. TCI COMPANIES, INC. mandates that both our employees and non-employees operate all vehicles owned by or used by TCI COMPANIES, INC. in a safe and economical manner. The following summarizes policy guidelines:

1. Vehicles are not to be operated unless in a safe operating condition.
2. Drivers must be physically and mentally able to drive safely.
3. Drivers must conform to all traffic laws with allowances made for adverse weather and traffic conditions.
4. Respect the rights of other drivers and pedestrians. Courtesy is contagious.
5. Drivers may not use drugs or alcohol while operating a vehicle

ACCIDENTS

All accidents are to be reported to management of TCI COMPANIES INC. within twenty-four (24) hours after the accident occurs. All accidents will be reviewed and determination made as either preventable or non-preventable. A preventable accident is defined as an accident in which the driver failed to do everything reasonably possible to avoid it.

MVR STANDARDS

Motor Vehicle Records (MVR) will be checked annually on all employees where driving is a part of their job description. The MVR will be reviewed to ascertain the employee holds a valid license and their driving record is within the parameters set by company management. MVR checks which reveal:

1. Three (3) or more traffic violations and/or at fault accidents over a three (3) year period for drivers age 25 and older, two (2) traffic violations and or at fault accidents for drivers between the ages of 18 and 25, or one (1) traffic violation and/or at fault accident for drivers 17 and under; or
2. One or more of the following type of serious traffic convictions within the past 3 years:
   - •driving while under the influence or while disabled by use of drugs;
   - •refusal to take a breath analyzer test;
   - •leaving the scene of an accident without reporting it;
   - •homicide, assault, or criminal negligence resulting from the operation of a vehicle;
   - •driving while license is suspended or revoked;
   - •reckless or dangerous driving, which results in injury to a person; racing; and/or passing a stopped school bus

will disqualify the employee from driving company operated vehicles, or those vehicles in the care and custody of TCI COMPANIES, INC.

Violations include seat belt violations, but do not include such non-moving violations as weight violations, or improper or inadequately maintained equipment.

DISTRACTED DRIVING AND MOBILE DEVICES

We deeply value the safety and well-being of all employees. Due to the increasing number of accidents resulting from distracted driving and the use of mobile devices, it is our company policy that you not engage in activities that cause you to become distracted when driving, including, but not limited to:

- Sending or reading text messages
- Using a hand held mobile device for either outgoing or incoming calls
- •Using cell phones and other devices for social media and other forms of entertainment
- Adjusting or programming controls of audio or navigation systems
- Searching for and/or reaching for items in the vehicle
- Eating meals
- Reading maps or other printed materials

The above restrictions apply anytime the vehicle is in motion. It is our company policy that, in all circumstances, you pull the vehicle over to a safe area prior to engaging in these activities. Employees are also expected to follow all state laws regarding mobile device use. Any violation of these mobile device state laws or the restrictions listed above may be grounds for termination.

RADAR DETECTORS

The use of radar detectors is forbidden in all vehicles owned or used by TCI COMPANIES, INC. Drivers using radar detectors will have their driving privileges revoked.

PASSENGERS

Hitchhikers and passengers, other than company employees, are not permitted.

SEAT BELTS

All occupants must wear seat belts whenever the vehicle is in motion.

SECURING CARGO

Cargo will be secured and all doors locked while en route and while the vehicles are parked.

When operating your own vehicle for TCI Companies, Inc. business:

- Your personal Auto Liability insurance is the primary payer. TCI Companies, Inc.'s insurance is in excess of your coverage.
- You must carry at least $300,000 per occurrence liability coverage. Evidence of insurance coverage is to be provided to TCI Companies, Inc. each year, by a copy of your policy's Declaration page or Certificate of Insurance.
- TCI Companies, Inc. is not responsible for any physical damage to your vehicle. You Must carry your own collision and comprehensive coverage.
- Report your mileage and expense reimbursement.

By signing this document, you are agreeing that you have read and understood the Vehicle Use Policy and will comply with it.

_____ _____

Employee's Signature Date

Personal Protective Equipment (PPE) Program

Occupational Safety and Health Administration PPE Subpart I, including:
29 CFR 1910.132 - General Requirements
29 CFR 1910.133 - Eye and Face Protection
29 CFR 1910.135 - Head Protection
29 CFR 1910.136 - Foot Protection
29 CFR 1910.137 - Electrical Protective Equipment
29 CFR 1910.138 - Hand Protection &Body Protection
Note: 29 CFR 1910.134 – Respiratory Protection and Hearing Protection are under separate cover

Purpose
This procedure establishes minimum personal protective equipment (PPE) requirements to be followed when performing tasks in which hazards are present or are likely to be present.

Scope
This procedure applies to all company employees, contractors and vendors performing work on company property, and all other individuals who are visiting or have business with our company.

Responsibilities
Management is responsible for identifying hazards or potential hazards and establishing requirements for PPE. Management will review this procedure at least annually and when equipment or facility additions or modifications cause changes in PPE requirements.
Management will ensure that required training is conducted as outlined below.
Management and supervisors are responsible for the enforcement of this program.
Employees, Contractors and vendors are required to comply with all procedures outlined in this policy.

Definitions
Administrative Controls: Rules, procedures or standards that prevent or limit exposure to a hazard.
Contractor: A non-company employee being paid to perform work in our facility.
Engineering Controls: Equipment or process modifications, usually hardware in nature that provides passive protection to personnel.
Personal Protective Equipment or PPE: PPE is equipment that an individual wears to protect against a hazard. PPE is the last line of defense after engineering control and administrative control.
Vendor: A non-company employee being paid to perform a service in our facility.

Procedure
Hazard Assessment (29 CFR 1910.132)
A hazard assessment has been conducted in order to determine what hazards are present or are likely to be present that would necessitate the use of PPE. The hazard assessment consisted of a walk-through survey of all work areas and duties to determine sources of hazards to employees that could not be controlled by means of engineering or administrative approaches. A sample form can be found in Appendix A. A summary of the assessment results can be obtained from the program administrator.
It will be the responsibility of the program administrator to revise or update the assessment, as necessary, by identifying and evaluating new equipment and processes, reviewing accident records and reviewing the suitability of previously selected PPE. Additionally, the program administrator will review the hazard assessment annually. Any changes will be entered into the permanent copy of the hazard assessment.
If changes in PPE are required, the program administrator will take appropriate action.
The written hazard assessment will be certified in writing and contain the following:
The workplace identified;
The person certifying that the evaluation has been performed;
The person certifying that the evaluation has been performed; and
The date(s) of the assessment.

PPE Selection (29 CFR 1910.132)
All identified hazards or potential hazards will be controlled by engineering or administrative methods. If engineering or administrative controls cannot eliminate a hazard, the program administrator will select appropriate types of PPE to guard against it. All PPE selections will be communicated to employees through employee training programs.

Affected employees will wear all PPE specified by the company at the appropriate time in order to guard against the identified hazard. Our company will ensure that all selected PPE properly fits affected employees.

Employee Owned Equipment (29 CFR 1910.132)

Any employee who wishes to provide his/her own PPE must have the PPE approved by the program administrator prior to use. No employee shall wear their own PPE if it does not meet requirements identified in the appropriate OSHA standards.
Where employees provide their own protective equipment, the employer will be responsible to assure its adequacy, including proper maintenance and sanitation of such equipment.

Defective or Damaged Equipment (29 CFR 1910.132)

At no time will employees wear PPE that is defective, damaged or unsanitary. PPE will be cleaned and sanitized prior to use by another worker.
Defective or damaged equipment will be taken out of service. Employees will notify their immediate supervisor of all defective or damaged PPE and will not perform tasks requiring the use of PPE until such equipment has been replaced/repaired.
For replacement PPE employees can contact the program administrator or their immediate supervisor.

Training Requirements (29 CFR 1910.132)

Training will be provided to each employee who is required to use PPE upon hire. No employee will use or wear PPE or perform job functions requiring the use of PPE until properly trained.

Training for PPE will consist of the following:
When PPE is required for a job responsibility or task;
How to properly don (put on), doff (remove), adjust, and wear required PPE;
Limitations of selected PPE; and
Proper care, maintenance and useful life of selected PPE.
All employees must demonstrate an understanding of the training outlined in this section. This will be accomplished through a hands-on demonstration of acquired skills.
Additional training will be required in the following circumstances:
There are changes in job assignments or work practices that render previous training obsolete;
There are changes in the types of PPE used that renders previous training obsolete; and
Whenever deficiencies are noted in an employee's understanding or skill in the use of selected PPE.
All employees' attendance to training classes will be documented. Documentation will include:
The name of each employee trained;
The date(s) of training;
Specific PPE training received; and
Verification of the employee's acquired skill level as a result of training.

Payment for PPE

The protective equipment, including personal protective equipment (PPE), used to comply with this part, shall be provided by the employer at no cost to its employees.
The employer is not required to pay for non-specialty safety-toe protective footwear (including steel-toe shoes or steel-toe boots) and non-specialty prescription safety eyewear, provided that the employer permits such items to be worn off the job-site.
The employer is not required to pay for:
Logging boots;
Everyday clothing, such as long-sleeve shirts, long pants, street shoes, and normal work boots; or
Ordinary clothing, skin creams, or other items, used solely for protection from weather, such as winter coats, jackets, gloves, parkas, rubber boots, hats, raincoats, ordinary sunglasses, and sunscreen.
The employer must pay for replacement PPE, except when the employee has lost or intentionally damaged the PPE.

Enforcement

Management will require that specified PPE is used as appropriate in the Hazard Assessment. Failure to conform to this program will result in discipline up to, and including, discharge.

PPE Elements

Eye and Face Protection (29 CFR 1910.133)

All employees, contractors and visitors will wear appropriate eye and/or face protection when inside designated areas.
Safety glasses will be provided to employees required to wear them. All safety glasses will be issued with side shields. When prescription safety glasses are required, our company will either provide safety eyewear that is capable of being worn over personal

glasses or will contribute to the cost of frames and lenses. (See Safety Glasses Reimbursement Policy) When required, supplemental or specialized eye and face protection will be provided by the Company.
Employees who wear contact lenses are required to wear non-prescription safety glasses (Plano) over their contact lenses. It should be recognized that contact lenses may present additional hazards to employees in dusty and/or chemical environments. These situations will require the use of additional eye protection such as dust or liquid tight goggles.
Safety glasses purchased before July 5, 1994 will meet ANSI Z87.1-1969 standards. Safety glasses purchased after July 5, 1994 will meet ANSI Z87.1-1989 standards.

The following charts will be used to assist with specification of eye and face protection.

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 - Chipping, grinding machining, masonry work, woodworking, sawing, drilling, chiseling, powered fastening, riveting, and sanding	Flying fragments, objects, large chips, particles, sand, dirt, etc.	Spectacles with side protection, goggles, face shield. For severe exposure, use face shield
HEAT-Furnace operation and arc welding	Hot sparks	Face shields, spectacles with side shields.
CHEMICALS-Acid and chemical handling, degreasing, plating	Splash	Goggles, eyecup and cover types. For severe exposure, use face shield with goggles.
DUST - Woodworking, buffing, general, buffing, general dusty conditions.	Nuisance dust	Goggles, eye cup and cover type

Filter Lenses for Protection Against Radiant Energy			
Operations	**Electrode Size** (1/32 in.)	**Arc Current**	**Minimum 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
Gas Metal Arc Welding And Flux Cored Arc Welding	N/A	Less than 60	7
		60 – 160	10
		160 -250	
		250 – 550	
Gas Tungsten Arc Welding	N/A	Less than 50	8
		50 – 150	
		150 – 500	10
Air Carbon	Light	Less than 500	10
Arc Cutting	Heavy	500 – 1000	11
Plasma Arc Welding**	N/A	Less than 20	6
		20 – 100	8
		100 – 400	10
		400 – 800	11
Plasma Arc Cutting	Light	Less than 300	8
	Medium	300 – 400	9
	Heavy	400 – 800	10
Torch Brazing	N/A	N/A	3
Torch Soldering	N/A	N/A	2
Carbon Arc Welding	N/A	N/A	14
Operations	**Plate thickness**		**Minimum Protective Shade***
Gas Welding	Light	Under 1/8 in. (3.2 mm)	4
	Medium	1/8–1/2 in. (3.2–12.7 mm)	5
	Heavy	Over 1/2 in. (12.7)	6
Oxygen Cutting	Light	Under 1 in. (25 mm)	3
	Medium	1–6 in (25–150 mm)	4
	Heavy	Over 6 in. (150 mm)	5

** 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 produces 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.*
*** These values apply where the actual arc is clearly seen. Experience has shown that lighter filters may be used when the arc is hidden by the workpiece.*

Respiratory Protection (29 CFR 1910.134)
Procedures regarding respiratory protection are contained in the Respiratory Protection Program.

Head Protection (29 CFR 1910.135)
All affected employees will use appropriate head protection when exposed to hazards such as falling objects or energized electrical equipment. Employees who are working near exposed electrical conductors will wear protective helmets designed to reduce electrical shock.
Head protection is designed to provide protection from impact and penetration hazards caused by falling objects. Head protection is also available which provides protection from electric shock and burn. When selecting head protection, knowledge of potential electrical hazards is important.
Class A helmets, in addition to impact and penetration resistance, provide electrical protection from low-voltage conductors (they are proof tested to 2,200 volts). Class B helmets, in addition to impact and penetration resistance, provide electrical protection from high-voltage conductors (they are proof tested to 20,000 volts). Class C helmets provide impact and penetration resistance (they are usually made of aluminum which conducts electricity), and should not be used around electrical hazards. Bump caps are not designed to provide impact protection but protect against scalp lacerations from working in congested areas or areas with low equipment clearances.
Our company will select, purchase, and provide employees with required head protection if the use of head protection is required by this policy. Protective helmets purchased before July 5, 1994 will meet ANSI Z89.1-1969 standards. Protective helmets purchased after July 5, 1994 will meet ANSI Z89.1-1986 standards.

Foot Protection (29 CFR 1910.136)
All employees, contractors, and visitors will use appropriate foot protection as required by the Company when inside areas identified areas. The employer must ensure that each affected employee uses protective footwear when working in areas where there is a danger of foot injuries due to falling or rolling objects, or objects piercing the sole, and where such employee's feet are exposed to electrical hazards.
Our company will identify acceptable types of foot protection and will contribute towards the cost of foot protection, for personnel required to wear it. (See Foot protection Reimbursement Policy)
Protective footwear purchased before July 5, 1994 will meet ANSI Z41.1-1967 standards. Protective footwear purchased after July 5, 1994 will meet ANSI Z41-1991 standards.

Electrical Protective Equipment (29 CFR 1910.137)
All electrical protective devices purchased by our company will meet the requirements outlined in the Occupational Safety and Health Administration (OSHA) standard Electrical Protective Equipment. All equipment will be appropriately marked with its Class and Type.
Electrical PPE will be required where contact with energized electrical conductors and or flash/arc hazards exist. The Company will provide PPE, insulating blankets and devices and insulated tools as needed. All electrical protective equipment will be inspected by the user prior to use and immediately after any incident involving possible damage. Electrical protective equipment will be stored to protect against visible light, temperature, humidity, ozone chemicals and other damage. The Company will also maintain a testing program for electrical protective equipment that ensures performance. Testing will occur according to the following schedule:

Electrical PPE Testing Schedule

Type of Equipment	When to Test
Rubber insulating line hose	Upon indication that insulating value is suspect
Rubber insulating covers	Upon indication that insulating value is suspect
Rubber insulating blankets	Before first issue and every 12 months
Rubber insulating gloves	Before first issue and every 6 months
Rubber insulating sleeves	Before first issue and every 12 months

If the electrical equipment has been in storage, it must have been tested within the previous 12 months prior to issue

Hand Protection (29 CFR 1910.138)
The employer selects and requires employees to use appropriate hand protection when employees' hands are exposed to hazards such as skin absorption of harmful substances, severe cuts or lacerations, severe abrasions, punctures, chemical burns, thermal burns and harmful temperature extremes.
All hand protection used at our company will be selected by the program administrator to ensure the greatest degree of protection is provided for the specific hazard identified. Glove manufacturers and suppliers will be consulted to select gloves that will provide the desired protection against mechanical, thermal and/or chemical hazards. Special care will be exercised when evaluating the need for hand protection in areas with moving machine parts, especially rotating and revolving equipment. Company employees will only utilize hand protection that has been authorized by the program administrator.

Body Protection
Body protection in the form of aprons or other protective clothing will be required when employees are exposed to the following hazards: chemical splash or contact, contact with sharp or jagged objects, heat, sparks or flame. Equipment manufacturers and suppliers will be consulted to select equipment that will provide the desired protection against mechanical, thermal and/or chemical hazards.

Hearing Protection
Hearing conservation procedures shall be outlined in a separate "Hearing Conservation Program."

Revision History Record:

Revision Number	Section	Revised By	Description
0	NA	NA	Original document.

Appendix A
Hazard Assessment Form

PPE – HAZARD ASSESSMENT FORM

Job Classification: _____

HEAD HAZARD	Tasks that can cause head hazards include: Working below other workers who are using tools and materials, which could fall, working on energized electrical equipment, working with chemicals and working under machinery or processes which might cause materials to fall.			
CIRCLE ALL HAZARDS THAT ARE OBSERVED:				
Chemical Splash	Burn	Electric Shock	Impact	Heat
Particulate				NO HAZARD

Description of hazards: _____

EYE HAZARD	Tasks that can cause eye hazards include: Working with acids and chemicals, chipping, grinding, furnace operations, sanding, welding, and woodworking.			
CIRCLE ALL HAZARDS THAT ARE OBSERVED:				
Chemical Splash	Burn	Electric Shock	Impact	Heat
Dust	Light Radiation	Flying Fragments	Furnace	Welding
Brazing	Mists	Fumes		NO HAZARD

Description of hazards: _____

HAND HAZARD	Tasks that can cause hand hazards include: Cutting materials, working with chemicals and hot objects.			
CIRCLE ALL HAZARDS THAT ARE OBSERVED:				
Chemical Splash	Burn	Electric Shock	Impact	Sharp Objects
				NO HAZARD

Description of hazards: _____

BODY HAZARD	Tasks that can cause hand hazards include: Cutting materials, working with chemicals and hot objects.			
CIRCLE ALL HAZARDS THAT ARE OBSERVED:				
Chemical Splash	Burn	Electric Shock	Impact	Sharp Objects
				NO HAZARD

Description of hazards: _____

FOOT HAZARD	Tasks that can cause foot hazards include: Carrying or handling materials that could be dropped, performing manual material handling and working with chemicals.			
CIRCLE ALL HAZARDS THAT ARE OBSERVED:				
Chemical Splash	Burn	Electric Shock	Impact	Sharp Objects
Rolling Objects	Compression			NO HAZARD

Description of hazards: _____

RESPIRATORY HAZARD	Tasks that can cause respiratory hazards include: Spraying, dipping, welding, cutting and working with chemicals.			
CIRCLE ALL HAZARDS THAT ARE OBSERVED:				
Chemical Splash	Burn	Welding	Dipping	Cutting
				NO HAZARD

Description of hazards: _____

_____

NOISE HAZARD	Tasks that cause employees to be exposed to noise levels exceeding 85 decibels, over an 8 hour shift.			
CIRCLE ALL HAZARDS THAT ARE OBSERVED:				
Noise 85-90 db	Noise 90 db & higher			NO HAZARD

Description of hazards: _____

_____

PPE Required: _____

_____

_____

_____

_____

Completion Date: _____

Completed By: _____

ELECTRICAL HAZARD	Tasks that cause employees to be exposed to exposed high voltage electrical conductors or electrical flash/arc including.			
CIRCLE ALL HAZARDS THAT ARE OBSERVED:				
High voltage contact	Flash-arc			NO HAZARD

Description of hazards: _____

_____

PPE Required: _____

_____

_____

_____

_____

Completion Date: _____

Completed By: _____

Hazard Communication

1. All TCI Companies, Inc. employees have a right to know what chemicals they work with, what the hazards are, and how to handle them safely.

2. Material Safety Data Sheets (SDS) are documents provided by the supplier of a chemical. MSDS detail the chemical contents, associated hazards, and general safe handling guidelines. At TCI Companies, Inc., the SDS collection is located at Human Resources office. Employees are free to utilize the MSDS as needed.

3. General rules for handling chemicals in an office environment are:
   • Read all label warnings and instructions.
   • Follow instructions for quantity. More is not better.
   • Minimize contact with chemicals. Use double layer cloths or gloves to protect your skin and keep your face clear of the area to reduce inhalation.
   •Always wash your hands after handling chemicals.
   • If a chemical enters your eye(s) immediately hold open the injured eye(s) and rinse it/them with clean. Cool water for 15 minutes. Then be sure to report the injury immediately.
   • Any questions or concerns regarding chemicals should be reported to your Job Site Manager and Human Resources.

4. All chemical containers must be labels to identify contents and hazards. Most labels use numbers to rank the hazard level in three important areas:
   - FIRE (red background color) – will the material burn?
   - HEALTH (blue background) – is the material dangerous to my body?
   - REACTIVITY (yellow background) – is the material dangerously unstable?

After each hazard (Fire, Health and Reactivity), a number from 1-4 will be assigned. The number reflects the degree (or amount) of hazard:

- 0 Minimal
- 1 Slight
- 2 Moderate
- 3 Serious

Bloodborne Pathogens

1. Blood and other bodily fluids can carry pathogens, which are capable of causing diseases in others. This includes HIV, which leads to AIDS, and hepatitis.
2. Because we cannot tell by looking at a person if they are infected with a pathogen disease, we must take precautions following an illness or injury when bodily fluids are released.
3. In the event of a person losing bodily fluids, stay away from the area and warn others to also do so. You can still stay close to the ill/injured person to support him/her, just be sure to say out of contact any bodily fluids.
4. In the even that you find spilled bodily fluids, a syringe, or other medically contaminated materials, do not attempt clean up by yourself. Call Human Resources immediately for instructions.

Lockout/Tagout Program

Reference Standard
Occupational Safety and Health Administration: The Control of Hazardous Energy (Lockout/Tagout) Subpart J, 29 CFR 1910.147

Purpose
This procedure establishes minimum standards for Lockout/Tagout in our facility. The goal is the prevention of accidents caused by the accidental energization of equipment or release of stored energy.

Scope
This procedure applies to all of our company employees, all contractors and vendors performing work on company property, and all other individuals who are visiting or have business with our company. This procedure covers the servicing and maintenance of machines and equipment in which the energization or start up of the machines or equipment, or release of stored energy, could harm employees. This standard establishes minimum performance requirements for the control of such hazardous energy.

Responsibilities
Management is responsible for developing and periodically reviewing this program;
Management is also responsible for appropriate employee training;
Management and supervisors are responsible for enforcement of this program;
Employees shall comply with all procedures outlined in this policy; and
Contractors and vendors shall comply with all procedures outlined in this policy.

Definitions

Affected Employee: An employee whose job requires him or her to:

- operate or use a machine or equipment on which servicing or maintenance is being performed under lockout or tagout; or
- work in an area in which such servicing or maintenance is being performed.

Authorized Employee: A person who locks out or tags out machines or equipment in order to perform servicing or maintenance. An affected employee becomes an authorized employee when his or her duties include servicing or performing maintenance covered under this section.

Contractor: A non-company employee being paid to perform work in our facility.

Energy Sources: Mechanical, electrical, hydraulic, pneumatic, chemical, thermal, stored or other energy source.

Lockout: Placing a device on an energy isolating device, in accordance with an established procedure, ensuring that the energy isolating device and the equipment being controlled cannot be operated until the lockout device is removed.

Stored Energy Source: A hidden energy source that is capable of releasing energy suddenly. These energy sources can cause injury or death. Examples include: springs, capacitors, heavy objects held against gravity, and hydraulic or pneumatic cylinders.

Tagout: Placing a device on an energy isolating device, in accordance with an established procedure, to indicate that the energy isolating device and the equipment being controlled may not be operated until the tagout device is removed.

Tagout Device: A prominent warning device, such as a tag and a means of attachment, which can be securely fastened to an energy isolating device in accordance with an established procedure, to indicate that the energy isolating device and the equipment being controlled may not be operated until the tagout device is removed.

Program Application
Our facility will always use Locks to achieve control of hazardous energy rather than tags except when an energy control device is not capable of being locked out.

Procedure

Energy Control Procedures

Our facility will maintain written energy control procedures for all equipment, unless the following elements exist:

- The machine or equipment has no potential for stored or residual energy or reaccumulation of stored energy after shut down which could endanger employees;
- The machine or equipment has a single energy source which can be readily identified and isolated;
- The isolation and locking out of that energy source will completely de-energize and deactivate the machine or equipment;
- The machine or equipment is isolated from that energy source and locked out during servicing or maintenance;
- A single lockout device will achieve a locked-out condition;
- The lockout device is under the exclusive control of the authorized employee performing the servicing or maintenance;
- The servicing or maintenance does not create hazards for other employees; and
- The employer, in utilizing this exception, has had no accidents involving the unexpected activation or re-energization of the machine or equipment during servicing or maintenance.

Written energy control procedures are available from the program administrator. These procedures are always available to authorized employees. (See Appendix A for the Machine Specific Energy Control Procedure)

Energy Control Hardware

Locks - Each authorized employee will be assigned a sufficient number of locks to lock out the maximum number of energy control devices found on any equipment that he or she services or maintains. All locks used within our facility will have similar design and appearance. Each set of locks assigned to an authorized employee may be keyed alike, but only one key will be assigned for each lock;

Tags - Each authorized employee will be assigned a tag for each lock. Additional tags can be obtained from the program administrator. Tags will always be used in conjunction with locks. All tags used in our facility will be the same; and

Other Equipment - Hasps, valve and plug covers, chains, cables and other equipment to facilitate lockout is available in the maintenance department.

Preparation for Lockout

Prior to lockout, the authorized employee performing the task will do the following:
Review the Energy Control Procedure for the piece of equipment s/he will be working on. Be sure that all energy sources have been identified;
Procure all hardware needed to lockout all energy control devices;
Complete information on tags; and
Notify the "owner" of the equipment to be locked out (e.g. departmental supervisor, lead person, operator, etc.).

Lockout Sequence

1. Shut down all energy sources using normal stopping/shut down devices (stop buttons, switches, valves, etc.);

Isolate energy sources by applying a lock and tag to each control device. *Note: devices not capable of being locked will have a tag applied to the device or as close as possible to it*;
Stored energy must be dissipated or restrained;
Verify the energy isolation of the equipment by attempting to operate the machine using the normal operating controls *Note: check to be sure that it would be safe if restart actually happened*. Return the operating controls to off or safe; and
Barricade the work area as necessary and perform the work.

Restoration of Energy

1. Inspect the equipment to be sure that all tools and parts have been removed as necessary;
2. Replace guards and restore machine controls;
3. Notify the equipment "owner(s)" and other employees in the area;
4. Remove locks and tags;
5. Test operation of the equipment; and
6. Release equipment back to the "owner(s)."

Multiple Employee Lockout

When more than one employee is assigned to work on the same piece of equipment, each employee will apply her/his lock and tag to each energy control device. In cases where an energy control device cannot accept multiple locks a hasp or lock box may be used. In the case of a lock box, each energy control device will be secured with one lock but the key will be locked in a box that is capable of accepting the lock of every employee assigned to perform the work. The key cannot be obtained until all assigned employees have removed their locks.

Shift Change or Employee Reassignment

Whenever a job extends from one shift to the next, a change-over period will be established where the two or more employee's may change locks. The off-going employee will remove their locks and the on-coming personnel will apply theirs.
Prior to doing any work, the on-coming employee(s) will verify that all energy sources are safe and locked out. If an authorized employee is not available at shift change, a supervisor may serve as the on-coming shift employee.

Stored Energy

Following the application of lockout or tagout devices to energy isolating devices, all potentially hazardous stored or residual energy shall be relieved, disconnected, restrained, and otherwise rendered safe. If there is a possibility of re-accumulation of stored energy to a hazardous level, verification of isolation shall be continued until the servicing or maintenance is completed, or until the possibility of such accumulation no longer exists.

Testing or Positioning of Machines

In situations in which lockout or tagout devices must be temporarily removed from the energy isolating device and the machine or equipment energized to test or position the machine, equipment or component thereof, the following sequence of actions shall be followed:
Clear the machine or equipment of tools and material;
Remove employees from the machine or equipment area;
Remove the lockout or tagout devices;
Energize and proceed with testing or positioning; and
De-energize all systems and reapply energy control measures.

Emergency Lock Removal

Whenever Management determines that a lock must be removed the lock owner must be notified. If the lock owner is not in the plant, the following steps must be taken:

1. Call the lock owner at home. If an answering machine is in use, leave an appropriate message;
2. The supervisor, or another member of Management, will meet the employee at the entrance during the next scheduled shift and advise of the lock removal; and
3. The cut off lock will be placed on the owners work bench or tool box along with a note that explains where the lock(s) was removed.

Contractors

Contractors will be required to submit a copy of their Company's Lockout plan to our program administrator. Our facility will also submit a copy of our Lockout program to the contractor. Both the contractor and our program administrator will make their respective employees aware of significant differences in the programs.
We reserve the right to require that contractors use our facility lockout procedures if they are more protective than the contractor's program.

Training

Authorized Employees

Authorized employees will be trained, at the time of hire or at reassignment into an authorized employee position, in the following:
Recognition of hazardous energy sources;
Type and magnitude of energy in the facility; and
Methods and hardware available for energy isolation and control.

Affected Employees
Affected employees and employees who may work in areas where equipment is locked out will be trained to recognize lockout locks and tags at the time of hire or assignment requiring this training. Training will include the purpose and use of the energy control procedure.
Affected employees will also be instructed that under no circumstances is anyone to remove a lock and/or a tag other than the person who applied it.

Authorized and Affected Employees
Retraining will be provided as follows:
When the periodic inspection reveals a need for retraining;
When a new hazard is identified;
When the procedure changes; or
When the program administrator determines that there is a need for additional training.

Other Employees
All other employees shall be trained on whose work operations are or may be in an area where energy control procedures may be utilized, shall be instructed about the procedure, and about the prohibition relating to attempts to restart or reenergize machines or equipment which are locked out or tagged out.

When tagout systems are used, employees will also be trained in the following limitations of tags:
Tags are essentially warning devices affixed to energy isolating devices, and do not provide the physical restraint on those devices that is provided by a lock;
When a tag is attached to an energy isolating means, it is not to be removed without authorization of the authorized person responsible for it, and it is never to be bypassed, ignored, or otherwise defeated;
Tags must be legible and understandable by all authorized employees, affected employees, and all other employees whose work operations are or may be in the area, in order to be effective;
Tags and their means of attachment must be made of materials which will withstand the environmental conditions encountered in the workplace;
Tags may evoke a false sense of security, and their meaning needs to be understood as part of the overall energy control program; and
Tags must be securely attached to energy isolating devices so that they cannot be inadvertently or accidentally detached during use.

Periodic Inspection
Annually, the program administrator will assign an appropriate authorized employee, other than the one utilizing the procedure under review, to review the following:
All Energy Control Procedures for accuracy and need for updating;
Each authorized employee and her/his responsibilities and understanding of the Lockout program (this may be accomplished through group meetings); and
If any tagout only is utilized in our facility the inspector will also review the employee. responsibilities with all affected employees
The periodic inspection will certify the following:
The identity of the equipment being utilized;
Whenever there is a change in their job assignments;
The inspection date; and
Employees included in the inspection.

Never remove or tamper with a lockout performed by another employee or contractor. A lockout could consist of a lock applied to a control such as a switch, breaker, or valve. A tag containing words such as “DANGER – DO NOT OPERATE” may also be used for lockout. If you see the lock, the tag, or both applied to an energy control device it means, “Keeps your hands off”.

1. Do not perform any maintenance, inspection cleaning adjusting, or servicing of any equipment without following the company’s lockout/tagout program.
2. If required to work on powered equipment (hydraulic, electrical, air, etc.), you must have your personal padlock with your name on it and personal key on your person at all times.
3. Disconnect and padlock all machine power disconnects in the off position before removing guards for the purpose of working “ON” or “IN” the machinery or approaching its unguarded parts. (NOTE: When more than one employee is working on a single piece of equipment, each employee must use his own padlock along with lock-out tongs to lock out the equipment. When the work is complete, he must remove only his lock.

4. Do not commence equipment repair or maintenance work until you have verified that the tagged/locked out switch or control cannot be overridden or bypassed.
5. Replace all guards before removing personal padlocks from the control.
6. Does not use or remove another employee's protective lock. Do not remove a lock from equipment unless you placed it there.
7. Before machinery is put back into use after LOCKOUT/TAGOUT, give a verbal announcement or sound a warning to fellow employees.

Confined Space Program

Reference Standard
Occupational Safety and Health Administration; Permit Required Confined Spaces, Subpart J,
CFR 29 1926 Subpart AA

Purpose
This program establishes minimum procedures to be used for classifying confined spaces and for safe entry into those spaces.

Scope
This program applies to all of our company employees, contractors and vendors engaged in construction activities on company property, and all other individuals who are visiting or have business with our company. This program does not apply to the following:
Construction work regulated by §1926 Subpart P—Excavations;
Construction work regulated by §1926 Subpart S—Underground Construction, Caissons, Cofferdams and Compressed Air; and
Construction work regulated by §1926 Subpart Y—Diving.

Responsibilities
Management is responsible for the development and review of this program. Management is also responsible for appropriate employee training.
Management and supervisors are responsible for the enforcement of this program.
Employees will comply with all procedures outlined in this program.
Contractors and vendors will comply with all procedures outlined in this program.

Definitions

Acceptable entry conditions: Conditions that must exist in a permit space to allow entry and to ensure that employees involved with a permit-required confined space entry can safely enter and work within the space.

Attendant: An individual stationed outside one or more permit spaces who monitors the authorized entrant(s) and who performs all attendant duties assigned in our program.

Authorized entrant: An employee who is authorized by the entry supervisor to enter a permit space.

Blanking or binding: The absolute closure of a pipe, line or duct by the fastening of a solid plate (such as a spectacle blind or a skillet blind) that completely covers the bore and that is capable of withstanding the maximum pressure of the pipe, line or duct with no leakage beyond the plate.

Competent person: One who is capable of identifying existing and predictable hazards in the surroundings or working conditions which are unsanitary, hazardous or dangerous to employees, and who has the authorization to take prompt, corrective measures to eliminate them.

Confined space: A space that:
Is large enough and configured so that an employee can physically enter and perform assigned work;
Has limited or restricted means of entry or exit (for example, tanks, vessels, silos, storage bins, hoppers, vaults and pits are spaces that may have limited means of entry); and
Is not designed for human occupancy.

Contractor: A non-company employee being paid to perform work at our facility.

Controlling contractor: The employer that has overall responsibility for construction at the worksite. A controlling contractor that owns or manages the property is both a controlling employer and a host employer.

Engulfment: The surrounding and effective capture of a person by a liquid or finely divided solid substance that can be drawn into a permit space and can cause death by filling or plugging the respiratory system, or that can exert enough force on the body to cause death or serious bodily injury.

Entry employer: Any employer that decides whether its employees will enter a permit space. An employer cannot avoid the duties of this standard merely by refusing to decide whether its employees will enter a permit space. *Note: OSHA will consider the failure to decide to be an implicit decision to allow employees to enter those spaces if they are working in the proximity of the space.*

Entry permit: The written or printed document that is provided by our facility to allow and control entry into a permit space. The entry permit will contain certain information specified in this written program.

Entry supervisor: The "qualified" person (e.g., an employer, foreman or crew chief) responsible for determining whether entry conditions are acceptable at a permit space where entry is planned, authorizing entry and overseeing entry operations, and terminating entry as required. The entry supervisor can also serve as an entrant or attendant as long as that person is trained and equipped as required by this standard for each role he or she fills. The duties of the entry supervisor may be passed from one individual to another during the course of an entry operation.

Hazardous atmosphere: An atmosphere that may expose employees to the risk of death, incapacitation, impairment of abilities to self-rescue (escape unaided from a permit space), injury or acute illness from one or more of the following:
Flammable gas, vapor or mist in excess of 10 percent of the lower flammable level (LFL);
Airborne combustible dust at a concentration that meets or exceeds its LFL (can be approximated where the dust obscures vision at a distance of 5 feet or less);
Atmospheric oxygen concentration below 19.5 percent or above 23.5 percent;
Atmospheric concentration of any substance for which a dose or a permissible exposure limit is published in 29 CFR 1926 Subpart D, Occupational Health and Environmental Control or in Subpart Z, Toxic and Hazardous Substances; or
Any other atmospheric condition that is "immediately dangerous to life or health" (IDLH).

Hot work: An operation capable of providing a source of ignition (for example, riveting, welding, cutting, burning and heating).

Immediately dangerous to life or health (**IDLH**): Any condition that would interfere with an individual's ability to escape unaided from a permit space and that poses a threat to life or that would cause irreversible adverse health effects. Some materials—hydrogen fluoride gas and cadmium vapor, for example—may produce immediate transient effects that, even if severe, may pass without medical attention, but are followed by sudden, possibly fatal collapse 12–72 hours after exposure. The victim may "feel normal" after recovery from transient effects until collapse. Such materials in hazardous quantities are considered to be "immediately" dangerous to life or health.

Inerting: The process of displacing the atmosphere in a permit space by a noncombustible gas (such as nitrogen) to such an extent that the resulting atmosphere is noncombustible. This procedure produces an IDLH oxygen-deficient atmosphere.

Isolate or **isolation**: The process by which employees in a confined space are completely protected against the release of energy and material into the space, and contact with a physical hazard, by such means as: blanking or blinding; misaligning or removing sections of lines, pipes, or ducts; a double block and bleed system; lockout or tagout of all sources of energy; blocking or disconnecting all mechanical linkages; or placement of barriers to eliminate the potential for employee contact with a physical hazard.

Limited or restricted means for entry or exit: A condition that has the potential to impede an employee's movement into or out of a confined space. Such conditions include, but are not limited to, trip hazards, poor illumination, slippery floors, inclining surfaces and ladders.

Line breaking: The intentional opening of a pipe, line or duct that is or has been carrying flammable, corrosive or toxic material, or an inert gas or any fluid at a volume, pressure or temperature capable of causing injury.
Lockout: The placement of a lockout device on an energy isolating device, in accordance with an established procedure, ensuring that the energy isolating device and the equipment being controlled cannot be operated until the lockout device is removed.

Lower flammable limit (**LFL**) or **lower explosive limit** means the minimum concentration of a substance in the air that is needed for an ignition source to cause a flame or explosion.

Non-permit-required confined space: A space that does not contain or have the potential to contain any hazard capable of causing death or serious physical harm.

Oxygen-deficient atmosphere: An atmosphere containing less than 19.5 percent oxygen by volume.

Oxygen-enriched atmosphere: An atmosphere containing more than 23.5 percent oxygen by volume.

Permit-required confined space: A confined space that has one or more of the following characteristics:
Contains or has the potential to contain a hazardous atmosphere;
Contains a material that has the potential for engulfing an entrant;
Has an internal configuration such that an entrant could be trapped or asphyxiated by inwardly converging walls or by a floor which slopes downward and tapers to a smaller cross section; or
Contains any other recognized serious safety or health hazard.

Prohibited condition: Any condition in a permit space that is not allowed by the permit during the period when entry is authorized. A hazardous atmosphere is a prohibited condition unless the employer can demonstrate that personal protective equipment (PPE) will provide effective protection for each employee in the permit space and the employer has provided the appropriate PPE to each employee.

Qualified person: An individual who, by possession of a recognized degree, certificate or professional standing, or who by extensive knowledge, training and experience, has successfully demonstrated his or her ability to solve or resolve problems relating to the subject matter, the work or the project.

Representative permit space: A mock-up of a confined space that has entrance openings that are similar to, and of similar size, configuration and accessibility to, the permit space that authorized entrants enter.

Retrieval system: Equipment (including a retrieval line, chest or full-body harness, wristlets, if appropriate, and a lifting device or anchor) used for non-entry rescue of persons from a confined space.

Tagout: Means the placing of a tagout device on a circuit or equipment that has been de-energized, in accordance with:
An established procedure, to indicate that the circuit or equipment being controlled may not be operated until the tagout device is removed; and
Ensuring that:

- Tagout provides equivalent protection to lockout; or
- That lockout is infeasible and the employer has relieved, disconnected, restrained and otherwise rendered safe, stored (residual) energy.

Vendor: A non-company employee being paid to perform a service in our facility.

Ventilate or ventilation: Controlling a hazardous atmosphere using continuous forced-air mechanical systems that meet the requirements of the Safety and Health Regulations for Construction (29 CFR 1926.57).

Procedures

Space Evaluation
A qualified person will identify all permit-required confined spaces in our facility (see Appendix A). We will continue to evaluate all new equipment and process changes to ensure that no additional permit-required spaces are created.

Space Marking
All permit-required confined spaces will be conspicuously marked with a warning sign at each potential entry point. The sign will indicate "DANGER: PERMIT–REQUIRED CONFINED SPACE, DO NOT ENTER" or use other similar language.

Written Program Availability
We will maintain and update this written program. In addition to any copy received during training, employees and their representatives can request access to this program for review.

Non-permit-required Confined Spaces
This program does not regulate entry into confined spaces that do not require a permit. However, employees are always required to evaluate the potential hazards of all jobs prior to beginning work. Employees should discuss with their supervisors or program administration any questions or concerns that arise during an evaluation.

Permit-required Confined Space Entry

Preparation of the Space
An entry supervisor will be assigned to complete the permit (see Appendix B)
The following steps will be completed and checked off as applicable on the permit:

- All connecting lines, ducts and pipes connected to chemical, gas and utility sources will be broken and capped or blanked;
- Heating devices (e.g. jackets, coils, mantels, etc.) will be rendered safe either through line breaking/blanking or electrical lockout/tagout;
- All mechanical, hydraulic and electrical hazards (e.g. agitators, machine drives, electrical lines, etc.) will be controlled as required by lockout/tagout standards;
- The space will be rinsed and/or dried if there is a buildup of hazardous or slippery material on the walls of the space;
- The space will be cooled down to a temperature of 110 degrees Fahrenheit or lower;
- Safe access to the space will be provided;
- Any open entrances will be appropriately blocked to prevent accidental entry;
- Adequate lighting will be provided either through low voltage lighting or through 110 Volt plugged into a Ground Fault Circuit Interrupter (GFCI);
- The space will be metered, in the order listed, to determine concentration levels of oxygen, flammable substances, combustible dust, toxic and other atmospheric conditions that are immediately dangerous to life or health. For vertical entries, the retrieval system will be set up at the entry point.

Permit Completion
The permit will be completed by the entry supervisor (See Appendix B).
All information requested on the permit will completed by the entry supervisor and not applicable (NA) items will also be accounted for.
The time of permit issuance will always be written in. Permits are valid for up to eight hours. If the job runs past eight hours, a new permit will be issued.
Expired permits will be returned to the program administrator.

Personnel Preparation
The entry employer will ensure that workers performing tasks outside the space do not introduce hazards into a confined space. This includes coordinating with contractors and any other employers that may work around the permit space.
The company will assign an entrant(s) and attendant(s) for confined space work. Entrants and attendants must review their respective duties and responsibilities. All personnel involved with the entry and their representative can observe all aspects of the preparation.

Proper PPE will be selected and obtained for the entrant. The rescue service team and a stand-by team will also have access to an adequate supply of the required PPE.
Communication methods will be selected based on the size, location and characteristics of the space.
The entry supervisor will brief the entrant(s) and attendant(s) on all aspects of the job.
At any time, the entry supervisor, the entrant or the attendant can cancel the permit and cause the entry to be either postponed or stopped due to a safety concern.

Entry
All required equipment for entry, including communication equipment, lighting, access equipment, safety and rescue equipment, as well as the tools needed to accomplish the job, will be available at the entrance.
Continuous space atmosphere and non-isolated engulfment monitoring will be established either by the attendant or by the entrant.
The attendant will stay in the immediate area of the entrance to the space, and he or she will stay in contact with the entrant until the entrant exits the confined space.
The entry supervisor will formally approve the entry to begin. At any time during the job, the entry supervisor, entrant or the attendant can cancel the permit and cause the entry to be either postponed or stopped due to safety concerns.
The attendant will document meter readings at intervals decided by the entry supervisor. Intervals cannot be longer than one hour. When testing for atmospheric hazards, test first for oxygen, then for combustible gases and vapors, and then for toxic gases and vapors.
The attendant will immediately inform the entrant of any exterior condition that could affect the entrant's safety (e.g. fire alarm, severe weather, etc.).
An entry permit may be suspended or cancelled and the space reassessed before allowing reentry when a condition that is not allowed under the entry permit arises in or near the permit space. The condition in question must be temporary and must not change the configuration of the space or create any new hazards in it.

TCI Companies shall provide for 'permit required' at least one attendant outside the permit space into which entry is authorized for the duration of entry operations. If multiple spaces are to be assigned to a single attendant, TCI will include in the permit program the means and procedures to enable the attendant to respond to an emergency.

TCI Companies shall include the 'permit required' requirements to review entry operations.
(a) When the measures taken under the permit space program may not protect employees, and revise the program to correct deficiencies found to exist before subsequent entries are authorized. {Examples of circumstances requiring the review of the permit space program include, but are not limited to: Any unauthorized entry of a permit space, the detection of a permit space hazard not covered by the permit, the detection of a condition prohibited by the permit, the occurrence of an injury or near miss during entry, a change in the use or configuration of a permit space, and employee complaints about the effectiveness of the program};
b) and to review the permit space program, using the canceled permits within 1 year after each entry. {Employers may perform a single annual review covering all entries performed during a 12-month period. If no entry is performed during a 12-month period, no review is necessary})

TCI Companies states that before 'permit required' entry is authorized, each entry employer must document the completion of measures for safe entry. (Make it available at the time of entry to all authorized entrants by posting it at the entry portal or by any other equally effective means. The permit may not exceed the time required. The permit shall be cancelled when the entry operations is completed; suspended or cancelled when conditions dictate. The permit must be fully reassessed before allowing re-entry. TCI Companies must retain each canceled entry permit for at least 1 year to facilitate the review of the permit-required confined space program.{Employers may perform a single annual review covering all entries performed during a 12-month period. If no entry is performed during a 12-month period, no review is necessary})

Content of "Permit Required" Entry Permit
(a) Space to be entered; b) purpose of the entry; c) date and the authorized duration; d) names of authorized entrants; e) means of detecting an increase in atmospheric hazard levels in the event the ventilation system stops working; f) names of entry attendants; g) name & signature of entry supervisor; h) hazards of the permit space to be entered; i) measures used to isolate the permit space and to eliminate or control permit space hazards before entry; j) acceptable entry conditions; k) results of tests and monitoring performed {names or initials of the testers and by an indication of when the tests were performed}; l) rescue and emergency services that can be summoned and the means {such as the equipment to use and the numbers to call}; m) communication procedures used by authorized entrants and attendants to maintain contact during the entry; n) Equipment, such as personal protective equipment, testing equipment, communications equipment, alarm systems, and rescue equipment, to be provided; o) any additional permits, such as for hot work, that have been issued to authorize work in the permit space.)

Entry Completion

The entry permit must be closed out by listing the time of exit and any other pertinent information.
Barriers to entry must be replaced.
All broken, capped or blanked lines, ducts and pipes connected to chemical, gas and utility sources will be re-attached or reconnected.
Lockouts/tagouts will be released.
Disconnected hydraulic, mechanical and electrical equipment will be reattached.
Operating personnel for the space will be notified that it can be returned to production (if applicable).
All safety and entry equipment will be cleaned and returned to storage locations.
The cancelled permit will be returned to the program administrator.

Duties of Personnel

Entry Supervisor

The entry supervisor will:
Know and understand the hazards that may be faced during entry, including information on the signs or symptoms and consequences of the exposure.
Verify that:

- Appropriate notations have been made on the permit;
- All tests specified by the permit have been conducted; and
- All procedures and equipment specified by the permit are in place before endorsing the permit and allowing entry to begin.

Terminate the entry and cancel the permit when reasons for entering the space have been completed or when an unacceptable condition within the space or outside the space is detected.
Verify that rescue services are available and that the means of calling the rescue service are operational. The entry supervisor will ensure that the attendant knows the method for summoning help if rescue is required.
Remove unauthorized individuals who enter or attempt to enter the permit space during entry operations.
Ensure that entry operations remain consistent with terms of the entry permit and that acceptable entry conditions are maintained whenever responsibility for a permit-space entry operation is transferred and at intervals dictated by the hazards and operations performed within the space.

Entrant

All entrants must:
Know how to identify the hazards they may be exposed to during entry, including information on the mode, signs or symptoms, and consequences of the exposure.
Know how to use any equipment that is provided to them for their protection or their work.
Be familiar with the means and methods of communication so that the attendant can properly monitor their work and so the attendant can deliver evacuation warnings.
Alert the attendant whenever they recognize warning signs or symptoms of exposure to a dangerous situation or whenever they detect a condition that would warrant immediate evacuation.
Exit from the permit space as quickly as possible whenever:

- An order to evacuate is given by the attendant or the entry supervisor;
- The entrant recognizes any warning sign or symptom of exposure to a dangerous situation;
- The entrant detects a prohibited condition; or
- An evacuation alarm is activated.

Attendant

All attendants will:
Know the hazards that may be faced during entry or while in the space, including information on the mode, signs or symptoms, and consequences of the exposure to suspected hazards.
Be aware of possible behavioral effects of hazard exposure in authorized entrants.
Continuously maintain an accurate count of authorized entrants in the permit space and ensure that the means used to identify authorized entrants is precise at all times.

Remain outside the permit space during entry operations until all entrants exit and the operation is closed or they are relieved by other authorized attendants. *Note: When the employer's permit entry program allows attendant entry for rescue, attendants may enter a permit space to attempt a rescue if they have been trained and equipped for rescue operations.*
Communicate with authorized entrants as necessary to monitor entrant status and to alert entrants of the need to evacuate the space when conditions warrant an immediate evacuation.
Monitor activities inside and outside the space to determine if it is safe for entrants to remain in the space.
Order authorized entrants to evacuate the permit space immediately if:

- The attendant detects a hazardous condition;
- The attendant detects a change in the behavior of any authorized entrant which would suggest an exposure to a hazard;
- The attendant detects a situation outside the space that could endanger the authorized entrants; or
- The attendant cannot effectively and safely perform all the duties required as outlined in this policy;

Summon rescue and other emergency services if the attendant determines that authorized entrants may need assistance to escape from permit-space hazards. Employers who rely on local emergency services will arrange for responders to give the employer advance notice if they will be unable to respond for a period of time.
Do the following when unauthorized persons approach or enter a permit space while entry is underway:

- Warn unauthorized persons that they must stay away from the permit space;
- Advise the unauthorized persons that they must exit immediately if they have entered the permit space; or
- Inform the authorized entrants and the entry supervisor.

Perform non-entry rescue (rescue attempts that do not cause the attendant to break the plane of the entry to the space) when it is determined a rescue of entrants is required.
Perform no duties that might interfere with the attendant's primary duty to monitor and protect the authorized entrants.

Rescue Service:
Our facility has made arrangements with: [ENTER EMERGENCY SERVICE FOR PERMIT-REQUIRED CONFINED SPACE ENTRY] _____ to provide entry rescue service.
We will meet with the rescue service and review the following:
Our list of Permit-required Confined Spaces;
The hazards of the spaces;
Procedures for entry;
Equipment available on-site; and
Our training program.

Evaluation, and selection of external rescue and emergency services, and/or the training of an in-house rescue team.
(An employer who designates rescue and emergency services must: a) Evaluate a prospective rescuer's ability to respond to a rescue summons in a timely manner, considering the hazard(s) identified; b) Evaluate a prospective rescue service's ability, in terms of proficiency with rescue-related tasks and equipment, to function appropriately while rescuing entrants from the particular permit space or types of permit spaces identified; c) Select a rescue team or service from those evaluated that: Has the capability to reach the victim(s) within a time frame that is appropriate for the permit space hazard(s) identified; d) is equipped for, and proficient in, performing the needed rescue services; e) Agrees to notify the employer immediately in the event that the rescue service becomes unavailable; f) Inform each rescue team or service of the hazards they may confront when called on to perform rescue at the site; g) Provide the rescue team or service selected with access to all permit spaces from which rescue may be necessary so that the rescue team or service can develop appropriate rescue plans and practice rescue operations. Program shall address An employer whose employees have been designated to provide permit space rescue and/or emergency services must take the following measures and provide all equipment and training at no cost to those employees: a) Provide each affected employee with the personal protective equipment (PPE) needed to conduct permit space rescues safely and train each affected employee so the employee is proficient in the use of that PPE; b) Train each affected employee to perform assigned rescue duties. The employer must ensure that such employees successfully complete the training required and establish proficiency as authorized entrants, train each affected employee in basic first aid and cardiopulmonary resuscitation (CPR). The employer must ensure that at least one member of the rescue team or service holding a current certification in basic first aid and CPR is available; c) Ensure that affected employees practice making permit space rescues before attempting an actual rescue, and at least once every 12 months, by means of simulated rescue operations or rescue of actual persons from entry spaces.) [

This portion does not apply: the work we perform does not apply to confined spaces

Contractors

Any contractor who is engaged in a permit-required confined space entry must, at a minimum, follow this procedure. Whenever a contractor is involved in a permit-required confined space entry, a written plan for the entry will be submitted to the program administrator before performing scheduled work. The program administrator, or a designated employee who has been trained as an entry supervisor, will approve the contractor's written plans.

Training

Training will be provided for all attendants, entrants or entry supervisors at the following times:
Before the employee is assigned duties relating to permit-required confined space entry;
Before the employee's assigned duties change;
Whenever there is a change in operations that presents a hazard that the employee has not been trained on previously; or
Whenever there is an indication that the procedure is not being followed safely and/or when there are indications that employee practices or knowledge do not meet the requirements.
Training will be provided in a language and vocabulary that the employee can understand. All training will be certified in writing with the employee's name, the signature or initials of the trainer, and the date of training, in addition to an outline of materials presented. The certification will be available for inspection by employees and their authorized representatives.

Alternate Procedures

Under certain circumstances, OSHA's Confined Spaces in Construction Standard allows employers to adopt procedures for work in confined spaces that are different than those explained in this program. An overview of these procedures can be found in Appendix C.

Reclassification of Permit-required Spaces

Permit-required confined spaces can be reclassified as non-permit-required spaces as described below:
If the permit space poses no actual or potential atmospheric hazards and if all hazards within the space are eliminated without entry into the space, then the permit space may be reclassified as a non-permit-required space for as long as the non-atmospheric hazards are eliminated.
The program administrator, using properly calibrated direct-reading instrumentation, will test for oxygen content, flammable gases and vapors, and potential toxic air contaminants. Readings will be taken in the order listed in this paragraph. Acceptable readings include:
Oxygen content: between 19.5 and 23.5 percent;
Flammable gases/vapors: below 10 percent of the lower flammable limit; and
Toxic air contaminants: levels below any air conditions defined as a "hazardous atmosphere" by this policy.
Testing will be done from the exterior of the entrance to the space. At no time will any portion of an employee's body break the plane of the entrance to the space to conduct atmospheric testing. If entry into the space is required to conduct testing or eliminate hazards, entry will be done in accordance with permit-space entry procedures outlined in this policy.
If, after testing is complete, it is determined there are no atmospheric hazards or any other hazards that could potentially cause injury or harm, the space can be reclassified as a non-permit-required space and eliminated from the permit-space entry procedures. The atmosphere will be monitored continuously during the entry. This reclassification may remain in force as long as atmospheric hazards are not present.

First Aid/ CPR Program

This procedure is developed in accordance with provisions as outlined in OSHA standard 29 CFR 1910.151 (First Aid Standard).

Purpose
This policy establishes training and operational procedures that will be followed at TCI Companies, Inc. to ensure prompt and knowledgeable treatment of injured employees, which will prevent minor injuries from becoming severe.

Scope
This policy applies to all TCI Companies, Inc. employees and all visitors or vendors.

Responsibilities
The following responsibilities apply to various levels within the company.

Senior management will:
Require the full application and integration of this policy into daily operations, as applicable, in all areas of responsibility and with all direct reports.
Assess managers and supervisors on their ability to apply this policy in their areas of responsibility.

The Safety Administrator will administer all aspects of this policy to include:
Maintaining and updating the written program as required.
Coordinating necessary training for all affected employees.
Providing necessary technical assistance to managers and supervisors.
Periodically assessing the effectiveness of this program and its implementation in all affected areas of the company.

Managers and supervisors will:
Know how this policy applies to their areas, and know which employees are trained to be first responders and when they require retraining.
Decide where it is necessary and appropriate to place first aid kits in their areas and ensure that the kits are restocked after use.
Integrate and enforce the provisions of this policy in their areas of responsibility.
Periodically audit the effectiveness of this policy in their areas of responsibility.
Coordinate training for all affected employees, including those that will become first responders.
Provide appropriate coaching and corrective action when necessary to ensure this policy is fully integrated.

All affected employees will:
Seek care when injured and report all work-related injuries to their supervisor. If hosting a guest of TCI Companies, Inc., they will similarly report a guest injury.
Follow all training, instructions and directives relative to this policy.
Seek clarification whenever there are questions concerning the application of this policy into daily operations.

Policy Evaluations and Updates
It is our goal to maintain a safety program that is understandable, effective and one that promotes a safe work environment. Any employee can make recommendations for improvement to this program or any other aspect of our safety system. These suggestions should be directed to any member of management, any safety committee member or to the safety administrator.

As a matter of policy, this program will be reviewed on an annual basis by the safety administrator to determine if all aspects still meet the needs of this organization. If there are significant events that take place during the year that indicate the program is less than effective, an immediate evaluation will be conducted and appropriate steps taken to increase the reliability of this plan.

Date of Review	Name of Reviewer	Changes Required Yes or No	Current Revision Number

Definitions

The following definitions help clarify words or phrases found in this policy:

Emergency: An unplanned event that could jeopardize the safety of people or property in our facility. An emergency can originate on our site or off-site, and it has an impact on either the people within our facility or property.

First Aid: Emergency care provided for injury or sudden illness before emergency medical treatment is available.

First Aid Injury: An injury that can be adequately treated using topical wound cleaning, topical medications, ice, heat, nonprescription medications (at nonprescription strength), temporary splinting during transport, simple splinter removal or blister drainage, tetanus immunization, adhesive bandages or wound closures, non-rigid splints, irrigation for a foreign body and the use of eye patches or finger guards.

First Aid Kit: Medical supplies suitable for the provision of basic first aid.

First Responder: Employee of TCI Companies, Inc. who has undergone first aid training and has been certified to administer first aid in the event of a medical emergency.

Emergency Medical Treatment: Treatment by a physician or other licensed health care professional, or treatment using prescription-strength medications. Immunizations besides tetanus, such as hepatitis B or rabies, are considered medical treatment.

Procedure

Overview

In many cases, prompt and knowledgeable treatment of injured employees prevents minor injuries from becoming major. TCI Companies, Inc. will train personnel in basic first aid and bloodborne pathogens exposure. Only these trained individuals will respond to medical problems or medical emergencies.

Injured Employees

Any employee injured on the job should immediately seek care and report their injury to a supervisor.

Co-Workers of Injured Employees

Treatment and supplies can be administered only by designated, trained personnel. All incidents must be properly documented. You will find the following information listed:

Names and departments of first aid workers
Name and telephone number of company physician
Name and telephone number of nearest hospital and ambulance service

If a co-worker is trained as a first responder, it is permissible to provide care using the nearest first aid kit. If untrained or uncomfortable providing care, co-workers should help locate another first responder on the premises. Co-workers may consider assisting the injured employee in getting transportation, seeking help or notifying management. When in doubt, co-workers should contact supervisors, first responders and emergency medical care.

First Aid Supplies

First aid supplies should be monitored and restocked on a periodic basis. (SPECIFY NAME OF POSITION) will be responsible for choosing types and amounts of first-aid supplies and maintaining those supplies. The supplies will be adequate and will reflect the most common injuries in the facility. First aid cabinets or kits will be maintained in accessible places in all parts of the facility. They will be regularly stocked and monitored to ensure availability in the event of an emergency.

Emergency Eyewash Stations and Emergency Showers

Exposure to chemicals may happen even with good engineering controls and personal protective equipment (PPE) programs in place. To protect workers from serious injury, TCI Companies, Inc. has installed emergency eyewash stations and emergency showers in the following locations:
(Work areas and operations that may require eyewash stations include battery charging areas, laboratories, high dust areas, spraying operations, dipping operations and hazardous substance dispensing areas. Employees should reach equipment in less than 10 seconds.)

The first 10 to 15 seconds after you are exposed to corrosive substances or hazardous chemicals are the most important for preventing serious injuries. Emergency eyewash stations and emergency showers provide on-the-spot drenching facilities to allow workers to immediately wash away hazardous substances that might otherwise cause serious injury. Follow these guidelines to ensure that you receive the most protection possible from serious injury.

Quickly remove contact lenses before using the eyewash station.
Emergency showers and eyewashes should be used for a minimum of 15 minutes.
If possible, notify a supervisor immediately.

All employees will receive training on the proper operation and location of the emergency eyewash stations and emergency showers at TCI Companies, Inc.

Transportation by Car

There may be cases in which injured employees needing professional medical attention can be transported to the hospital or medical facility by car. However, in other cases, transportation by ambulance may be necessary. If there is any doubt about the appropriate mode of transportation, an employee must call an ambulance. The following are some examples of conditions that necessitate an ambulance:

- Employee is unconscious or in shock
- Hemorrhaging
- Severe abdominal cramps and/or vomiting
- An apparent fracture
- Other symptoms of internal injury
- Animal Bites

Due to the possibility of rabies, all animal bites must receive prompt medical attention by a physician. In the event of a bite, every attempt to confine the animal should be made.

Cell Phone Use

If the need for emergency medical services arises, personnel with cell phones may use them to call for assistance.

Medical Emergency

In the event of a medical emergency, the following actions will be taken:
Notify a member of management who will initiate the 911 notification system
Evaluate scene safety – if there is any concern, all personnel should stay at a safe distance away from the scene
Do not move the ill/injured person (unless s/he is in danger from their surroundings)
Avoid all contact with blood and other bodily fluids
Never attempt to provide first aid unless you are trained and equipped to do so
A calm employee may stay with the ill/injured person to provide comfort
The supervisor will assign at least two employees to wait for the EMS responders at the parking lot entrance and guide the responders to the scene of the emergency
All uninvolved personnel should clear the area
If there has been any blood or bodily fluid release, trained personnel will clean and sanitize the area after the emergency phase has concluded

Training

First aid training will be administered by American Red Cross. Personnel designated to respond to medical problems or emergencies will receive training and periodic refresher courses (at least annually) in the following areas:

Preparing to Respond to a Health Emergency
Prevention as a strategy in reducing fatalities, illnesses and injuries
Interacting with the local EMS system
Maintaining a current list of emergency telephone numbers (police, fire, ambulance, poison control, etc.) accessible to all employees
Understanding legal aspects of providing first-aid care, including good samaritan legislation, consent, abandonment, negligence, assault and battery, state laws and regulations
Understanding the effects of stress, fear of infection or panic, how they interfere with performance and what to do to overcome them
Learning the importance of universal precautions and body substance isolation to provide protection from bloodborne pathogens and other potentially infectious materials
Learning how to properly use PPE, including gloves, eye protection, masks and respiratory barrier devices
Learning proper management and disposal of blood-contaminated sharps and surfaces

Assessing the Scene and Victim(s)
Assessing the scene for safety, number of injured individuals and nature of the event
Assessing the toxic potential of the environment and need for respiratory protection
Establishing when a confined space necessitates respiratory protection or special training to perform a rescue
Prioritizing care when there are several injured
Assessing each victim for responsiveness, airway blockage, breathing, circulation and medical alert tags
Taking a victim's history at the scene, including determining the mechanism of injury
Performing a logical head-to-toe check for injuries
Stressing the need to continuously monitor the victim
Emphasizing early activation of EMS
Indications for and methods

Responding to Life-Threatening Emergencies
Establishing responsiveness
Establishing and maintaining an open and clear airway
Performing rescue breathing
Treating airway obstruction in a conscious victim
Performing CPR
Using an AED
Recognizing the signs and symptoms of shock and providing first aid for shock due to illness or injury
Assessing and treating a victim who has an unexplained change in level of consciousness or sudden illness
Controlling bleeding with direct pressure

Poisoning
Ingested poisons: alkali, acid and systemic poisons and the role of the Poison Control Center (800-222-1222)
Inhaled poisons: carbon monoxide, hydrogen sulfide, smoke, chemical fumes, vapors and gases
Knowledge of the chemicals at the worksite and of first aid and treatment for inhalation or ingestion
Effects of alcohol and illicit drugs so the provider can recognize the physiologic and behavioral effects of these substances

Recognizing asphyxiation and the danger of entering a confined space without appropriate respiratory protection
Responding to Medical Emergencies

Chest pain
Stroke
Breathing problems
Anaphylactic reaction
Hypoglycemia in diabetics taking insulin
Seizures
Pregnancy complications
Abdominal injury
Reduced level of consciousness
Impaled object

Responding to Non-Life-Threatening Emergencies

Wounds
- Assessment and first aid for abrasions, cuts, lacerations, punctures avulsions, amputations and crush injuries
- Principles of wound care, including infection precautions
- Principles of body substance isolation, universal precautions and use of PPE

Burns
- Assessing the severity of a burn
- Recognizing whether a burn is thermal, electrical or chemical and administering the appropriate first aid
- Reviewing corrosive chemicals at a specific worksite along with administering appropriate first aid

Extreme Temperatures
- Exposure to cold, including frostbite and hypothermia
- Exposure to heat, including heat cramps, heat exhaustion and heat stroke

Musculoskeletal Injuries
- Fractures
- Sprains, strains, contusions and cramps
- Head, neck, back and spinal injuries
- Appropriate handling of amputated body parts

Eye injuries
- First aid for eye injuries
- First aid for chemical burns

Mouth and Teeth Injuries
- Oral injuries, lip and tongue injuries, broken and missing teeth
- The importance of preventing aspiration of blood and/or teeth

Bites and Stings
- Human and animal bites
- Bites and stings from insects, instruction in first-aid treatment of anaphylactic shock

Evaluation

Employees undergoing the first aid training must pass written and practical tests before receiving certification as a First Responder.

Frequency of Training

At a minimum, training will be conducted:
Upon hire
When this plan changes
When employee duties change

Training for Non-First Responders

Training will consist of:
Methods of alerting employees of an emergency
Employee duties upon discovering an emergency
Evacuation routes and evacuation locations
Procedures to be followed upon notification of emergency
Special critical operations duties assigned to employees
Operation and location of eyewash stations and emergency showers

Recordkeeping

Some medical emergency procedures may be considered “medical treatment” for OSHA recordkeeping purposes. The OSHA Recording and Reporting Occupational Injuries and Illnesses regulation (29 CFR 1904) requires that if any procedure considered to be medical treatment is performed on an employee with an occupational injury or illness, then the injury or illness will be regarded as recordable on the OSHA 300 Log.

Each injury or illness that requires the administration of first aid by a first responder will be fully documented and investigated so as to prevent future incidents of a similar nature.

Hazard Communication Program

Reference Standard
Occupational Safety and Health Administration: 29 CFR 1910.1200, Subpart Z - Hazard Communication

Purpose
This procedure establishes minimum requirements for the following:
Identification and labeling of hazardous chemicals.
Employee access to hazardous chemical information.
Training required to prevent injury or illness due to hazardous chemical exposure.

Scope
This procedure applies to all of our company employees, all contractors and vendors performing work on company property, as well as all other individuals who are visiting or have business with our company.

Responsibilities
Management is responsible for identifying hazardous substances and for maintaining this program. Management will review this procedure at least annually and when new hazardous substances are introduced.
Management and supervisors are responsible for the implementation and enforcement of this program.
Employees must comply with all procedures outlined in this policy.
Contractors and vendors shall comply with all procedures outlined in this policy.

Definitions

Article: A manufactured item other than a fluid or particle:
Which is formed to a specific shape or design during manufacture;
Which has end use function(s) dependent in whole or in part upon its shape or design during end use; and
Which under normal conditions of use does not release more than very small quantities (for example: minute trace amounts of a hazardous chemical and does not pose a physical or health risk to employees).

Chemical: any element, chemical compound or mixture of elements and/or compounds.

Container: any bag, barrel, bottle, box, can, cylinder, drum, reaction vessel, storage tank, or the like that contains a hazardous chemical. Pipes or piping systems, and engines, fuel tanks, or other operating systems in a vehicle, are not considered to be containers.

Contractor: A non-company employee being paid to perform work in our facility.

Hazardous Chemical: a chemical that is a physical or a health hazard.

Health Hazard: A chemical that is carcinogenic, toxic, a reproductive hazard, an irritant, a corrosive, a sensitizer, or damages anybody system or part.

Safety Data Sheet (SDS): An SDS is a written document prepared by the chemical manufacturer or supplier that details the contents, hazards, proper use directives and emergency response protocol for a hazardous chemical.

Physical Hazard: A chemical which is a combustible liquid, a compressed gas, explosive, flammable, organic peroxide, oxidizer, pyrophoric, unstable, or water reactive.

Vendor: A non-company employee performing a service in our facility.

Program Application
This program will be applicable to all chemicals that exhibit or could exhibit health hazards or physical hazards under normal operating conditions or during emergencies. However, the following materials are exempt from this program:
Consumer products when used in the workplace in a duration and frequency that is not greater than that experienced by a regular consumer;

Articles (see Definition above);
Any drug, as that term is defined in the Federal Food, Drug, and Cosmetic Act, when it is in solid, final form for direct administration to the patient (for example, tablets or pills); drugs which are packaged by the chemical manufacturer for sale to consumers in a retail establishment (such as over-the-counter drugs); and drugs intended for personal consumption by employees while in the workplace (for example, first aid supplies);
Cosmetics which are packaged for sale to consumers in a retail establishment, and cosmetics intended for personal consumption by employees while in the workplace;
Wood or wood products that will not be processed (wood treated with hazardous chemicals, or that will be processed generating dust are not exempt);
Food and alcoholic beverages in retail establishments and food that will be consumed in the workplace; and
Tobacco and tobacco products.

Procedures

Material Ordering and Hazard Determination

Any employee wishing to introduce a new chemical into the facility must obtain an SDS and submit the SDS to the program administrator prior to ordering the chemical. The program administrator will evaluate all new or replacement chemicals to determine if the chemical presents health hazards for our employees or to our facility.
If the program administrator determines that the new chemical cannot be handled safely, the chemical will not be ordered. Information on new chemicals, or new information pertaining to chemicals that are currently used, will be communicated to affected employees by the program administrator. Every effort will be made to select chemicals that are not hazardous or that present the minimum degree of hazard commensurate with necessary chemical capability.

Hazardous Chemical List

A list of hazardous chemicals currently used within the facility will be maintained by the program administrator (see Appendix A for the Hazardous Chemical Inventory). As new chemicals are purchased, the necessary information will be added to the Inventory. Obsolete chemicals will be removed from the List.

Safety Data Sheets

A SDS will be maintained for all hazardous chemicals, including those purchased at retail locations. The SDS will be available to all employees on all shifts. If our plant decides to use electronic means to maintain the SDS file, employee availability will be assured including at all times including during power failures.
The program administrator will contact the chemical supplier or manufacturer and request an SDS for chemicals held in quarantine or refused by receiving.
The SDS file and Hazardous Chemical List will be maintained in the following location(s):
[Add locations here]
Obsolete SDS will be removed from the active file and will be maintained in a separate file by the program administrator for 30 years.

Labels and Other Hazard Warnings

All containers containing hazardous chemicals will be labeled with the following information:

- Product Identifier: The chemical’s name and a list of the substance(s) it contains.
- Supplier Information: Name, address and phone number of the chemical’s manufacturer or supplier.
- Pictogram: A symbol inside a diamond with a red border, denoting a particular hazard class.
- Precautionary Statement: One or more phrases that describe recommended measures to be taken to minimize or prevent adverse effects resulting from exposure to a hazardous chemical or improper storage or handling of a hazardous chemical.
- Signal words: A single word used to indicate the relative level of severity of the hazard and alert the reader to a potential hazard on the label. The signal words used are "danger" and "warning." "Danger" is used for the more severe hazards, while "warning" is used for less severe hazards.
- Hazard Statement: A phrase assigned to each hazard category; examples include “harmful if swallowed,” “highly flammable liquid and vapor,” etc.

Solid metal, wood and plastic not exempted as articles, as well as grain will not be labeled but will have label information available within the SDS.

All incoming hazardous chemicals containers will be inspected by receiving personnel. Containers that are not properly labeled will be labeled by the receiving personnel. Containers with hazardous contents that are not listed on the Hazardous Chemical List will be refused or will be placed in quarantine and the program administrator notified immediately.
The program administrator must approve all labels used within our facility. Each departmental supervisor is responsible for insuring that all hazardous chemical containers, including containers that are refillable from bulk containers, are labeled properly and that the label is visible. Stationary tanks, reservoirs and sumps containing hazardous chemicals will also be labeled.
Labels will not be removed or covered over.

Training

Training as outlined below will be provided at the following times:
At time of initial assignment;
Whenever a new hazardous chemical is introduced, or when the hazard information regarding a currently used chemical changes or when the program elements change; and
Whenever the program administrator or other management members determine through observation that retraining would be beneficial.
Training will consist of a(n):
Overview of this program;
Review of operations where hazardous chemicals are present;
Location of the written hazard communication program, hazardous chemical list and SDS file;
Methods and observations used to detect the presence or release of hazardous chemicals;
Physical and health hazards of chemicals in the work area (Note: we will present categories of hazards and advise employees to review labels and SDS for chemical specific information);
Measures that employees are required to take to protect themselves from hazards including: procedures, work practices, emergency procedures and personal protective equipment requirements; and
Explanation of the labeling system and how to read an SDS so that this information can be used appropriately by all personnel.

Communication to Non-English Speaking Employees

TCI Companies will make sure that hazard procedures and warnings are properly relayed to non-English speaking employees through the use of translated handbooks, words, pictures, symbols, signage etc. when needed.

Non-Routine Tasks

Whenever a non-routine job involving work with hazardous chemicals is required, special training will be provided for all affected employees prior to the job. The training will include:
Hazardous chemicals to be used in the non-routine task;
Protective measure required to perform the work safely;
Emergency procedures; and
An opportunity to ask questions or ask for additional information

Contractors

Contractors who will bring hazardous chemicals into our facility must:
Provide the program administrator with a list and an SDS for each hazardous chemical that will be used in our facility;
Maintain a copy of the SDS for each approved chemical on site;
Not bring chemicals into our facility unless approved by the program administrator; and
Comply with all provisions of the Hazard Communication Standard that is applicable to their company.
Our Company reserves the right to refuse the use of chemicals based upon our evaluation. We also reserve the right to terminate the use of chemicals at any time based upon variable conditions within our facility.
Contractors will be provided the following information whenever their work location could bring them into contact with our hazardous chemicals.
The hazardous chemicals that they may be exposed to while performing the specified work and how to obtain a copy of appropriate SDS
Necessary job precautions to work safely within the proximity of the chemicals involved.

Revision History Record:

Revision Number	Section	Revised By	Description
0	NA	NA	Original document.

Noise Exposure / Hearing Conservation Program

Reference Standard
Occupational Safety and Health Administration, Subpart G:
29 CFR 1910. 95, Occupational Noise Exposure

Purpose
This procedure establishes minimum requirements to evaluate noise exposure in the facility and to protect personnel from noise induced hearing loss.

Scope
This procedure applies to all of our company employees, all contractors and vendors performing work on company property, and all other individuals who are visiting or have business with our company.

Responsibilities
Management is responsible for development and review of this program. Management is also responsible for appropriate employee training.

Management and supervisors are responsible for enforcement of this program.

Employees shall comply with all procedures outlined in this policy.

Contractors and vendors shall comply with all procedures outlined in this policy.

Definitions

Action Level: The action level for noise exposure is: 85 dBA for an 8 hour Time Weighted Average (TWA)

Audiogram: A screening test to determine hearing acuity through administration of air conduction tones transmitted through head phones.

Baseline Audiogram: The initial audiogram taken upon hire or assignment to a noisy area.

Contractor: A non-company employee being paid to perform work in our facility.

Decibel: Abbreviated dB-a measure of sound pressure or loudness. For purposes of OSHA compliance noise is measured in DBA (decibels on the A scale, Slow response)

Dosimeter: An electronic device that converts sound pressure into an electronic signal that is stored for future evaluation. All continuous, intermittent and impulse sound between 80 and 130 decibels will be integrated into the readings.

Noise: Unwanted sound.

Sound Level Meter (SLM): An SLM is a device that is capable of giving a direct, instantaneous reading of the sound pressure or loudness. The SLM can also record the highest impulse noise that has occurred. The SLM has three scales: A, B and C, and a Fast and Slow Response capability.
Standard Threshold Shift: A permanent change in hearing (worsening) found when comparing an annual audiogram with a baseline audiogram.

Vendor: A non-company employee being paid to perform a service in our facility.

Procedure

Noise Exposure

Whenever feasible, noise exposure exceeding that listed below will be controlled by engineering or administrative means. When it is impractical to use engineering or administrative controls a hearing conservation program will be implemented.

Duration per day, Hours	Sound Level (dBA, slow response
8	90
6	92
4	95
3	97
2	100
1.5	102
1	105
0.5	110
0.25	115

Monitoring

Whenever information indicates that noise exposure may be at or above 85 dBA, in an area or department monitoring will be performed utilizing either a Sound Level Meter or a Dosimeter.

All instruments used for noise monitoring will be calibrated before and after use and a record maintained of the calibrations and readings derived through monitoring.

Whenever readings are taken for OSHA compliance purposes the meter or dosimeter will be set to the A scale, Slow response.

Monitoring will be repeated whenever a change in production, process, equipment or controls increases, or could increase exposure.

Employees (or their representatives) will be allowed to observe monitoring. Employees who have an 8 hour TWA of 85 dBA or greater will be notified of the results of the monitoring in writing.

Hearing Conservation Program

All employees who are exposed to noise level of 85dBA or greater 8 hour TWA, will be required to participate in the hearing conservation program. This program will consist of:

- -Audiometric testing
- -Mandatory hearing protection*
- -Training

* Our facility has decided to mandate the use of hearing protection at 85dB rather than the OSHA requirement of 90dB

Audiometric Testing

Audiograms will contain the following information or the information will be readily accessible and linked to the audiogram:

- -Name and job classification of the individual
- -Date of the audiogram
- -The examiner's name
- -Date of the last acoustical or exhaustive calibration of the audiometer
- -Employee's most recent noise exposure assessment
- -The background sound pressure levels in the audiometric test room/booth

Baseline Audiogram:
-A baseline audiogram will be obtained as soon as possible, within the first six months after employment or assignment to an area with noise exposure at or above a Time Weighted Average of 85 dBA. If a mobile test van is used, the baseline audiogram will be completed within one year of employment or initial assignment to a noise exposure area.
-At least 14 hours without workplace exposure will precede the baseline audiogram. Hearing protectors can be required to be used as a substitute for 14 hours without exposure. Employees will also be notified to stay away from significant non-occupational noise for 14 hours.

Annual Audiograms
-Annual audiograms will be provided for all employees who are exposed to noise at or above a Time Weighted Average of 85 dBA.

Standard Threshold Shift (STS)
-The annual audiogram will be compared to the baseline audiogram to determine if a standard threshold shift has occurred. A standard threshold shift is defined as a change in hearing threshold of an average of 10 dB at 2000, 3000 or 4000 Hz in either ear.
-If an STS is determined a retest will be conducted within 30 days. The retest results can then be used as the annual audiogram.
-Any audiogram showing an STS will be referred to audiologist, otolaryngologis or physici for evaluation.
-If an STS occurs the following will be done:
-The employee will be notified in writing within 21 days of the determination
-The employee will be refitted and retrained in the use of hearing protection -The medical opinion of the evaluating practitioner will be followed and/or communicated to the employee regarding the need for follow-up medical evaluation either for occupational or non-occupational reasons. Communication with the employee will be in writing
-Age correction will be taken into account as permitted by OSHA. See Appendix F of 29 CFR 1910.95, Occupational Noise Exposure
-When the audiologist, otolaryngologist, or physician determines that an STS has occurred, the revised audiogram will be used as the new baseline
-The STS will be recorded on the OSHA 300 Log if:

- Hearing level is 25 dB or greater from audiometric zero at any test point
- An STS of 10 dB or greater is identified
- A medical professional says the hearing loss is work related

Medical Management

All audiometric testing will be conducted by individuals who are certified by the Council of Accreditation in Occupational Hearing Conservation. Technicians will report to an audiologist, otolaryngologist or physician who will advise management regarding program administration, employee audiometric health and other matters pertaining to the Hearing Conservation Program. Our Medical Manager will ensure that all audiometric testing requirements are met.

Hearing Protectors

All employees with a noise exposure at or above a Time Weighted Average of 85 dBA will wear company provided hearing protectors for their entire shift while in areas with noise exposure at or above 85 dBA.

Hearing protection will provide the greatest attenuation possible and in no case allow greater than 80dBA calculated exposure.

We will provide a choice of at least two suitable hearing protectors.

If noise exposure increases, we will re-evaluate all hearing protection to ensure adequate protection.

The following formula will be used to determine the efficiency of hearing protection:
-Subtract 7dB from the NRR of the hearing protector
-Subtract the modified NRR (determined in the step above) from the 8 hour TWA for the employee exposure as determined through monitoring

Training Program and Access to Information
All employees exposed to noise at or above the time weighted average of 85 dBA will receive training as outlined below. Content of the training will be:

-Areas with noise exposure
-Facility rules requiring use of hearing protection
-The effects of noise on hearing

-The purpose of hearing protectors including: advantages, disadvantages, attenuation, and fitting and care instructions for each available type
-The purpose for and explanation of the procedure for audiometric testing

Training will be provided at time of hire or assignment into an area with noise exposure at or greater than 85 dBA, and repeated annually thereafter.

A copy of 29 CFR 1910.95, Occupational Noise exposure will be available to employees from the program administrator. *Additionally*, as required in 29 CFR 1910.95(l)(1), a copy of this standard has been posted:
Any additional materials supplied by OSHA to this facility pertaining to Hearing Conservation will also be made available to employees.

All employees and their representatives have access to the OSHA standard and any other government provided information regarding hearing conservation, our facility hearing conservation program, and their individual audiometric test record. Additionally, the program administrator will provide assistance with understanding this information.

Recordkeeping
All monitoring data, personal and area sampling and SLM readings, will be evaluated for permanent records retention due to the value in determining workers' compensation compensability of hearing loss. In no case will such data be retained less than two years.

Audiometric testing records will be retained for at least the duration of employment and will be evaluated for permanent records retention due to the value in determining worker's comp compensability of hearing loss.

ASSURED EQUIPMENT GROUNDING CONDUCTOR PROGRAM

In response to the OSHA- Standard CFR 1926.404 and 1910.309 (c) (3), **TCI Companies, Inc.** has developed an assured grounding program.

SCOPE
This procedure describes the requirements to assure the installation and maintenance of equipment grounding conductors for temporary wiring on construction sites.

POLICY
Ground-fault circuit interrupters (GFCI's) are not required for 120-volt single-phase, 15- and
20-ampere receptacle outlets WHERE ALL REQUIREMENTS OF THIS PROCEDURE ARE IMPLEMENTED AT THE CONSTRUCTION SITE employees shall not use any equipment which has not met the requirements of this procedure.

This program shall have the following minimum requirements:

- A written copy of this program, which shall be available at the jobsite for inspection and copying by the OSHA Inspector and any affected employee.

REQUIREMENTS

Equipment grounding conductors shall be installed and maintained in accordance with this procedure.

Installation - Equipment grounding conductors shall be installed as follows:

- All 120-volt, single-phase, 15- and 20-ampere receptacles shall be of the grounding type and their contacts shall be grounded by connection to the equipment grounding conductor of the circuit supplying the receptacles in accordance with the applicable requirements of the National Electrical Code.
- All 120-volt cord sets (extension cords) shall have an equipment grounding conductor which shall be connected to the grounding contacts of the connector on each end of the cord.
- The exposed noncurrent-carrying metal parts of 120 volt cord and plug connected tools and equipment that are likely to become energized shall be grounded in accordance with the applicable requirements of the National Electrical Code.

Visual Inspection

Employees shall be instructed to visually inspect receptacles, flexible cord sets (extension cords), except those that are fixed and not exposed to damage, and equipment connected by cord and plug before each day's use for external defects such as deformed or missing pins for insulation damage and for indication of possible internal damage. Visual inspections are necessary for receptacles and sets which are fixed and not exposed to damage. Where there is evidence of damage, the item shall be taken out of service and tagged until tests and any required repairs have been made.

TESTING

TCI Companies, Inc. will test all 120-volt, single-phase, 15- and 20-ampere receptacles which are not a part of the permanent wiring of the building or structure, 120-volt flexible cord sets, and 120-volt cord- and plug-connected equipment required to be grounded shall be tested as follows:

Testing Schedule - All required tests shall be performed by a competent person:

- Before first use.
- Before equipment is returned to service following any repairs.
- Before equipment is used after any incident which can be reasonably suspected to have caused damage (for example, when a cord set is run over).
- At intervals not to exceed 3 months, except that cord sets and receptacles which are fixed and not exposed to damage shall be tested at intervals not exceeding six months.

Test Records - Test verification shall be by means of numeric or color coded marking tape on the receptacle, cord set or equipment to identify that it has passed the test and to indicate the date (month).

Recording of testing will be by three copy logs. The record must indicate which equipment passed the test and the date it was tested or the interval for which it was tested.

One copy will be RETAINED at the jobsite with two copies transmitted to the office.

WINTER	- White
SPRING	- Green
SUMMER	- Red
FALL	- Orange

USE OF ELECTRIC CIRCUIT TESTING DEVICES

A suggested testing procedure is as follows:

- **Receptacle -** Use receptacle tester to determine correct connections to terminals.
- **Cord Sets -** First, plug the cord into a properly wired receptacle which has been tested as above. Then plug receptacle tester into the cord connector (female device) or cord set to determine both continuity of grounding conductor and correct connections to terminals.
- **Cord and Plug** - Connected Equipment **-** Use continuity tester. Connect or touch one terminal of continuity tester to the metal frame of the equipment or tool and the other terminal to the grounding prong of the attachment cap plug at the end of the cord. An audible (bell) or visual (light) signal of the tester indicates that there is continuity of the grounding conductor. Although

not required by OSHA, it is suggested that this test also be made between the metal frame and each of the other two prongs of the attachment cap plug. If there is a signal from this test, it indicates a possible ground fault and the tool should be checked further.

Rigging Material Handling Program

Reference Standard: Rigging Equipment for Material OSHA-29 CFR 1926.251 Handling

PURPOSE. This procedure covers the basic practices to be followed for the safe operation of lifting and material-handling equipment and associated operations.

SCOPE. This procedure applies to all employees working on construction projects or facilities.

1.0 GENERAL GUIDELINES FOR RIGGING

1.1 Rigging equipment for material handling shall be inspected prior to use on each shift and as necessary during its use to ensure that it is safe. Defective rigging equipment shall be removed from service.

1.2 Employers must ensure that rigging equipment:

1.3

1.3.1 Has permanently affixed and legible identification markings as prescribed by the manufacturer that indicate the recommended safe working load limit

1.3.2 Not be loaded in excess of its recommended safe working load as prescribed on the identification markings by the manufacturer; and

1.3.4 Not be used without affixed, legible identification markings, required by paragraph

1.4 Rigging equipment, when not in use, shall be removed from the immediate work area so as not to present a hazard to employees.

1.5 Special custom design grabs, hooks, clamps, or other lifting accessories, for such units as modular panels, prefabricated structures and similar materials, shall be marked to indicate the safe working loads and shall be proof-tested prior to use to 125 percent of their rated load.

1.6 Scope. This applies to slings used in conjunction with other material handling equipment for the movement of material by hoisting, in employments covered by this part. The types of slings covered are those made from alloy steel chain, wire rope, metal mesh, natural or synthetic fiber rope (conventional three strand construction), and synthetic web (nylon, polyester, and polypropylene).

1.7 "Inspections." Each day before being used, the sling and all fastenings and attachments shall be inspected for damage or defects by a competent person designated by the employer. Additional inspections shall be performed during sling use, where service conditions warrant. Damaged or defective slings shall be immediately removed from service.

1.8 Alloy steel chains.

1.8.1 Welded alloy steel chain slings shall have permanently affixed durable identification stating size, grade, rated capacity, and sling manufacturer.

1.8.2 Hooks, rings, oblong links, pear-shaped links, welded or mechanical coupling links, or other attachments, when used with alloy steel chains, shall have a rated capacity at least equal to that of the chain.

1.8.3 Job or shop hooks and links, or makeshift fasteners, formed from bolts, rods, etc., or other such attachments, shall not be used.

1.8.4 Employers must not use alloy steel-chain slings with loads in excess of the rated capacities (i.e., working load limits) indicated on the sling by permanently affixed and legible identification markings prescribed by the manufacturer.

1.8.5 Whenever wear at any point of any chain link exceeds that shown in Table H–1, the assembly shall be removed from service.

1.9 Inspections.

1.9.1 In addition to the inspection required by other paragraphs of this section, a thorough periodic inspection of alloy steel chain slings in use shall be made on a regular basis, to be determined on the basis of (A) frequency of sling use; (B) severity of service conditions; (C) nature of lifts being made; and (D) experience gained on the service life of slings used in similar circumstances. Such inspections shall in no event be at intervals greater than once every 12 months.

1.9.2 The employer shall make and maintain a record of the most recent month in which each alloy steel chain sling was thoroughly inspected, and shall make such record available for examination.

1.10 Wire rope.

1.10.1 Employers must not use improved plow-steel wire rope and wire-rope slings with loads in excess of the rated capacities (i.e., working load limits) indicated on the sling by permanently affixed and legible identification markings prescribed by the manufacturer.

1.10.2 Protruding ends of strands in splices on slings and bridles shall be covered or blunted.

1.10.3 Wire rope shall not be secured by knots, except on haul back lines on scrapers.

1.10.4 The following limitations shall apply to the use of wire rope:

1.10.4.1 An eye splice made in any wire rope shall have not less than three full tucks. However, this requirement shall not operate to preclude the use of another form of splice or connection which can be shown to be as efficient and which is not otherwise prohibited.

1.10.4.2 Except for eye splices in the ends of wires and for endless rope slings, each wire rope used in hoisting or lowering, or in pulling loads, shall consist of one continuous piece without knot or splice.

1.10.4.3 Eyes in wire rope bridles, slings, or bull wires shall not be formed by wire rope clips or knots.

1.10.4.5 Wire rope shall not be used if, in any length of eight diameters, the total number of visible broken wires exceeds 10 percent of the total number of wires, or if the rope shows other signs of excessive wear, corrosion, or defect.

1.10.5 When used for eye splices, the U-bolt shall be applied so that the "U" section is in contact with the dead end of the rope.

1.11 Slings

1.11.1 Slings shall not be shortened with knots or bolts or other makeshift devices.

1.11.2 Sling legs shall not be kinked.

1.11.3 Slings used in a basket hitch shall have the loads balanced to prevent slippage.

1.11.4 Slings shall be padded or protected from the sharp edges of their loads.

1.11.5 Hands or fingers shall not be placed between the sling and its load while the sling is being tightened around the load.

1.11.6 Shock loading is prohibited.

1.11.7 A sling shall not be pulled from under a load when the load is resting on the sling.

1.12 Minimum sling lengths

1.12.1 Cable laid and 6 X 19 and 6 X 37 slings shall have minimum clear length of wire rope 10 times the component rope diameter between splices, sleeves or end fittings.

1.12.2 Braided slings shall have a minimum clear length of wire rope 40 times the component rope diameter between the loops or end fittings.

1.12.3 Cable laid grommets, strand laid grommets and endless slings shall have a minimum circumferential length of 96 times their body diameter.

1.13 Safe operating temperatures.

1.13.1 Fiber core wire rope slings of all grades shall be permanently removed from service if they are exposed to temperatures in excess of 200 deg. F (93.33 deg. C). When nonfiber core wire rope slings of any grade are used at temperatures above 400 deg. F (204.44 deg. C) or below minus 60 deg. F (15.55 deg. C), recommendations of the sling manufacturer regarding use at that temperature shall be followed.

1.14 End attachments.

1.14.1 Welding of end attachments, except covers to thimbles, shall be performed prior to the assembly of the sling.

1.14.2 All welded end attachments shall not be used unless proof tested by the manufacturer or equivalent entity at twice their rated capacity prior to initial use. The (Employee Name) shall retain a certificate of proof test, and make it available for examination.

1.14.3 Wire rope slings shall have permanently affixed, legible identification markings stating size, rated capacity for the type(s) of hitch(es) used and the angle upon which it is based, and the number of legs if more than one.

1.15 Natural rope, and synthetic fiber.

1.15.1 (EMPLOYEE NAME) must not use natural- and synthetic-fiber rope slings with loads in excess of the rated capacities (i.e., working load limits) indicated on the sling by permanently affixed and legible identification markings prescribed by the manufacturer.

1.15.2 All splices in rope slings provided by (Employee Name) shall be made in accordance with fiber rope manufacturers recommendations.

1.15.3 In manila rope, eye splices shall contain at least three full tucks, and short splices shall contain at least six full tucks (three on each side of the center line of the splice).

1.15.4 In layed synthetic fiber rope, eye splices shall contain at least four full tucks, and short splices shall contain at least eight full tucks (four on each side of the center line of the splice).

1.15.5 Strand end tails shall not be trimmed short (flush with the surface of the rope) immediately adjacent to the full tucks. This precaution applies to both eye and short splices and all types of fiber rope. For fiber ropes under 1-inch diameter, the tails shall project at least six rope diameters beyond the last full tuck. For fiber ropes 1-inch diameter and larger, the tails shall project at least 6 inches beyond the last full tuck. In applications where the projecting tails may be objectionable, the tails shall be tapered and spliced into the body of the rope using at least two additional tucks (which will require a tail length of approximately six rope diameters beyond the last full tuck).

1.15.6 For all eye splices, the eye shall be sufficiently large to provide an included angle of not greater than 60 deg. at the splice when the eye is placed over the load or support.

1.15.7 Knots shall not be used in lieu of splices.

1.16 Safe operating temperatures.

1.16.1 Natural and synthetic fiber rope slings, except for wet frozen slings, may be used in a temperature range from minus 20 deg. F (-28.88 deg. C) to plus 180 deg. F (82.2 deg. C) without decreasing the working load limit. For operations outside this temperature range and for wet frozen slings, the sling manufacturer's recommendations shall be followed.

1.17 Splicing.

1.17.1 Spliced fiber rope slings shall not be used unless they have been spliced in accordance with the following minimum requirements and in accordance with any additional recommendations of the manufacturer:

1.17.1.1 In manila rope, eye splices shall consist of at least three full tucks, and short splices shall consist of at least six full tucks, three on each side of the splice center line.

1.17.1.2 In synthetic fiber rope, eye splices shall consist of at least four full tucks, and short splices shall consist of at least eight full tucks, four on each side of the center line.

1.17.1.3 Strand end tails shall not be trimmed flush with the surface of the rope immediately adjacent to the full tucks. This applies to all types of fiber rope and both eye and short splices. For fiber rope under 1 inch (2.54 cm) in diameter, the tail shall project at least six rope diameters beyond the last full tuck. For fiber rope 1 inch (2.54 cm) in diameter and larger, the tail shall project at least 6 inches (15.24 cm) beyond the last full tuck. Where a projecting tail interferes with the use of the sling, the tail shall be tapered and spliced into the body of the rope using at lest two additional tucks (which will require a tail length of approximately six rope diameters beyond the last full tuck).

1.17.1.4 Fiber rope slings shall have a minimum clear length of rope between eye splices equal to 10 times the rope diameter.

1.17.1.5 Knots shall not be used in lieu of splices.

1.17.1.6 Clamps not designed specifically for fiber ropes shall not be used for splicing.

1.17.1.7 For all eye splices, the eye shall be of such size to provide an included angle of not greater than 60 degrees at the splice when the eye is placed over the load or support.

1.18 End Attachments. Fiber rope slings shall not be used if end attachments in contact with the rope have sharp edges or projections.

1.19 Removal from service. Natural and synthetic fiber rope slings shall be immediately removed from service if any of the following conditions are present:

1.19.1 Abnormal wear.

1.19.2 Powdered fiber between strands.

1.19.3 Broken or cut fibers.

1.19.4 Variations in the size or roundness of strands.

1.19.5 Discoloration or rotting.

1.19.6 Distortion of hardware in the sling.

1.19.7 (Employers Name) must use natural- and synthetic-fiber rope slings that have permanently affixed and legible identification markings that state the rated capacity for the type(s) of hitch(es) used and the angle upon which it is based, type of fiber material, and the number of legs if more than one.

1.20 Synthetic webbing (nylon, polyester, and polypropylene).

1.20.1 The employer shall have each synthetic web sling marked or coded to show:

1.20.1.2 Name or trademark of manufacturer.

1.20.1.3 Rated capacities for the type of hitch.

1.20.1.4 Type of material.

1.20.2 Rated capacity shall not be exceeded.

1.21 Webbing.

1.21.1 Synthetic webbing shall be of uniform thickness and width and selvage edges shall not be split from the webbing's width.

1.22 Fittings

1.22.1 Fittings shall be:

1.22.2 Of a minimum breaking strength equal to that of the sling; and

1.22.3 Free of all sharp edges that could in any way damage the webbing.

1.23 Attachment of end fittings to webbing and formation of eyes

1.23.1 Stitching shall be the only method used to attach end fittings to webbing and to form eyes. The thread shall be in an even pattern and contain a sufficient number of stitches to develop the full breaking strength of the sling.

1.24 Environmental conditions. When synthetic web slings are used, the following precautions shall be taken:

1.24.1 Nylon web slings shall not be used where fumes, vapors, sprays, mists or liquids of acids or phenolic are present.

1.24.2 Polyester and polypropylene web slings shall not be used where fumes, vapors, sprays, mists or liquids of caustics are present.

1.24.3 Web slings with aluminum fittings shall not be used where fumes, vapors, sprays, mists or liquids of caustics are present.

1.25 Safe operating temperatures. Synthetic web slings of polyester and nylon shall not be used at temperatures in excess of 180 deg. F (82.2 deg. C). Polypropylene web slings shall not be used at temperatures in excess of 200 deg. F (93.33 deg. C).

1.26 Removal from service.

1.26.1 Synthetic web slings shall be immediately removed from service if any of the following conditions are present:

1.26.1.1 Acid or caustic burns;

1.26.1.2 Melting or charring of any part of the sling surface;

1.26.1.3 Snags, punctures, tears or cuts;

1.26.1.4 Broken or worn stitches; or

1.26.1.5 Distortion of fittings.

1.27 Shackles and hooks.

1.27.1 Employers must not use shackles with loads in excess of the rated capacities (i.e., working load limits) indicated on the shackle by permanently affixed and legible identification markings prescribed by the manufacturer.

1.27.2 The manufacturer's recommendations shall be followed in determining the safe working loads of the various sizes and types of specific and identifiable hooks. All hooks for which no applicable manufacturer's recommendations are available shall be tested to twice the intended safe working load before they are initially put into use. The employer shall maintain a record of the dates and results of such tests.

TABLE H - 1. -- MAXIMUM ALLOWABLE WEAR AT ANY POINT OF LINK

Chain size (inches)	Maximum Allowable Wear (inch)
1/4	3/64
3/8	5/64
1/2	7/64
5/8	9/64

3/4	5/32
7/8	11/64
1	3/16
1 1/8	7/32
1 1/4	1/4
1 3/8	9/32
1 1/2	5/16
1 3/4	11/32

TABLE H - 2. -- NUMBER AND SPACING OF U-BOLT WIRE ROPE CLIPS

Improved plow steel, rope diameter (inches)	Number of clips		Minimum spacing (inches)
	Drop Forged	Other Material	
1/2	3	4	3
5/8	3	4	3 3/4
3/4	4	5	4 1/2
7/8	4	5	5 1/4
1	5	6	6
1 1/8	6	6	6 3/4
1 1/4	6	7	7 1/2
1 3/8	7	7	8 1/4
1 1/2	7	8	9

2.0 REQUIREMENTS FOR LIFTING

2.1 Each rigging lift regardless of size should be planned to ensure a safe lift. Due to the added exposure and complexity of heavier lifts, the planning requirements for heavier lifts are more comprehensive. Construction site rigging operations are classified into the general categories described in Section 3.0 and shall be implemented as follows.

2.1.1 All heavy rigging efforts require the preparation of a Heavy Lift Plan consisting of detailed rigging calculations and a rigging work sequence plan that has been prepared by the rigging engineer and the rigging superintendent. The Heavy Lift Plan shall be reviewed by the project field engineer and approved by a certified rigging engineer.

2.1.2 Medium rigging lifts and critical rigging lifts require a detailed rigging plan prepared by rigging superintendent with approval by the rigging engineer.

2.2.3 All medium, critical and heavy lift plans must be reviewed by the rigging superintendent and the rigging engineer with workers performing the lift including equipment operators, rigging crew, signalman, etc., prior to commencement of the lift. These lifts must be monitored by engineers and superintendents to ensure strict adherence to the rigging work sequence plan.

2.2.4 When lifting or transporting of heavy loads is to be performed by a subcontractor, lift plans shall be prepared by the subcontractor as required by the scope of the subcontract.

2.2 Minimum Elements of Rigging Plans

Rigging plans are to include, as a minimum, the following:

2.2.1 Identification of the crane or hoisting equipment or equipment used to lift the load. A sketch is required for each heavy lift showing the position of the lift crane (and tailing crane), the location of the item to be lifted, and its final "set" position. A layout of the work area including the locations of all obstacles and interferences should also be included.

2.2.2 Minimum clearances and clearance requirements from existing facilities and utilities, particularly overhead power lines.

2.2.3 Definition of the component to be lifted including the verified weight of the item and the authorized attachment or lift points. Equipment manufacturer's drawings showing designated rigging attachment points, center of gravity, weight, etc. should be included when practical.

2.2.4 Special soil preparation, crane mat requirements and locations of underground utilities that could affect the rigging work operation and that require special clearances or cribbing to perform the work.

2.2.5 Rigging equipment to be used for the rigging operation including wire rope slings, spreader beams, shackles, hooks and other components in the load chain. Calculations used to determine the forces applied to each rigging component shall be provided for all heavy lifts. Standard rigging reference charts may be used to determine size and type of the component required.

2.2.6 Load capacity charts and notes for cranes or other equipment used to perform the lift posted in the crane and referenced in the rigging plan. It is important that the actual configuration of the crane, including line size, boom and jib length, counter weight size, load block, etc. be factored into the parameters used to determine lifting capacity.

2.2.7 Method of communication to be used by equipment operators and rigging crews during completion of the lift.

2.2.8 Special considerations such as the effects of wind on the ability of crews to safely complete the lift.

2.2.9 Any special precautions that the construction work crew should be aware of prior to making the lift (e.g., removal of temporary shipping skids prior to rigging).

2.3 Crane Setups and Rigging Appurtenances

2.3.1 All mobile cranes in the project site are to be set up for lifting on firm level ground. Any deviations require the approval of the rigging superintendent or rigging engineer.

2.3.2 All lift beams and spreader bars used in the heavy rigging category must be certified for use by the project field engineer. Detailed fabrication drawings and design calculations approved by the project field engineer/rigging engineer must be kept on file for all lift beams and spreader bars. Load testing may be necessary.

2.3.3 Shop installed lifting lugs and attachment points provided by the equipment supplier shall be examined for obvious defects or discrepancies from shop drawings prior to lifting from delivery vehicles.

2.3.4 Important - The boom tip shall be checked prior to and during the lift to be sure that the center of gravity of the load remains directly in line with the boom. As the load is lifted, the boom deflection will result in a misalignment that could cause the load to swing away from the crane. The increased radius and inertia of the swinging load could result in injury or an overloaded crane situation.

3. PORTABLE HOIST AND COME-A-LONG REQUIREMENTS

All chainfalls and come-alongs used shall have comprehensive annual inspection performed on them as outlined in this section. Additionally, a monthly, documented, visual inspection must be completed on those chainfalls and come-alongs that are in service. New and repaired equipment being returned to service shall also be inspected.

3.1 Annual Inspection

Chainfalls and come-alongs should be inspected prior to every use by the individual user. However, they should be thoroughly inspected and load-tested annually by a qualified person to assure integrity. The following is a partial list of actions that should be accomplished during that annual inspection by the qualified person:

3.1.1 Disassemble and examine all internal parts. Parts which have excessive wear or deformation must be replaced.

3.1.2 Magnaflux or dye check all load bearing parts.

3.1.3 Load test to 125 percent of rated capacity with dynometer.

3.1.4 Verify that all hooks have properly operating safety latches.

3.1.5 Check all hooks for straightness and deformation.

3.1.6 Check all chains for excessive wear and stretch.

3.1.7 Assure that no ratchet levers on come-alongs are bent or cracked.

3.1.8 Assure that each unit is legibly marked with equipment number and its rated capacity.

3.1.9 Keep documentation of inspection and testing on file.

3.1.10 Tag unit with durable label signifying test date, or color code with appropriate color.

3.1.11 Resolve any deficiencies identified prior to re-tagging the unit by the qualified person.

3.2 Monthly Inspection

The monthly inspection consists of an external visual check of all the components of either a chainfall or come-along as outlined in Section 11.1.

3.3 Work Practice/Procedure

3.3.1 Chainfalls or come-a-longs shall not be attached to any beam or trolley not rated for the total capacity of all hoists attached to beam.

3.3.2 The rated capacity appearing on the hoist or come-a-long shall never be exceeded.

3.3.3 Personnel shall stand clear of all load and lines under strain.

3.3.4 Prior to tying off to an "I" beam or other equipment, authorization shall be obtained from engineering to ensure the tie-off point has sufficient load capacity.

3.3.5 The hoist shall be centered over the load before lifting; lifting from the side is to be avoided.

3.3.6 Before any lift, the sling shall be resting at the bottom of the hook.

3.3.7 The safety latch must be properly in place before a load is lifted.

3.3.9 A pipe or other device should not be used as a cheater to operate a come- a-long. Hooks or chains should not be repaired by welding.

3.4 Storage

When not in use, all chainfalls/come-a-longs should be hung protected from the weather and in a centralized storage area for inventory control purposes.

4. GENERAL GUIDELINES FOR SLING USE

4.1 The rigger/user shall inspect slings daily and only use slings of proper diameter and strength. The use of two slings in parallel to increase load capacity is prohibited.

4.2 The use of a chain as a sling shall not be allowed unless under the direct supervision off a qualified rigging.

4.3 Position the hand so it cannot be caught between the load and adjacent objects when guiding a load. Hand guide ropes, never slings, should be attached to loads.

4.4 All rigging equipment shall be properly stored. Storage areas shall be orderly. Wire ropes and fabric slings shall be stored in a dry, clean environment not subject to physical damage.

4.5 Natural or synthetic ropes should never be used on hot loads or where exposed to open flames, sparks, or slag.

4.6 Softeners shall be used to protect wire ropes from being cut on sharp edges.

4.7 Damaged rigging equipment shall be destroyed.

5. RIGGING EQUIPMENT INSPECTION

5.1 All chokers, slings and other rigging equipment shall be thoroughly inspected at least annually by a competent person. If any of this equipment is found to be defective, it should be immediately removed from service and destroyed.

5.2 All rigging equipment found to acceptable should be identified with color coding well known by all field personnel who may need to use the equipment.

5.3 In addition to properly color coding all rigging equipment, the sizes and capacities for chokers, slings and other rigging equipment should be clearly marked on each piece of equipment. The use of unlabeled or improperly color-coded equipment is prohibited.

5.4 Job-made rigging equipment is strictly prohibited unless it is designed by a registered professional engineer and stamped design drawings are available. Load testing is required with job-made equipment.

5.5 Employees (qualified riggers) using rigging equipment are responsible for inspecting their equipment prior to each use. Additionally, employees are responsible for hanging chokers and slings on rigging racks or in an area where they will not be subjected to damage. Rigging equipment is not to be left on the floor, ground, or in the field.

6. CODE OF SAFE PRACTICES

1. Make sure that the proper size and type of crane is used in every lifting operation.
2. Only trained and certified operators shall operate the crane.
3. Pre-planning shall include routes and crane set-up areas that are clear of all overhead obstructions, especially electrical power lines.
4. Employees involved in rigging and handling of materials and equipment shall be properly trained and experienced.
5. Supervisors shall oversee all tasks including crane location, set-up, rigging, and lifting.
6. A pre-lift meeting shall be held with the crane operator, to determine the correct weight of the load and the operating radius. Lift sequences shall be reviewed with all personnel involved in the lift.
7. A signalperson shall be designated and shall be trained in the proper hand signals.
8. Employees not involved in the lift shall be kept clear of the area during the lift.
9. The operator shall conduct a pre-shift inspection. This inspection shall be documented.
10. Do not operate or work with a damaged or malfunctioning crane. Report all damage and malfunctioning equipment to your supervisor.
11. Exposed moving parts shall be guarded to protect the operator and others from contact.
12. The crane shall be equipped with a fully charged fire extinguisher.
13. The crane shall have a properly installed and working boom angle indicator.
14. Boom stops shall be in place.
15. The crane shall be equipped with an audible warning device (horn, bell, etc.) and maintained in working condition.
16. Cranes shall be inspected regularly and maintained in a safe and suitable condition.
17. The crane shall be rigged with wire rope equivalent in size, grade, as recommended by the crane manufacturer.
18. The weight and capacity of the blocks, spreader (equalizer) beams, or any other accessories or attachments that handle loads are permanently and legibly marked on each piece.
19. The length and the serial number shall be permanently marked on all boom and jib sections. Boom and jib sections must not exceed the manufacturer's specifications.
20. The assembled boom and jib sections shall not exceed the manufacturer's specifications.
21. Effects of wind on the crane and load shall be considered.
22. Clear communication is mandatory between the signalperson and the operator.
23. Outriggers shall be fully extended and set properly.

24. Never leave the controls unattended with a load suspended.

25. A minimum of 10 feet shall be maintained from power lines and other power sources.

Respiratory Protection

1. Do not perform operations requiring respirators, unless you have been approved for use of respirators, fitted and trained the company's respiratory protection program.
2. Inspect respirators for cracked or worn parts before and after each use and after cleaning.
3. Do not work in an area that requires the use of respiratory equipment, if you fail to obtain a tight seal between the respirator and your face.
4. Do not wear a respirator if facial hair prevents a tight seal between the respirator and your face.
5. Clean and sanitize respiratory equipment according to manufactures recommendations after each use.
6. Store respiratory equipment in a clean and sanitary location.

Fall Protection Program

Construction is a hazardous industry where workers are exposed to varied hazards. Each operation or jobsite presents its own peculiar problems, thus no two jobs are alike. Therefore, it is not possible to formulate one set of rules to cover all the hazards that may be encountered in construction work. Ideally, the best way to protect against potential falls is to eliminate the hazards, which are present. When the hazard cannot be eliminated, a comprehensive fall management program can protect against most, if not all fall related incidents.

Regular surveys of project operations and conditions should be conducted to identify principal sources and causes of possible injury and losses due to unsafe methods and conditions. A focus on fall hazards should be increased in the following general areas and conditions:

Steel erection
Bridges
Pre-fab erection
Heavy equipment access/egress
Hoistway enclosures
Unsecured materials, tools, and equipment
Excavations
Use of Ladders
Scaffolds
Elevating equipment
Uneven/cluttered surfaces
Roofs and Skylights

This information supports compliance with Occupational Safety and Health Administration (OSHA) Fall Protection Standard as found in 29 CFR 1926.500, 501, 502, and 503, general requirements for scaffolds in 29 CFR 1926.451, use of safety nets where other forms of fall protection are impractical in 29 CFR 1926.105, and fall protection for steel erectors working two stories or more above the ground or floor in 29 CFR 1926.750. This information applies to all company employees who work in areas where fall hazards of 6 feet or greater are possible.

Duty to Have Fall Protection

The Fall Protection Standard prescribes the duty for employers to provide fall protection, sets the criteria and practices for fall protection systems, and requires training. It covers hazard assessment, fall protection, and safety monitoring systems.

Fall Hazard Control

Each job and each jobsite should be thoroughly analyzed for potential hazards. A written program should be developed which specifies the means of dealing with identified hazards. If a hazard can be eliminated by a new work procedure, this new procedure should be specified and implemented.

The written program should indicate what types of personal protective equipment are required for the job, wherever elimination of potential hazards is impossible. The program should also indicate how the equipment is to be used and maintained. Work procedures, clearly written and communicated, should be developed detailing how each type of work is to be performed. The written program does not need to be elaborate, but should cover the basics, with essential elements clearly communicated and understood by all jobsite personnel. Fall hazard control can be broken down into fall prevention and fall protection, both being considered independently.

Fall Prevention

Fall prevention lessens the worker's exposure to a fall by minimizing potentially hazardous situations. Fall prevention planning requires forethought and supervision to assure the plan to minimize fall hazards will be executed. It is important the written policy be continuously monitored and updated during the construction project. Listing known fall hazards helps in predicting how they can be controlled. Eliminating potential fall hazards and correcting existing hazards helps to protect against accidents. Fall prevention measures include proper work area access, good housekeeping, required protection, and specially required procedures.

Fall Protection

Fall protection is a means of minimizing or protecting workers from experiencing accidental falls from elevations. Fall protection is required when, during the jobsite evaluation, a potentially hazardous condition cannot be adequately or fully minimized is recognized. Fall protection minimizes the consequences of an accident and is either passive or active.

Passive - Passive fall protection consists of systems and components that are installed before work is started on the jobsite. An example of passive protection is a safety net. Protection is achieved whether or not workers are wearing any fall arrest equipment. No action is required on the part of the worker to stop a fall. If passive fall protection is properly installed and maintained workers are protected 100% of the time.

Active - Active fall protection consists of components and systems which require specific action by the worker to achieve specific protection. Active equipment should be recognized as a means to minimize, control, or limit injuries from a fall. Active fall protection is a substitute measure, which does not actually prevent a fall.

Active fall protection products fit into four functional categories:

1. Fall Arrest - the purpose of a fall arresting system is not only to arrest the fall, but also to assure the energy gained by the body during the fall is distributed to minimize injury to the wearer.

2. Positioning - a personal positioning system holds workers in place, using positioning belts, while keeping hands free to work. A fall arrest system should be used in conjunction with the personal positioning system

3. Suspension - the personal suspension system lowers and supports workers while allowing a hands-free work environment. A fall arrest system should be used in conjunction with the personal suspension system.

4. Retrieval/Rescue - Retrieval/rescue efforts are more effective when time is minimized between the time of the fall and the arrival of medical attention. Rescue procedures should be reviewed on a regular basis.

The latest types of fall protection equipment should be made available to employees. The complete system should be the most suitable for each particular project. The uniqueness of each jobsite requires knowledgeable supervising personnel who will make the appropriate decisions. If workers are properly trained and properly supervised, and if they use the correct equipment properly, they should be able to work at maximum efficiency at any height.

Fall Protection Plan

A Fall Protection Plan should be developed and evaluated on a site by site basis with the stated purpose of prevention of injuries associated with falls. A Fall Protection Plan should contain:

1. Location of the job, Company Name, date of preparation or modification of the plan, name of plan preparer, name of plan approver, and Name of plan supervisor;
2. Statement of Company Policy;
3. Fall protection systems to be used on this project;
4. How the Fall Protection Plan is to be implemented;
5. Other Fall Protection measures considered for this job;
6. Enforcement;
7. Accident investigation;
8. Changes to the plan.

A supervisor will assess the workplace to determine if the walking/working surfaces have the strength and structural integrity to safely support workers. Employees are not permitted to work on those surfaces until determining the surfaces have the strength and structural integrity for support. Once employers have determined that the surface is safe for employees to work on, the employer must select one of the options listed in "Construction Fall Protection Requirements" for the work operation if a fall hazard is present.

Construction Fall Protection Requirements

Type of Protection Required (29CFR 1926 Subpart M)	Guardrail Systems	Safety Net Systems	Personal Fall Arrest Systems	Covers	Positioning Devices	Fences	Barricades	Equipment Guards	Controlled Access Zone	Warning Line System/Guardrail	Warning Line/Safety Net System	Warning Line/Safety Personal Fall Arrest	Warning Line System/Safety Monitor	Safety Monitor	Fall Protection Plan
Unprotected Sides & Edges	x	x	x												
Leading Edges	x	x	x												x*
Hoisting Areas	x		x												
Holes	x		x	x											
Formwork/Reinforcing Steel		x	x		x										
Ramps, Runways, other Walkways	x														
Excavations	x					x	x								
Excavations *(wells, pits, shafts)*	x			x		x	x								
Dangerous Equipment *(less than 6 feet)*	x							x							
Dangerous Equipment *(more than 6 feet)*	x	x	x												
Overhand Bricklaying	x	x	x						x						
Overhand Bricklaying *(reaching 10" below)*	x	x	x												
Roofing Work *(low slope)*	x	x	x							x	x	x	x	x**	
Steep Roofs	x	x	x												
Precast Concrete Erection	x	x	x												x*
Residential Construction	x	x	x												x*
Wall Openings	x	x	x												
Other Walking / Working Surfaces	x	x	x												

*Must show unfeasibility or greater hazard

**Roof width less than 50 feet

Fire Prevention & Electrical Safety

Fire Prevention

1. Smoking is only allowed in designated exterior areas.
2. No candles or open flames are allowed within the office facility.
3. Contractors performing hot work must contact Mike Barth for approval.
4. Only space heaters provided by the company are approved for use within the facility. Employees using space heaters are responsible to turn the heater off when leaving their desk for extended periods of time (lunch, end of workday, etc.).
5. No flammable chemicals are allowed inside the building at any time. If you feel that there is a work-related need to use a flammable chemical, contact Mike or Joe Barth.

Electrical Safety

1. With the exception of independently fused multi-tap cords for computers, extension cords are not allowed in office areas.
2. Keep electrical cords out of areas where they will be damaged by stepping on or kicking them.
3. Turn electrical appliances off with the switch, not by pulling out the plug.
4. Turn all appliances off before leaving for the day.
5. Never run cords under rugs or other floor coverings
6. Any electrical problems should be reported immediately
7. The following areas must remain clear and unobstructed at all times:
   - Exit doors
   - Aisles
   - Electrical panels
   - Fire extinguishers

General Safety Precautions

Lifting

1. Plan the move before lifting; ensure that you have an unobstructed pathway.
2. Test the weight of the load before lifting by pushing the load along its resting surface.
3. If the load is too heavy or bulky, use lifting and carrying aids such as hand trucks, dollies, pallet jacks, and carts or get assistance form a co-worker.
4. If assistance is required to perform a lift, coordinate and communicate your movements with those of your co-worker.
5. Position your feet 6 to 12 inches apart with one foot slightly in front of the other..
6. Face the load.
7. Bend at the knees, not at the back.
8. Keep you back straight.
9. Get a firm grip on the object using your hands and fingers. Use handles when they are present.
10. Hold the object as close to your body as possible.
11. While keeping the weight of the load in your legs, stand to an erect position.
12. Perform lifting movements smoothly and gradually; do not jerk the load.
13. If you must change direction while lifting or carrying the load, pivot your feet and turn your entire body. Do not twist at the waist.
14. Set down objects in the same manner as you picked them up, except in reverse.
15. Do not lift an object from the floor to a level above your waist in one motion. Set the load down on a table or bench and then adjust your grip before lifting it higher.
16. Never lift anything if your hands are greasy or wet.
17. Wear protective gloves when lifting objects that have sharp corners or jagged edges.

Ladders & Stepladders

1. Read and follow the manufacturer's instructions label affixed to the ladder if you are unsure how to use the ladder.
2. Do not use ladders that have loose rungs, cracked or split side rails, missing rubber foot pads, or are otherwise visibly damaged.
3. Keep ladder rungs clean and free of grease. Remove buildup material such as dirt and mud.
4. Do not place ladders in a passageway or doorway without posting warning signs or cones that detour pedestrian traffic away from the ladder. Lock the doorway that you are blocking with the ladder and post signs that will detour traffic away from you work.
5. Do not place a ladder at a blind corner or doorway without diverting foot traffic by blocking or roping off the area.
6. Allow only one person on the ladder at a time.
7. Face the ladder when climbing up or down it.
8. Maintain a three-point contact by keeping both hands and one foot or both feet and one hand on the ladder at all times when climbing up or down the ladder.
9. When performing work from a ladder. Face the ladder and do not lean backward or sideways from the ladder. Do not jump from ladders or step stools.
10. Do not stand on tables, chairs, boxes, or other improvised climbing devices to reach high places. Use the ladder or stepstool.
11. Do not stand on the top two rungs of any ladder.
12. Do not stand on a ladder that wobbles, or leans to the left or right of center.
13. When using a straight or extension ladder, extend the top of the ladder at least three feet above the edge of the landing.
14. Secure the ladder in place by having another employee hold it if it cannot be tied to the structure.
15. Do not move a rolling ladder while someone is on it.
16. Do not place ladders on barrels, boxes, loose bricks, pails, concrete block or other unstable bases.
17. Do not carry items in your hands while climbing up or down a ladder.

General Safety Precautions

Housekeeping

1. Do not place materials such as boxes or trash in walkways and passageways.
2. Sweep up shavings from around equipment such as drill presses, lathes, or planers by using a broom and a dust pan.
3. Mop up water around drinking fountains, drink dispensing machines and ice machines immediately.
4. Do not store or leave items on stairways.
5. Do not block or obstruct stairwells, exits or accesses to safety and emergency equipment such as fire extinguishers or fire alarms.
6. Do not block the walking surfaces of elevated working platforms, such as scaffolds, with tools or materials that are not being used.
7. Straighten or remove rugs and mats that do not lie flat on the floor
8. Remove protruding nails or bend them down into the lumber by using a claw hammer.
9. Return tools to their storage places after using them.
10. Do not use gasoline for cleaning purposes.
11. Use caution signs or cones to barricade slippery areas such as freshly mopped floors.

Job-Specific Safety Precautions

Heavy Equipment Operation

1. No passengers are permitted on heavy equipment.
2. Keep windows and windshield clean.
3. Do not use heavy equipment if the horn or backup alarm does not sound.
4. Turn off the engine before leaving heavy equipment unattended.
5. Do not jump off of or onto any heavy equipment.
6. Keep heavy equipment in gear when going down grade. Do not use neutral.
7. Display the "Slow Moving Vehicle" sign when operating heavy equipment on the roads.
8. Do not operate backhoes, power shovels and other heavy equipment within two (2) feet from the edge of an excavation.
9. Do not use a bucket or other attachments for a staging or temporary platform for workers.
10. Do no operate a backhoe over or across underground utilities that are marked by paint, flagged or staked.
11. Set swing brake of a backhoe bucket arm when moving the vehicle to and from the digging site,
12. Stay in the compartment during operation of heavy equipment. Do not reach in or attempt to operate controls from outside the piece of equipment.

Crane Safety

1. Do not use load hooks that are cracked, bent or broken.
2. Do not use cranes that do not have their rated load capacity indicated on each side of the crane or on its load block.
3. Passengers are not permitted to ride inside the operator's cab of a truck crane.
4. Keep crane windows clean. Do not use a crane if its windows are broken.
5. Do not exceed the rated load capacity as specified by the manufacturer.
6. Do not operate a crane on soft ground without using cribbing and mats.
7. Fully extend outriggers before attempting a lift.
8. Stay outside the barricades of the posted swing radius.
9. Do not perform any crane refits or modifications without the manufacturer's approval.
10. Do not leave the crane unattended with a hoisted load.
11. Do not hoist loads over people.
12. Do not drive on the road shoulders.
13. Wear a high visibility vest when working as a signalman.
14. Only follow the signal of the person designated to give your signals when operating a crane.
15. Replace the belt, gears or rotating shaft guards after servicing a crane; do not use the crane if guards are missing from these areas.

Sling Safety

1. Do not use chain slings if links are cracked, twisted, stretched or bent.
2. Do not shorten slings by using make-shift devices such as knots or bolts.
3. Do not use a kinked chain.
4. Protect slings from the sharp edges of their loads by placing pads over the sharp edges of the items that have been loaded.
5. Wear work gloves when handling rough, sharp-edged or abrasive chains, cables, ropes or slings.
6. Do not alter or remove the safety latch on hooks. Do not use a hook that does not have a safety latch, or it the safety latch is bent.
7. Do not place your hands between the sling and its load when the sling is being tightened around the load.
8. Lift the load from the center of hooks, not from the point.

Job-Specific Safety Precautions

Labor Personnel Safety

1. Do not start work until barricades, barrier logs, fill or other protection have been installed to isolate the work area from local traffic.
2. Reflective warning vest must be worn by traffic flagmen who are assigned to controlling traffic.
3. Do not approach any heavy equipment until the operator has seen you and has signaled to you that it is safe to approach.
4. Walk around or step over holes, rocks, roots, materials or equipment in your pathway.
5. Do not work outdoors during lightning storms.

Drink plenty of clear liquids during your breaks and take your breaks in shaded areas.

Scaffold Safety

1. Follow the manufacturer's instructions when erecting the scaffold.
2. Do not work on scaffolds outside during stormy or windy weather.
3. Do not climb on scaffolds that wobble or lean to one side.
4. Initially inspect the scaffold prior to mounting it. Do not use a scaffold if any pulley, block, hook or fitting is visibly worn, cracked, rusted or otherwise damaged. Do not use a scaffold if any rope is frayed, torn or visibly damaged.
5. Do not use any scaffold tagged "Out of Service".
6. Do not use unstable objects such as barrels, boxes, loose brick or concrete blocks to support scaffolds or planks.
7. Do not work on platforms or scaffolds unless they are fully planked.
8. Do not use a scaffold unless guardrails and all flooring are in place.
9. Level the scaffold after each move. Do not extend adjusting leg screws more than 12 inches.
10. Do not walk or work beneath a scaffold unless a wire mesh has been installed between the midrail and the toe board or planking.
11. Use your safety belts and lanyards when working on scaffolding at a height of 10 feet or more above ground level. Attach the lanyard to a secure member of the scaffold.
12. Do not climb the cross braces for access to the scaffold. Use the ladder.
13. Do not jump from, to, or between scaffolding.
14. Do not slide down cables, ropes or guys used for bracing.
15. Keep both feet on the decking. Do not sit or climb on the guardrails.
16. Do not lean out from the scaffold. Do not rock the scaffold.
17. Keep the scaffold free of scrapes, loose tools, tangled lines and other obstructions.
18. Do not throw anything "overboard" unless a spotter is available. Use the debris chutes or lower things by hoist or by hand.
19. Do not move a mobile scaffold in anyone is on the scaffold.
20. Chock the wheels of the rolling scaffold, using the wheel blocks, and also lock the wheels by using your foot to depress the wheel-lock, before using the scaffold.

Electrical – Hot Line Safety

1. Clean all protective line equipment after each use, prior to storage.
2. Wear rubber gloves or use hot sticks when removing tree branches, limbs, or similar objects from contact with high voltage lines, panels or equipment.
3. Do not wear rubber protective gloves while climbing or descending a pole.
4. Wear 100% cotton or flame resistant shirts or jumpers (with sleeves rolled down) and protective hats when working on or near live parts, lines and panels or when climbing poles.
5. Wear body belts with straps or lanyards when working at an elevated position (poles, towers, etc.).
6. Visually inspect body belts and straps before use for defects, wear and damage.
7. When working with lines of 600 volts or more:
   • Wear rubber gloves or use hot stick when placing protective equipment around energized voltage conductors.
   • Do not work on a line that is removed from service until the line is cleared, tagged, tested and grounded.
   • Treat bare wire communication conductors on structures as energized lines unless they are protected by insulated conductors.
8. Treat bare wire communication conductors on power poles and structures as energized lines (with voltages in excess of 600 volts) unless the conductors are protected by insulating materials.

9. Do not remove any ground until all employees are clear of the temporary ground lines or equipment.
10. After a capacitor has been disconnected from its source of supply, wait five minutes before short-circuiting and grounding it.
11. Do not contact the terminals, jumpers or line wires connected directly to capacitors until the capacitors have been short-circuited and/or grounded.
12. Visually inspect and wipe down all hot line tools each day before use.
13. Do not wear rubber gloves with protectors while using hot line tools.
14. Do not use defective hot line tools. Mark them as defective and turn them in for repair or replacement.

Hazardous Materials

1. Follow the instructions on the label and in the corresponding Material Safety Data Sheet (MSDS) for each chemical product you will be using in your workplace.
2. Do not use protective clothing or equipment that has split seams, pin holes, cuts, tears, or other visible signs of damage.
3. Each time you use your gloves, wash them, before removing the gloves, using cold tap water and normal hand washing motion. Always wash your hands after removing the gloves.
4. Do not use chemicals from unlabeled containers or unmarked cylinders.
5. Always use chemical goggles and a face shield before handling chemicals labeled “Corrosive” or Caustic”.
6. Do not store chemicals containers labeled “Oxidizer” with containers labeled “Corrosive” or Caustic”.
7. Do not smoke while handling chemicals labeled “Flammable”

Machine Safety

1. Do not remove, alter or bypass any safety guards or devices when operating mechanical equipment such as mechanical power presses, press brakes, metal working lathes, radial arm saws, drills horizontal mill, punch press or when bending or forming materials.
2. Replace guard, before starting the machine, after making adjustments or repairing the machine.
3. Do not try to stop a work piece as it goes through any machine. If the machine becomes jammed, disconnect the power before clearing the jam.
4. Do not wear loose clothing, jewelry or ties in the machine shop.
5. Read and obey safety warnings posted on or near any machinery.
6. Long hair must be contained under a hat or hair net, regardless of gender.

Power Saws

1. Wear the prescribed personal protective equipment such as goggles, gloves, dust mask and hearing protection when operating the power saw.
2. Turn the saw power switch “Off” before making measurements, adjustments or repairs.
3. Keep your hands away from the exposed blade.
4. Operated the saw at full cutting speed with a sharp blade, to prevent kickbacks.
5. If the saw becomes jammed, turn the power switch of the saw to “Off” before pulling out the incomplete cut.
6. Do not alter the anti-kickback device or blade guard.

Abrasive Cut-Off Saws and Chop Saws

1. Do not use the saw if the lower portion of the blade hood is not adjusting itself to the thickness of the material being cut as the blade passes through the material.
2. Allow the saw to return to its stored position before removing the cut material from the table.
3. Lay the material squarely and solidly down before sawing it.
4. Use a clamp to secure cylindrical materials to the saw “table” before cutting.
5. Do not use the abrasive cut off saw for grinding or sharpening any tool or material.

Job-Specific Safety Precautions

Drill Press

1. Replace the belt and pulley guard before starting the press and after making adjustments or repairs to the press.
2. Make sure the press table is locked into place and the depth adjustment is set before turning on the power.
3. Remove the chuck key before turning on the power.
4. Clamp small pieces of stock that are to be drilled in the drill vise or work bench.
5. Do not wear rings, wristwatches or gloves when working the drill press.
6. Turn off the power and wait until the machine has come to a complete stop before reaching for the piece of stock.
7. Keep the drill press and the area around the drill press clear of metal cuttings and lubricants.
8. When adjusting the chuck size, do not turn on the power to the drill press while holding the chuck with your hand.

Grinders & Grinding Wheels

1. Prior to installing a new grinding wheel, inspect the wheel for cracks or other visible damage by conducting a "ring test". Tap the wheel gently with a plastic screwdriver handle to detect cracks that are not visible. If the wheel has a dead sound rather than a ring sound, do not use the wheel.
2. Do not use the grinding wheel that has chips, cracks or grooves.
3. Do not use the grinding wheel if it wobbles. Tag it "Out of Service".
4. Adjust the tongue guard so that it is no more than ¼ inch from the grinding wheel.
5. Adjust the tool rest so that it is not more than 1/8 inch from the grinding wheel.
6. Do not use a bench grinder if it is not firmly anchored to the work bench or other secure platform.
7. Do not install a grinding wheel whose label RPM is lower than the rated speed of the grinder.
8. Stand to one side of the plane of a rotating grinding wheel during the first few seconds of operation.
9. Grind on the side of the wheel only when it is made safe for side grinding.
10. Turn the grinder "off" when you have finished working with in and remain at the machine until it has completely stopped turning.

Portable Grinders

1. Do not use a portable hand held grinder with a wheel diameter larger than 2 inches unless the grinder has a positive action switch to ensure the switch cannot be locked in the on position.
2. Do not use a portable grinder if the grinding wheel guard is missing.
3. Do not clamp a portable grinder in a vice to use it as a bench grinder.

Pneumatic & Hydraulic Tools

1. Do not point a charged compressed air hose at bystanders or use it to clean your clothing.
2. Lock and or tag tools "Out of Service" to prevent usage of the defective or damaged tool.
3. Do not use tools that have handles with burrs or cracks.
4. Do not use compressors if their belt guards are missing. Replace the belt guards before using the compressor.
5. Turn the power switch of the tool to "Off" and let it come to a complete stop before leaving it unattended.
6. Disconnect the tool from the air line before making any adjustments or repairs to the tool.

Electrical Powered Tools

1. Do not use power equipment or tools on which you have not been trained.
2. Keep power cords away from the path of drills, saws. Vacuum cleaners, floor polishers, mowers, knoves, and grinders.
3. Do not use cords that have splices, exposed wires, or cracked or frayed ends.
4. Do not carry plugged in equipment to tools with your finger on the switch.
5. Do not carry equipment or tools by the cord.
6. Disconnect the tool from the outlet by pulling on the plug, not the cord.
7. Turn the tool off before plugging or unplugging it.
8. Do not leave tools that are "on" unattended.
9. Do not handle or operate electrical tools when your hands are wet or when you are standing on wet floors.
10. Do not operate spark inducing tools such as grinders near containers labeled "Flammable".

11. Turn off the electrical tools and unplug it from the outlet before attempting repairs or service work. Tag the tool "Out of Service".
12. Do not use extension cords or other three pronged power cords that have missing prongs.
13. Do not use an adapter such as a cheater plug that eliminates the ground.
14. Do not run extension cords through doorways, through holes in ceilings, walls or floors.
15. Do not drive over, drag, step on or place objects on a cord,
16. Do not use a power hand tool while wearing wet cotton gloves or wet leather gloves.
17. Never operate electrical equipment barefooted. Wear rubber-soled or insulated work boots.
18. Do not operate a power hand tool or portable appliance while holding a part of the metal casing or while holding the extension cord in your hand. Hold all portable power tools by the plastic hand grips or other nonconductive areas designed for gripping purposes.

Hand Tool Safety

1. Do not continue to work if your safety glasses become fogged. Stop work and clean the glasses until the lenses are clear and defogged.
2. Tag worn, damaged or defective tools "Out of Service" and do not use them.
3. Do not use a tool if the handle surface has splinters, burrs, cracks or splits.
4. Do not use impact tools such as hammers, chisels, punches, or steel stakes that have mushroomed heads.
5. When handing a tool to another person, direct sharp points and cutting edges away from yourself and the other person.
6. Do not carry sharp or pointed hand tools such as screwdrivers, scribes, chisels, or files in your pocket unless the tool or your pocket is sheathed.
7. Do not throw tools from one location to another or from one employee to another.
8. Transport hand tools only in tool boxes or tool belts. Do not carry tools in your hand or clothing when climbing.

Forklift Safety

1. Only employer authorized personnel may operate forklifts.
2. Do not exceed the forklift capacity (refer to the lift capacity plate on the forklift).
3. Follow the manufacturer's guidelines concerning changes in the lift capacity before adding an attachment to a forklift.
4. Lift the load an inch two to test stability: if the rear wheels are not in firm contact with the floor, take a lighter load or use a forklift with a higher capacity.
5. Do not raise or lower a load while you are in route. Wait until you are in the loading area and have stopped before raising or lowering the load.
6. After picking up a load, adjust the forks so that the load is tilted slightly backward for added stability.
7. Drive with the load at the ground clearance height of 4-6 inches at the tips and 2 inches at the heels in order to clear most uneven surfaces and debris.
8. Drive at a walking pace and apply brakes slowly to stop when driving on slippery surfaces such as icy or wet floors.
9. Approach railroad tracks at a 45 degree angle.
10. Do not drive over objects in your pathway.
11. Do not drive into an area with a ceiling height that is lower than the height of the mast or overhead guard.
12. Steer wide when making turns.
13. Do not drive up to anyone standing or walking in from of a fixed object such as a wall.
14. Do not drive along the edge of an unguarded elevated surface such as a loading dock or staging platform.
15. Obey al traffic rules and signs.
16. Sound the horn when approaching blind corners, doorways, or aisles to alert other operators and pedestrians.
17. Do not exceed working speed of five miles per hour and slowdown in congested areas.
18. Stay a minimum distance of three fork truck lengths from other operating mobile equipment.
19. Drive in reverse and use a signal person when your vision is blocked by the load.
20. Look in the direction that you are driving; proceed when you have a clear path.
21. Do not use bare forks as a man-lift platform.
22. Do not load pallets of work that are not banded on to the forklift.
23. Do not drive the forklift while people are on an attached aerial lift platform.
24. Drive loaded forklifts forward up ramps and in reverse when driving down a ramp.
25. Drive unloaded forklifts in reverse while going up a ramp and forward when going down a ramp.

26. Raise the forks an additional two inches to avoid hitting or scraping the ramp surface as you approach the ramp.
27. Do not attempt to turn around on a ramp.
28. Do not use "Reverse" to brake.
29. Lower the forks completely, turn off the engine and set the parking brake before leaving your forklift.

Compressed Gas Cylinders – Storage & Handling

1. Do not handle oxygen cylinders if your gloves are greasy or oily.
2. Store all cylinders in the upright position.
3. Place the valve protection caps on gas cylinders that are in storage or not in use.
4. Do not lift cylinders by the valve protection cap.
5. Do not store compressed gas cylinders in areas where they can come in contact with chemicals labeled "Corrosive".
6. Do not place cylinders against electrical panels or live electrical cords where they cylinder can become part of the circuit.
7. Do not store oxygen cylinders near fuel gas cylinders such as propane or acetylene, or near combustible material such as oil or grease.
8. If a cylinder is leaking around a valve or a fuse plug, move it to an outside area away from where work is performed and tag it to indicate the defect.

Hand Truck Safety

1. When load hand trucks, keep your feet clear of the wheels.
2. Do not exceed the manufacturer's load rated capacity. Read the capacity plate on the hand truck if you are unsure.
3. Place the load so that it will not slip, shift or fall. Use the straps, if they are provided, to secure the load.
4. For extremely bulky or pressurized items, such as gas cylinders, strap or chain the items to the hand truck.
5. Tip the load slightly forward so that the tongue of the hand truck goes under the load.
6. Push the tongue of the hand truck all the way under the load that is to be moved.
7. Keep the center of gravity of the load as low as possible by placing heavier objects below the lighter objects.
8. Push the load so that the weight will be carried by the axle and not the handles.
9. If your view is obstructed, ask a spotter to assist in guiding the load.
10. Do not walk backward with the hand truck, unless going up ramps.
11. When going down an incline, keep the hand truck in front of you so that is can be controlled at all times.
12. Move hand trucks at a walking pace.
13. Store hand trucks with the tongue under the pallet, shelf or table.

Welding/Cutting/Brazing

1. Obey all signs posted in the welding area.
2. Do not leave oily rags, paper such as blueprints or other combustible materials in the welding, cutting or brazing area.
3. Do not perform "hot work", such as welding, metal grinding, or other spark producing operations, within 50 feet of containers labeled "Flammable" or "Combustible".
4. Use the red hose for gas fuel and the green hose for oxygen.
5. Do not use worn, burned or cracked hoses.
6. Do not use oil, grease or other lubricants on the regulator.
7. "Blow Out" hoses before attaching the torch.
8. Ignite torches with friction lighters only. Do not use a cigarette lighter.
9. Do not change electrodes with bare hands; use dry rubber gloves.
10. Bleed oxygen and fuel lines at the end of the work-shift.
11. Do not wear contact lenses when welding.
12. When welding, wear a welding helmet with filter plates and lenses, welding gloves, a long sleeve shirt, long pants and an apron.
13. Wear clothing made of cotton, wool or non-synthetic fibers. Wear long sleeve shirts, long pants and gloves.
14. Use the welding screen to shield other employees from flying slag and intense light.
15. Before welding place the floor fan behind you to keep welding fumes away from your face.
16. Do not use a torch on any container that is labeled "Flammable" or "Combustible".

Job Specific Safety Precautions

Electrical Arc Welding

1. Obey all signs posted in the welding area.
2. Use the welding screen to shield other employees from flying slag and intense light,
3. Wear a welding helmet with filter plates and lenses, welding gloves, a long sleeve shirt and long pants when welding.
4. Do not perform welding tasks while wearing wet cotton gloves or wet leather gloves.
5. Do not change electrodes with bare hands; use dry welder's gloves.
6. Do not use welding apparatus if the power cord is cut, frayed, split or otherwise visibly damaged or modified.

Spray Painting

1. Store rags that have oil or paint on them in closed metal containers labeled "oily rags".
2. Press the pressure relief valve on painting canisters and painting guns prior to disconnecting them.
3. Do not eat, drink smoke or apply cosmetics where spray painting is taking place.
4. Do not operate spark inducing tools such as grinder, drills, or saws near containers labeled: "Flammable" or in an explosive atmosphere such as paint spray booths or rooms.
5. Perform all spray painting operations in the spray booth or room.
6. Do not point the spray gun toward any part of your body or at anyone else.
7. Turn the control switch to the "on" position to operate the mechanical ventilation system before and during all spraying operations.

The Respirable Crystalline Silica Program

PURPOSE

This Respirable Crystalline Silica Program was developed to prevent employee exposure to hazardous levels of Respirable Crystalline Silica that could result through construction activities or nearby construction activities occurring on worksites. Respirable Crystalline Silica exposure at hazardous levels can lead to lung cancer, silicosis, chronic obstructive pulmonary disease, and kidney disease. It is intended to meet the requirements of the Respirable Crystalline Silica Construction Standard (29 CFR 1926.1153) established by the Occupational Safety and Health Administration (OSHA).

All work involving chipping, cutting, drilling, grinding, or similar activities on materials containing Crystalline Silica can lead to the release of respirable-sized particles of Crystalline Silica (i.e. Respirable Crystalline Silica). Crystalline Silica is a basic component of soil, sand, granite and many other minerals. Quartz is the most common form of Crystalline Silica. Many materials found on constructions sites include Crystalline Silica; including but not limited to – cement, concrete, asphalt, pre-formed structures (inlets, pipe, etc.) and others. Consequently, this program has been developed to address and control these potential exposures to prevent our employees from experiencing the effects of occupational illnesses related to Respirable Crystalline Silica exposure.

SCOPE

This Respirable Crystalline Silica Program applies to all employees who have the potential to be exposed to Respirable Crystalline Silica when covered by the OSHA Standard. The OSHA Respirable Crystalline Silica Construction Standard applies to all occupational exposures to Respirable Crystalline Silica in construction work, except where employee exposure will remain below 25 micrograms of Respirable Crystalline Silica per cubic meter of air (25 $\mu g/m^3$) as an 8-hour time-weighted average (TWA) under any foreseeable conditions.

RESPONSIBILITIES

TCI COMPANIES, INC. firmly believes protecting the health and safety of our employees is everyone's responsibility. This responsibility begins with upper management providing the necessary support to properly implement this program. However, all levels of the organization assume some level of responsibility for this program including the following positions.

Upper Management:

- Conduct job site assessments for Silica containing materials and perform employee Respirable Crystalline Silica hazard assessments in order to determine if an employee's exposure will be above 25 $\mu g/m^3$ as an 8-hour TWA under any foreseeable conditions

- Select and implement into the project's ECP the appropriate control measures in accordance with the Construction Tasks identified in OSHA's Construction Standard Table 1; and potentially including (but not limited to) - a written Exposure Control Plan (ECP), exposure monitoring, Hazard Communication training, medical surveillance, housekeeping and others.

NOTE: OSHA's Construction Standard Table 1 is a list of 18 common construction tasks along with acceptable exposure control methods and work practices that limit exposure for those tasks.

- Ensure that the materials, tools, equipment, personal protective equipment (PPE), and other resources (such as worker training) required to fully implement and maintain this Respirable Crystalline Silica Program are in place and readily available if needed.

- Ensure that Project Managers, Site Managers, Competent Persons, and employees are educated in the hazards of Silica exposure and trained to work safely with Silica in accordance with OSHA's Respirable Crystalline Silica Construction Standard and OSHA's Hazard Communication Standard. Managers and Competent Persons may receive more advanced training than other employees.

- Maintain written records of training (for example, proper use of respirators), ECPs, inspections (for equipment, PPE, and work methods/practices), medical surveillance (under lock and key), respirator medical clearances (under lock and key) and fit-test results.

- Conduct an annual review (or more often if conditions change) of the effectiveness of this program and any active project ECP's that extend beyond a year. This includes a review of available dust control technologies to ensure these are selected and used when practical.

- Coordinate work with other employers and contractors to ensure a safe work environment relative to Silica exposure.

Competent Person and/or Site Manager (Superintendent, Foreman, etc.)

- Ensure all applicable elements of this Respirable Crystalline Silica Program are implemented on the project including the selection of a Competent Person.

- Assist the Upper Management in conducting job site assessments for Silica containing materials and perform employee Respirable Crystalline Silica hazard assessments in order to determine if an ECP, exposure monitoring, and medical surveillance is necessary.

- Assist in the selection and implementation of the appropriate control measures in accordance with the Construction Tasks identified in OSHA's Construction Standard Table 1; and potentially including (but not limited to) - a written Exposure Control Plan (ECP), exposure monitoring, Hazard Communication training, medical surveillance, housekeeping and others.

- Ensure that employees using respirators have been properly trained, medically cleared, and fit-tested in accordance with the company's Respiratory Protection Program. This process will be documented.

- Ensure that work is conducted in a manner that minimizes and adequately controls the risk to workers and others. This includes ensuring that workers use appropriate engineering controls, work practices, and wear the necessary PPE.

- Where there is risk of exposure to Silica dust, verify employees are properly trained on the applicable contents of this program, the project-specific ECP, and the applicable OSHA Standards (such as Hazard Communication). Ensure employees are provided appropriate PPE when conducting such work.

- Make frequent and regular inspections of job sites, materials, and equipment to implement the written ECP.

- Identify existing and foreseeable Respirable Crystalline Silica hazards in the workplace and take prompt corrective measures to eliminate or minimize them.

- Notify the Project Manager and/or Safety Department of any deficiencies identified during inspections in order to coordinate and facilitate prompt corrective action.

- Assist the Project Manager and Safety Department in conducting job site assessments for Silica containing materials and perform employee Respirable Crystalline Silica hazard assessments in order to determine if an ECP, exposure monitoring, and medical surveillance is necessary.

Employees:

- Follow recognized work procedures (such as the Construction Tasks identified in OSHA's Construction Standard Table 1) as established in the project's ECP and this program.

- Use the assigned PPE in an effective and safe manner.

- Participate in Respirable Crystalline Silica exposure monitoring and the medical surveillance program.
- Report any unsafe conditions or acts to the Site Manager and/or Competent Person.
- Report any exposure incidents or any signs or symptoms of Silica illness.

DEFINITIONS

If a definition is not listed in this section, please contact your supervisor. If your supervisor is unaware of what the term means, please contact the Competent Person or your Safety Department.

- Action Level means a concentration of airborne Respirable Crystalline Silica of 25 $\mu g/m^3$, calculated as an 8-hour TWA.
- Competent Person means an individual who is capable of identifying existing and foreseeable Respirable Crystalline Silica hazards in the workplace and who has authorization to take prompt corrective measures to eliminate or minimize them.
- Employee Exposure means the exposure to airborne Respirable Crystalline Silica that would occur if the employee were not using a respirator.
- High-Efficiency Particulate Air (HEPA) Filter means a filter that is at least 99.97 percent efficient in removing monodispersed particles of 0.3 micrometers in diameter.
- Objective Data means information, such as air monitoring data from industry-wide surveys or calculations based on the composition of a substance, demonstrating employee exposure to Respirable Crystalline Silica associated with a particular product or material or a specific process, task, or activity. The data must reflect workplace conditions closely resembling or with a higher exposure potential than the processes, types of material, control methods, work practices, and environmental conditions in the employer's current operations.
- Permissible Exposure Limit (PEL) means the employer shall ensure that no employee is exposed to an airborne concentration of Respirable Crystalline Silica in excess of 50 $\mu g/m^3$, calculated as an 8-hour TWA.
- Physician or Other Licensed Health Care Professional (PLHCP) means an individual whose legally permitted scope of practice (i.e., license, registration, or certification) allows him or her to independently provide or be delegated the responsibility to provide some or all of the particular health care services required by the Medical Surveillance Section of the OSHA Respirable Crystalline Silica Standard.
- Respirable Crystalline Silica means Quartz, Cristobalite, and/or Tridymite contained in airborne particles that are determined to be respirable by a sampling device designed to meet the characteristics for respirable-particle size-selective samplers specified in the International Organization for Standardization (ISO) 7708:1995: Air Quality-Particle Size Fraction Definitions for Health-Related Sampling.
- Specialist means an American Board Certified Specialist in Pulmonary Disease or an American Board Certified Specialist in Occupational Medicine.

REQUIREMENTS

Specified Exposure Control Methods

When possible and applicable, TCI COMPANIES, INC. will conduct activities with potential Silica exposure to be consistent with OSHA's Construction Standard Table 1. Supervisors will ensure each employee under their supervision and engaged in a task identified on OSHA's Construction Standard Table 1 have fully and properly implemented the engineering controls, work practices, and respiratory protection specified for the task on Table 1 (unless TCI COMPANIES, Inc. has assessed and limited the exposure of the employee to Respirable Crystalline Silica in accordance with the Alternative Exposure Control Methods Section of this program).

The task(s) being performed by TCI COMPANIES. INC. identified on OSHA's Construction Standard Table 1 is/are: Select any/all of the following that apply:

Table 1: Specified Exposure Control Methods When

Working With Materials Containing Crystalline Silica

Construction Task or Equipment Operation		Engineering and Work Practice Control Methods	Required Respiratory Protection	
			≤ 4 hours/shift	>4 hours/shift
1	Stationary masonry saws	Use saw equipped with integrated water delivery system that continuously feeds water to the blade. Operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions.	None	None
2a	Handheld power saws (any blade diameter) when used outdoors	Use saw equipped with integrated water delivery system that continuously feeds water to the blade. Operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions.	None	N95 (or Greater Efficiency) Filtering Facepiece or Half Mask
2b	Handheld power saws (any blade diameter) when used indoors or in an enclosed area	Use saw equipped with integrated water delivery system that continuously feeds water to the blade. Operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions.	N95 (or Greater Efficiency) Filtering Facepiece or Half Mask	N95 (or Greater Efficiency) Filtering Facepiece or Half Mask
3	Handheld power saws for cutting fiber-cement board (with blade diameter of 8 inches or less) for tasks performed outdoors only	Use saw equipped with commercially available dust collection system. Operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions. Dust collector must provide the air flow recommended by the tool manufacturer, or greater, and have a filter with 99% or greater efficiency.	None	None
4a	Walk-behind saws when used outdoors	Use saw equipped with integrated water delivery system that continuously feeds water to the blade. Operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions.	None	None
4b	Walk-behind saws when used indoors or in an enclosed area	Use saw equipped with integrated water delivery system that continuously feeds water to the blade.	N95 (or Greater Efficiency)	N95 (or Greater Efficiency)

Construction Task or Equipment Operation		Engineering and Work Practice Control Methods	Required Respiratory Protection	
			≤ 4 hours/shift	>4 hours/shift
		Operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions.	Filtering Facepiece or Half Mask	Filtering Facepiece or Half Mask
5	Drivable saws for tasks performed outdoors only	Use saw equipped with integrated water delivery system that continuously feeds water to the blade. Operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions.	None	None
6	Rig-mounted core saws or drills	Use tool equipped with integrated water delivery system that supplies water to cutting surface. Operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions.	None	None
7	Handheld and stand-mounted drills (including impact and rotary hammer drills)	Use drill equipped with commercially available shroud or cowling with dust collection system. Operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions. Dust collector must provide the air flow recommended by the tool manufacturer, or greater, and have a filter with 99% or greater efficiency and a filter-cleaning mechanism. Use a HEPA-filtered vacuum when cleaning holes.	None	None
8	Dowel drilling rigs for concrete for tasks performed outdoors only	Use shroud around drill bit with a dust collection system. Dust collector must have a filter with 99% or greater efficiency and a filter cleaning mechanism. Use a HEPA-filtered vacuum when cleaning holes.	N95 (or Greater Efficiency) Filtering Facepiece or Half Mask	N95 (or Greater Efficiency) Filtering Facepiece or Half Mask
9a	Vehicle-mounted drilling rigs for rock and concrete	Use dust collection system with close capture hood or shroud around drill bit with a low-flow water spray to wet the dust at the discharge point from the dust collector.	None	None
9b	Vehicle-mounted drilling rigs for rock and concrete	Operate from within an enclosed cab and use water for dust suppression on drill bit.	None	None
10a	Jackhammers and handheld powered chipping tools when used outdoors	Use tool with water delivery system that supplies a continuous stream or spray of water at the point of impact.	None	N95 (or Greater Efficiency) Filtering Facepiece or Half Mask
10b	Jackhammers and handheld powered chipping tools when used indoors or in an enclosed area	Use tool with water delivery system that supplies a continuous stream or spray of water at the point of impact.	N95 (or Greater Efficiency) Filtering Facepiece or Half Mask	N95 (or Greater Efficiency) Filtering Facepiece or Half Mask
10c	Jackhammers and handheld powered	Use tool equipped with commercially available shroud and dust collection system.	None	N95 (or Greater

Construction Task or Equipment Operation		Engineering and Work Practice Control Methods	Required Respiratory Protection	
			≤ 4 hours/shift	>4 hours/shift
	chipping tools when used outdoors	Operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions. Dust collector must provide the air flow recommended by the tool manufacturer, or greater, and have a filter with 99% or greater efficiency and a filter-cleaning mechanism.		Efficiency) Filtering Facepiece or Half Mask
10d	Jackhammers and handheld powered chipping tools when used indoors or in an enclosed area	Use tool equipped with commercially available shroud and dust collection system. Operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions. Dust collector must provide the air flow recommended by the tool manufacturer, or greater, and have a filter with 99% or greater efficiency and a filter-cleaning mechanism.	N95 (or Greater Efficiency) Filtering Facepiece or Half Mask	N95 (or Greater Efficiency) Filtering Facepiece or Half Mask
11	Handheld grinders for mortar removal (i.e., tuckpointing)	Use grinder equipped with commercially available shroud and dust collection system. Operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions. Dust collector must provide 25 cubic feet per minute (cfm) or greater of airflow per inch of wheel diameter and have a filter with 99% or greater efficiency and a cyclonic pre-separator or filter-cleaning mechanism.	N95 (or Greater Efficiency) Filtering Facepiece or Half Mask	Powered Air-Purifying Respirator (PAPR) with P100 Filters
12a	Handheld grinders for uses other than mortar removal for tasks performed outdoors only	Use grinder equipped with integrated water delivery system that continuously feeds water to the grinding surface. Operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions.	None	None
12b	Handheld grinders for uses other than mortar removal when used outdoors	Use grinder equipped with commercially available shroud and dust collection system. Operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions. Dust collector must provide 25 cubic feet per minute (cfm) or greater of airflow per inch of wheel diameter and have a filter with 99% or greater efficiency and a cyclonic pre-separator or filter-cleaning mechanism.	None	None
12c	Handheld grinders for uses other than mortar removal when used indoors or in an enclosed area	Use grinder equipped with commercially available shroud and dust collection system. Operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions. Dust collector must provide 25 cubic feet per minute (cfm) or greater of airflow per inch of wheel diameter and have a filter with 99% or greater	None	N95 (or Greater Efficiency) Filtering Facepiece or Half Mask

Construction Task or Equipment Operation		Engineering and Work Practice Control Methods	Required Respiratory Protection	
			≤ 4 hours/shift	>4 hours/shift
		efficiency and a cyclonic pre-separator or filter-cleaning mechanism.		
13a	Walk-behind milling machines and floor grinders	Use machine equipped with integrated water delivery system that continuously feeds water to the cutting surface. Operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions.	None	None
13b	Walk-behind milling machines and floor grinders	Use machine equipped with dust collection system recommended by the manufacturer. Operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions. Dust collector must provide the air flow recommended by the manufacturer, or greater, and have a filter with 99% or greater efficiency and a filter-cleaning mechanism. When used indoors or in an enclosed area, use a HEPA-filtered vacuum to remove loose dust in between passes.	None	None
14	Small drivable milling machines (less than half-lane)	Use a machine equipped with supplemental water sprays designed to suppress dust. Water must be combined with a surfactant. Operate and maintain machine to minimize dust emissions.	None	None
15a	Large drivable milling machines (half-lane and larger) for cuts of any depth on asphalt only	Use machine equipped with exhaust ventilation on drum enclosure and supplemental water sprays designed to suppress dust. Operate and maintain machine to minimize dust emissions.	None	None
15b	Large drivable milling machines (half-lane and larger) for cuts of four inches in depth or less on any substrate	Use machine equipped with exhaust ventilation on drum enclosure and supplemental water sprays designed to suppress dust. Operate and maintain machine to minimize dust emissions.	None	None
15c	Large drivable milling machines (half-lane and larger) for cuts of four inches in depth or less on any substrate	Use a machine equipped with supplemental water spray designed to suppress dust. Water must be combined with a surfactant. Operate and maintain machine to minimize dust emissions.	None	None
16	Crushing machines	Use equipment designed to deliver water spray or mist for dust suppression at crusher and other points where dust is generated (e.g., hoppers, conveyers, sieves/sizing or vibrating components, and discharge points). Operate and maintain machine in accordance with manufacturer's instructions to minimize dust emissions. Use a ventilated booth that provides fresh, climate-controlled air to the operator, or a remote control station.	None	None
17a	Heavy equipment and	Operate equipment from within an enclosed cab.	None	None

Construction Task or Equipment Operation		Engineering and Work Practice Control Methods	Required Respiratory Protection	
			≤ 4 hours/shift	>4 hours/shift
	utility vehicles used to abrade or fracture silica-containing materials (e.g., hoe-ramming, rock ripping) or used during demolition activities involving silica-containing materials			
17b	Heavy equipment and utility vehicles used to abrade or fracture silica-containing materials (e.g., hoe-ramming, rock ripping) or used during demolition activities involving silica-containing materials	When employees outside of the cab are engaged in the task, apply water and/or dust suppressants as necessary to minimize dust emissions.	None	None
18a	Heavy equipment and utility vehicles for tasks such as grading and excavating but not including demolishing, abrading, or fracturing silica-containing materials	Apply water and/or dust suppressants as necessary to minimize dust emissions.	None	None
18b	Heavy equipment and utility vehicles for tasks such as grading and excavating but not including demolishing, abrading, or fracturing silica-containing materials	When the equipment operator is the only employee engaged in the task, operate equipment from within an enclosed cab.	None	None

When implementing the control measures specified in Table 1, TCI COMPANIES shall:

- For tasks performed indoors or in enclosed areas, provide a means of exhaust as needed to minimize the accumulation of visible airborne dust;
- For tasks performed using wet methods, apply water at flow rates sufficient to minimize release of visible dust;
- For measures implemented that include an enclosed cab or booth, ensure that the enclosed cab or booth:
    - Is maintained as free as practicable from settled dust;
    - Has door seals and closing mechanisms that work properly;

- Has gaskets and seals that are in good condition and working properly;
- Is under positive pressure maintained through continuous delivery of fresh air;
- Has intake air that is filtered through a filter that is 95% efficient in the 0.3-10.0 μm range (e.g., MERV-16 or better); and
- Has heating and cooling capabilities.

- Where an employee performs more than one task included on OSHA's Construction Standard Table 1 during the course of a shift, and the total duration of all tasks combined is more than four hours, the required respiratory protection for each task is the respiratory protection specified for more than four hours per shift. If the total duration of all tasks on Table 1 combined is less than four hours, the required respiratory protection for each task is the respiratory protection specified for less than four hours per shift.

Alternative Exposure Control Methods

Alternative Exposure Control Methods apply for tasks not listed in OSHA's Construction Standard Table 1, or where TCI COMPANIES, INC. cannot fully and properly implement the engineering controls, work practices, and respiratory protection described in Table 1.

First, TCI COMPANIES, INC. will assess the exposure of each employee who is or may reasonably be expected to be exposed to Respirable Crystalline Silica at or above the Action Level in accordance with either the Performance Option or the Scheduled Monitoring Option.

- **Performance Option** – TCI COMPANIES, INC. will assess the 8-hour TWA exposure for each employee on the basis of any combination of air monitoring data or objective data sufficient to accurately characterize employee exposures to Respirable Crystalline Silica.

- **Scheduled Monitoring Option:**
  - TCI COMPANIES, INC. will perform initial monitoring to assess the 8-hour TWA exposure for each employee on the basis of one or more personal breathing zone air samples that reflect the exposures of employees on each shift, for each job classification, and in each work area. Where several employees perform the same tasks on the same shift and in the same work area, TCI COMPANIES, INC. will plan to monitor a representative fraction of these employees. When using representative monitoring, TCI COMPANIES, INC. will sample the employee(s) who are expected to have the highest exposure to Respirable Crystalline Silica.
  - If initial monitoring indicates that employee exposures are below the Action Level, TCI COMPANIES, INC. will probably discontinue monitoring for those employees whose exposures are represented by such monitoring.
  - Where the most recent exposure monitoring indicates that employee exposures are at or above the Action Level but at or below the PEL, TCI COMPANIES, INC. will repeat such monitoring within six months of the most recent monitoring.
  - Where the most recent exposure monitoring indicates that employee exposures are above the PEL, TCI COMPANIES, INC. will repeat such monitoring within three months of the most recent monitoring.

- Where the most recent (non-initial) exposure monitoring indicates that employee exposures are below the Action Level, TCI COMPANIES, INC. will repeat such monitoring within six months of the most recent monitoring until two consecutive measurements, taken seven or more days apart, are below the Action Level, at which time TCI COMPANIES, INC. will probably discontinue monitoring for those employees whose exposures are represented by such monitoring, except when a reassessment is required. TCI COMPANIES, INC. will reassess exposures whenever a change in the production, process, control equipment, personnel, or work practices may reasonably be expected to result in new or additional exposures at or above the Action Level, or when TCI COMPANIES, INC. has any reason to believe that new or additional exposures at or above the Action Level have occurred.

TCI COMPANIES, INC. will ensure that all Respirable Crystalline Silica samples taken to satisfy the monitoring requirements of this program and OSHA are collected by a qualified individual (i.e. a Certified Industrial Hygienist) and the samples are evaluated by a qualified laboratory (i.e. accredited to ANS/ISO/IEC Standard 17025:2005 with respect to Crystalline Silica analyses by a body that is compliant with ISO/IEC Standard 17011:2004 for implementation of quality assessment programs).

Within five working days after completing an exposure assessment, TCI COMPANIES, INC. will individually notify each affected employee in writing of the results of that assessment or post the results in an appropriate location accessible to all affected employees.

Whenever an exposure assessment indicates that employee exposure is above the PEL, TCI COMPANIES, INC. will describe in the written notification the corrective action being taken to reduce employee exposure to or below the PEL.

Where air monitoring is performed, TCI COMPANIES, INC. will provide affected employees or their designated representatives an opportunity to observe any monitoring of employee exposure to Respirable Crystalline Silica. When observation of monitoring requires entry into an area where the use of protective clothing or equipment is required for any workplace hazard, TCI COMPANIES, INC. will provide the observer with protective clothing and equipment at no cost and shall ensure that the observer uses such clothing and equipment.

Once air monitoring has been performed, TCI COMPANIES, INC. will determine its method of compliance based on the monitoring data and the hierarchy of controls. TCI COMPANIES, INC. will use engineering and work practice controls to reduce and maintain employee exposure to Respirable Crystalline Silica to or below the PEL, unless TCI COMPANIES,INC. can demonstrate that such controls are not feasible. Wherever such feasible engineering and work practice controls are not sufficient to reduce employee exposure to or below the PEL, TCI COMPANIES, INC. will nonetheless use them to reduce employee exposure to the lowest feasible level and shall supplement them with the use of respiratory protection.

In addition to the requirements of this program, TCI COMPANIES, INC. will comply with other programs and OSHA standards (such as 29 CFR 1926.57 [Ventilation]), when applicable where abrasive blasting is conducted using Crystalline Silica-containing blasting agents, or where abrasive blasting is conducted on substrates that contain Crystalline Silica.

Control Methods

TCI COMPANIES, INC. will provide control methods that are either consistent with Table 1 or otherwise minimize worker exposures to Silica. These exposure control methods can include engineering controls, work practices, and respiratory protection. Listed below are control methods to be used when Table 1 is not followed. Use Table 1.

Respiratory Protection

Where respiratory protection is required by this program, TCI COMPANIES, INC. will provide each employee an appropriate respirator that complies with the requirements of the company's Respiratory Protection Program and the OSHA Respiratory Protection Standard (29 CFR 1910.134).

Respiratory protection is required where specified by the OSHA Construction Standard Table 1, for tasks not listed in Table 1, or where the company has not fully and properly implemented the engineering controls, work practices, and respiratory protection described in Table 1. Situations requiring respiratory protection include:

- Where exposures exceed the PEL during periods necessary to install or implement feasible engineering and work practice controls;

- Where exposures exceed the PEL during tasks, such as certain maintenance and repair tasks, for which engineering and work practice controls are not feasible; and

- During tasks for which an employer has implemented all feasible engineering and work practice controls and such controls are not sufficient to reduce exposures to or below the PEL.

Housekeeping

TCI COMPANIES, INC. does not allow dry sweeping or dry brushing where such activity could contribute to employee exposure to Respirable Crystalline Silica unless wet sweeping, HEPA-filtered vacuuming, or other methods that minimize the likelihood of exposure are not feasible.

TCI COMPANIES, INC. does not allow compressed air to be used to clean clothing or surfaces where such activity could contribute to employee exposure to Respirable Crystalline Silica unless:

- The compressed air is used in conjunction with a ventilation system that effectively captures the dust cloud created by the compressed air; or
- No alternative method is feasible.

Written Exposure Control Plan

When employee exposure on a construction project is expected to be at or above the Action Level, a Written Exposure Control Plan (ECP) will be established and implemented. This ECP will contain at least the following elements:

- A description of the tasks in the workplace that involve exposure to Respirable Crystalline Silica;
- A description of the engineering controls, work practices, and respiratory protection used to limit employee exposure to Respirable Crystalline Silica for each task;
- A description of the housekeeping measures used to limit employee exposure to Respirable Crystalline Silica; and
- A description of the procedures used to restrict access to work areas, when necessary, to minimize the number of employees exposed to Respirable Crystalline Silica and their level of exposure, including exposures generated by other employers or sole proprietors.

The written ECP will designate a Competent Person to make frequent and regular inspections of job sites, materials, and equipment to ensure the ECP is implemented.

The written ECP will be reviewed at least annually to evaluate the effectiveness of it and update it as necessary. Having said this, ECP's are project specific and most project durations do not exceed a year. The written ECP will be readily available for examination and copying, upon request, to each employee covered by this program and/or ECP, their designated representatives, and OSHA.

Medical Surveillance

Medical surveillance will be made available for each employee who will be required to use a respirator for 30 or more days per year due to their Respirable Crystalline Silica exposure. Medical surveillance (i.e. medical examinations and procedures) will be performed by a PLHCP and provided at no cost to the employee at a reasonable time and place.

TCI COMPANIES, INC. will make available an initial (baseline) medical examination within 30 days after initial assignment, unless the employee has received a medical examination that meets the requirements of the OSHA Respirable Crystalline Silica Construction Standard within the last three years. The examination shall consist of:

- A medical and work history, with emphasis on past, present, and anticipated exposure to Respirable Crystalline Silica, dust, and other agents affecting the respiratory system in addition to any history of respiratory system dysfunction, including signs and symptoms of respiratory disease (e.g., shortness of breath, cough, wheezing), history of tuberculosis, and smoking status and history;
- A physical examination with special emphasis on the respiratory system;
- A chest X-ray (a single postero-anterior radiographic projection or radiograph of the chest at full inspiration recorded on either film [no less than 14 x 17 inches and no more than 16 x 17 inches] or digital radiography systems) interpreted and classified according to the International Labour Office (ILO) International Classification of Radiographs of Pneumoconiosis by a NIOSH-certified B Reader;

- A pulmonary function test to include forced vital capacity (FVC) and forced expiratory volume in one second (FEV1) and FEV1/FVC ratio, administered by a spirometry technician with a current certificate from a NIOSH-approved spirometry course;
- Testing for latent tuberculosis infection; and
- Any other tests deemed appropriate by the PLHCP.

TCI COMPANIES, INC. will make available medical examinations that include the aforementioned procedures (except testing for latent tuberculosis infection) at least every three years. If recommended by the PLHCP, periodic examinations can be more frequently than every three years.

TCI COMPANIES, INC. will ensure that the examining PLHCP has a copy of the OSHA Respirable Crystalline Silica Construction Standard, this program, and the following information:

- A description of the employee's former, current, and anticipated duties as they relate to the employee's occupational exposure to Respirable Crystalline Silica;
- The employee's former, current, and anticipated levels of occupational exposure to Respirable Crystalline Silica;
- A description of any personal protective equipment (PPE) used or to be used by the employee, including when and for how long the employee has used or will use that equipment; and
- Information from records of employment-related medical examinations previously provided to the employee and currently within the control of TCI COMPANIES, INC.

TCI COMPANIES, INC. will ensure that the PLHCP explains to the employee the results of the medical examination and provides each employee with a written medical report within 30 days of each medical examination performed. The written report shall contain:

- A statement indicating the results of the medical examination, including any medical condition(s) that would place the employee at increased risk of material impairment to health from exposure to Respirable Crystalline Silica and any medical conditions that require further evaluation or treatment;
- Any recommended limitations on the employee's use of respirators;
- Any recommended limitations on the employee's exposure to Respirable Crystalline Silica; and;
- A statement that the employee should be examined by a Specialist if the chest X-ray is classified as 1/0 or higher by the B Reader, or if referral to a Specialist is otherwise deemed appropriate by the PLHCP.

TCI COMPANIES, INC. will also obtain a written medical opinion from the PLHCP within 30 days of the medical examination. The written opinion shall contain only the following in order to protect the employee's privacy:

- The date of the examination;
- A statement that the examination has met the requirements of the OSHA Respirable Crystalline Silica Construction Standard; and
- Any recommended limitations on the employee's use of respirators.

If the employee provides written authorization, the written opinion shall also contain either or both of the following:

- Any recommended limitations on the employee's exposure to Respirable Crystalline Silica; and/or
- A statement that the employee should be examined by a Specialist if the chest X-ray is classified as 1/0 or higher by the B Reader, or if referral to a Specialist is otherwise deemed appropriate by the PLHCP.

If the PLHCP's written medical opinion indicates that an employee should be examined by a Specialist, TCI COMPANIES, INC. will make available a medical examination by a Specialist within 30 days after receiving the PLHCP's written opinion. TCI COMPANIES, INC. will ensure that the examining Specialist is provided with all of the information that the employer is obligated to provide to the PLHCP.

TCI COMPANIES, INC. will ensure that the Specialist explains to the employee the results of the medical examination and provides each employee with a written medical report within 30 days of the examination. The written report will contain:

- A statement indicating the results of the medical examination, including any medical condition(s) that would place the employee at increased risk of material impairment to health from exposure to Respirable Crystalline Silica and any medical conditions that require further evaluation or treatment;
- Any recommended limitations on the employee's use of respirators; and
- Any recommended limitations on the employee's exposure to respirable crystalline Silica.

In addition, TCI COMPANIES, INC. will obtain a written opinion from the Specialist within 30 days of the medical examination. The written opinion shall contain the following:

- The date of the examination;
- Any recommended limitations on the employee's use of respirators; and
- If the employee provides written authorization, the written opinion shall also contain any recommended limitations on the employee's exposure to Respirable Crystalline Silica.

Hazard Communication

TCI COMPANIES, INC. will include Respirable Crystalline Silica in the company's Hazard Communication Program established to comply with the OSHA Hazard Communication Standard (29 CFR 1910.1200).

TCI COMPANIES, INC. will ensure that each employee has access to labels on containers of Crystalline Silica and those containers respective Safety Data Sheets (SDS's).

All employees will be trained in accordance with the provisions of the OSHA Hazard Communication Standard and the Training Section of this program. This training will cover concerns relating to cancer, lung effects, immune system effects, and kidney effects.

TCI COMPANIES, INC. will ensure that each employee with the potential to be exposed at or above the Action Level for Respirable Crystalline Silica can demonstrate knowledge and understanding of at least the following:

- The health hazards associated with exposure to Respirable Crystalline Silica;
- Specific tasks in the workplace that could result in exposure to Respirable Crystalline Silica;
- Specific measures TCI COMPANIES, INC. has implemented to protect employees from exposure to Respirable

- Crystalline Silica, including engineering controls, work practices, and respirators to be used;
- The contents of the OSHA Respirable Crystalline Silica Construction Standard;
- The identity of the Competent Person designated by TCI COMPANIES, INC.; and
- The purpose and a description of the company's Medical Surveillance Program.

TCI COMPANIES, INC. will make a copy of the OSHA Respirable Crystalline Silica Construction Standard readily available without cost to any employee who requests it.

Recordkeeping

TCI COMPANIES, INC. will make and maintain an accurate record of all exposure measurements taken to assess employee exposure to Respirable Crystalline Silica. This record will include at least the following information:

- The date of measurement for each sample taken;
- The task monitored;
- Sampling and analytical methods used;
- Number, duration, and results of samples taken;
- Identity of the laboratory that performed the analysis;
- Type of personal protective equipment (PPE), such as respirators, worn by the employees monitored; and
- Name, social security number, and job classification of all employees represented by the monitoring, indicating which employees were actually monitored.

TCI COMPANIES, INC. will ensure that exposure records are maintained and made available in accordance with 29 CFR 1910.1020. Exposure records will be kept for at least 30 years.

The employer shall make and maintain an accurate record of all objective data relied upon to comply with the requirements of the OSHA Respirable Crystalline Silica Construction Standard. This record shall include at least the following information:

- The Crystalline Silica-containing material in question;
- The source of the objective data;
- The testing protocol and results of testing;
- A description of the process, task, or activity on which the objective data were based; and
- Other data relevant to the process, task, activity, material, or exposures on which the objective data were based.

TCI COMPANIES, INC. will ensure that objective data are maintained and made available in accordance with 29 CFR 1910.1020. Objective data records will be kept for at least 30 years.

TCI COMPANIES, INC. will make and maintain an accurate record for each employee enrolled in the Medical Surveillance portion of this program. The record shall include the following information about the employee:

- Name and social security number;
- A copy of the PLHCPs' and/or Specialists' written medical opinions; and
- A copy of the information provided to the PLHCPs and Specialists.

TCI COMPANIES, INC. will ensure that medical records are maintained and made available in accordance with 29 CFR 1910.1020. Medical records will be kept under lock and key for at least the duration of employment plus 30 years. It is necessary to keep these records for extended periods because Silica-related diseases such as cancer often cannot be detected until several

decades after exposure. However, if an employee works for an employer for less than one year, the employer does not have to keep the medical records after employment ends, as long as the employer gives those records to the employee.

PROGRAM EVALUATION

This program will be reviewed and evaluated on an annual basis by the Safety Department unless changes to operations, the OSHA Respirable Crystalline Silica Construction Standard (29 CFR 1926.1153), or another applicable OSHA Standard require an immediate re-validation of this program.

Electrical Safety Program

Policy
Work activities involving electrical hazards shall be conducted safely.

This policy covers minimum performance standards applicable to all company associates employees and locations. Local practices requiring more detailed or stringent rules, client standards or local, state or other federal requirements regarding this subject can and should be added as an addendum to this procedure as applicable.

Purpose
To establish the procedures that shall be followed in the safe performance of work activities involving general electrical hazards.

Scope
Applies to all company work sites; i.e., company offices, client job sites, etc.

Definitions

Approved means acceptable to the authorities.

Authorized Person means a person approved or assigned by the company Associates to perform a specific duty or duties or to be at a specific location or locations at the jobsite.

Cabinet means an enclosure designed either for surface or flush mounting.

Competent Person means one who is capable of identifying existing and predictable hazards in the surroundings or working conditions which are unsanitary, hazardous, or dangerous to employees, and who has the authorization to take prompt corrective measures to eliminate them.

Conductor (bare) means a conductor having no covering or electrical insulation whatsoever.

Conductor (insulated) means a conductor encased within material of composition and thickness that is recognized as electrical insulation.

Defect means any characteristic or condition that tends to weaken or reduce the strength of the tool, object, or structure of which it is a part.

Disconnect means a device, or group of devices, or other means by which the conductors of a circuit can be disconnected from their source of supply.
Enclosed means surrounded by a case, housing, fence or walls which shall prevent persons from accidentally contacting energized parts.

Enclosure means the case or housing of apparatus, or the fence or walls surrounding an installation to prevent personnel from accidentally contacting energized parts, or to protect the equipment from physical damage.

Exposed (as applied to live parts) means capable of being inadvertently touched or approached nearer than a safe distance by a person. It is applied to parts not suitably guarded, isolated, or insulated.

Guarded means covered, shielded, fenced, enclosed, or otherwise protected by means of suitable covers, casings, barriers, rails, screens, mats, or platforms to remove the likelihood of approach to a point of danger or contact by persons or objects.

Isolated means not readily accessible to persons unless special means for access are used.

Labeled means equipment or materials to which has been attached a label, symbol or other identifying mark of a qualified testing laboratory which indicates compliance with appropriate standards or performance in a specified manner.

NEC stands for National Electric Code.

Qualified means persons who are capable of working safely on equipment and are familiar with electrical properties, the proper use of special precautionary techniques, personal protective equipment, insulating and shielding materials, and insulated tools.

Receptacle means a contact device installed at the outlet for the connection of a single attachment plug. A single receptacle is a single contact device with no other contact device on the same yoke. A multiple receptacle is a single device containing two or more receptacles.

Requirements

General

Feasible engineering and administrative controls shall be applied to mitigate or minimize the risk of injury and illness from exposure to electrical hazards. Where such hazards
still exist after application of these controls, local 'hot work' procedures procedures (see local addendum to this section) shall apply and personal protective equipment shall be utilized. Such addenda shall comply with NFPA 70E.

Where feasible, employees shall not perform live electrical work. Branches that engage in live work are required to provide applicable safe work procedures, PPE, and equipment in Addendum to this manual section.

In existing installations, no changes in circuit protection shall be made to increase the load in excess of the load rating of the circuit wiring.

Worn or frayed electric cords or cables shall be removed from work areas for repair or disposal. Plugs equipped with a grounding prong must have the prong in place.
Damaged plugs must be repaired. Repairing cords shall be limited to being completed by an authorized qualified person . as determined by the Branch Safety Officer.

Working spaces, walkways, and similar locations must be kept clear of cords to eliminate hazards.

Extension cords shall not be fastened with staples, hung from nails, or suspended by wire. Control equipment, utilization equipment, and busways approved for use in dry locations only shall be protected against damage from the weather during building construction.

Metal raceways, cable armor, boxes, cable sheathing, cabinets, elbows, couplings, fittings, supports, and support hardware shall be of materials appropriate for the environment in which they are to be installed.

Electrical switches shall be labeled to indicate the system, equipment, service, or tool they control. This includes switch boxes, cabinets, motor control cabinets, stationary equipment, control panels, and other such switches or disconnects.

Persons who perform electrical work shall wear hard hats that are proof tested to 20,000 volts and shall not wear clothing with or without PPE that could increase injury (100% cotton is better than blended materials).

In work areas where the exact location of underground electric power lines is unknown, employees using jackhammers, bars, or other hand tools that may contact a line shall be provided with insulated protective gloves. Gloves must be rated to (or exceed) the voltage for which they may be exposed. The gloves shall be inspected before use and replaced as per the manufacturer's specifications.

Wiring components and equipment in hazardous environments shall be maintained in a condition consistent with NEC requirements (i.e. no loose or missing screws, gaskets, threaded connections, seals, or other impairments to a tight condition).

Hazardous locations are those locations where flammable vapors, liquids or gases, or combustible dusts or fibers may be present. There are six "classifications" for these types of locations, as follows:

- Class I Division 1 and Division 2
- Class II Division 1 and Division 2
- Class III Division 1 and Division 2

Equipment, wiring methods, and installations of electrical equipment in hazardous (classified) locations must be designated as "intrinsically safe" or be approved for the classification location.

Energized Electrical Parts and Systems

This section does not apply to power distribution or transmission lines. Refer to CFR Subpart “R” 1910.269 (servicing) and/or CFR Subpart “V” 1926.950 (Construction) for overhead power transmission and distribution line requirements.

Safety-related work practices shall be employed to prevent electric shock or other injuries resulting from either direct or indirect electrical contacts, when work is performed near or on equipment or circuits which are or may be energized. The specific safety-related work practices shall be consistent with the nature and extent of the associated electrical hazards.

Live parts to which an employee may be exposed shall be de-energized before the employee works on or near them, unless it can be demonstrated that de-energizing introduces additional or increased hazards or is infeasible due to equipment design or operational limitations. Live parts that operate at less than 50 volts to ground need not be deenergized if there will be no increased exposure to electrical burns or to explosion due to electric arcs.

If the exposed live parts are not de-energized (i.e., for reasons of increased or additional hazards or infeasibility), other safety-related work practices shall be used to protect employees who may be exposed to the electrical hazards involved. Such work practices shall protect employees against contact with energized circuit parts directly with any part of their body or indirectly through some other conductive object. The work practices that are used shall be suitable for the conditions under which the work is to be performed and
for the voltage level of the exposed electric conductors or circuit parts. **These work practices will be covered in the Addendum**.

Working on or near exposed de-energized parts

This section applies to work on exposed de-energized parts near enough to expose employee/s to an electrical hazard.

While an employee is exposed to contact with fixed electrical equipment or circuits which have been de-energized, the circuits energizing the parts shall be locked out in accordance with the Energy Control (lockout) section of this manual.

The circuits and equipment to be worked on shall be disconnected from electrical energy sources (and locked out). Control circuit devices, such as push buttons, selector switches, and interlocks, shall not be used as the sole means for de-energizing circuits or equipment.

Procedures for the release of stored electric energy shall be covered in the Addendum to this policy section (as hot work). When capacitors or associated equipment are handled, they shall be treated as energized. Stored non-electrical energy in devices that could reenergize electrical parts shall be blocked or relieved to the extent that the parts could not be accidentally energized by the device.

Working on or near exposed energized parts

Every effort shall be made to preclude work on energized electrical parts. When this is not possible, the requirements of this section shall apply. Potential contact with live energized parts includes work performed on exposed live parts (involving either direct contact or contact by means of tools or materials) or near enough to them for employees to be exposed to any hazard they present.

Only qualified persons shall work on electrical equipment that has not been de-energized. If work is to be performed near overhead lines, the lines shall be de-energized and grounded, or other protective measures shall be provided before work is started.

If the lines are to be de-energized, arrangements shall be made with the person or organization that operates or controls the electric circuits involved to de-energize and ground them. If protective measures, such as guarding, isolating, or insulating are provided, these precautions shall prevent employees from contacting such lines directly with any part of their body or indirectly through conductive materials, tools, or equipment.

Overhead electrical lines

While conducting site activities near overhead lines, field personnel need to be aware of the location of the lines so as not to use conductive equipment (e.g., metal equipment to include: drill rigs; hand auger extensions; geoprobe units; excavators, etc.) in close proximity to power lines.

OSHA 29 CFR 1926.550 requires that any vehicle or mechanical equipment (i.e., drill rigs) capable of having parts of its structure elevated near energized overhead lines shall be operated so that a clearance distance of at least 10 feet is maintained.

When calculating clearance distances for a drill rig, consider both the length of the derrick and the length of the rods. Position the rig such that if rods are ever fully extended from the top of the derrick, the rods will still be at least 10 feet away from the power lines. Note that rods can lean or sway when elevated so it may be necessary to maintain more than a 10- foot distance on the ground to ensure that there is a 10-foot horizontal distance between the rods and the power line.

Higher voltages require greater clearance distances. Contact the electrical utility company to verify line voltage. If the voltage is higher than 50kV, the clearance shall be increased 4 in. for every 10kV over that voltage.

Table 12-1	
Voltage	**Required Clearance**
0-50 kV	10 feet
50-200 kV	15 feet
200-350 kV	20 feet
350-500 kV	25 feet
500-750 kV	35 feet
750-1000 kV	45 feet

Under any of the following conditions, OSHA allows the required clearance to be reduced:

- If a vehicle is in transit with its structure lowered, the clearance shall be reduced to 4 ft. If the voltage is higher than 50kV, the clearance shall be increased 4 in. for every 10kV over that voltage

- If insulating barriers (boots) are installed to prevent contact with the lines, and if the the line being guarded and are not a part of or an attachmentto the vehicle or its raised structure, OSHA allows the clearance to be reduced to a

distance within the designed working dimensions of the insulating barrier. However, while this is permissible according to OSHA, some utility companies are recommending that safe distances, as described previously, be maintained in addition to the insulating barrier.

- If the equipment is an aerial lift insulated for the voltage involved, and if the work is performed by a qualified person, the clearance (between the uninsulated portion of the aerial lift and the power line) may be reduced to the distance given

When an unqualified person is working in an elevated position near overhead lines, or working on the ground in the vicinity of overhead lines, the location shall be such that the person and the longest conductive object he or she may contact cannot come closer to any unguarded, energized overhead line than the clearance distances indicated in Table 12-1.

For voltages normally encountered with overhead power lines, objects which do not have an insulating rating for the voltage involved shall be considered to be conductive.

When a qualified person is working in the vicinity of overhead lines, whether in an elevated position or on the ground, the person shall not approach or take any conductive object without an approved insulating handle closer to exposed energized parts than the clearance distances indicated in Table 12-2, unless:

- The person is insulated from the energized part (gloves, with sleeves if necessary, rated for the voltage involved are considered to be insulation of the person from the energized part on which work is performed), or
- The energized part is insulated both from other conductive objects at a different potential and from the person, or
- The person is insulated from conductive objects at a potential different from that of the energized part.

Table 12-2

Approach Distances for Qualified Employees – Alternating Current

Voltage range (phase to phase)	Minimum approach distance
300V and less	Avoid Contact
Over 300v, not over 750V	1 ft 0” Over
750V, not over 2kV	1 ft 6” over
2kV, not over 15kV	2 ft 0” over
15kV, not over 37kV	3 ft 0” over
37kV, not over 87.5kV	3 ft 6”
Over 87.5kv, not over 121kV	4ft 0”
Over 121kV, not over 140kV	4ft 6”

If the equipment is an aerial lift insulated for the voltage involved, and if the work is performed by a qualified person the clearance (between the uninsulated portion of the aerial lift and the power line) may be reduced to the distance indicated in Table 12-2. However, employees standing on the ground shall not contact the vehicle or mechanical equipment or any of its attachments, unless:

- The employee is using protective equipment rated for the voltage or the equipment is located so that no uninsulated part of its structure (that portion of the structure that provides a conductive path to employees on the ground) can come closer to the line than permitted in this section

- If any vehicle or mechanical equipment capable of having parts of its structure elevated near energized overhead lines is intentionally grounded, employees working on the ground near the point of grounding shall not stand at the grounding location whenever there is a possibility of overhead line contact. Additional precautions, such as the use of barricades or insulation, shall be taken to protect employees from hazardous ground potentials, depending on earth resistivity and fault currents, which can develop within the first few feet or more outward from the grounding point.

Illumination

Employees shall not enter spaces containing exposed energized parts, unless illumination is provided that enables the employees to perform the work safely. Where lack of illumination or an obstruction precludes observation of the work to be performed, employees shall not perform tasks near exposed energized parts. Employees shall not reach blindly into areas which may contain energized parts.

Confined Space or enclosed space work

When an employee works in a confined or enclosed space (such as a manhole or vault) that contains exposed energized parts, protective shields, protective barriers, or insulating materials shall be used as necessary to avoid inadvertent contact with these parts. Doors, hinged panels, and the like shall be secured to prevent swinging into an employee and causing the employee to contact exposed energized parts (reference the Confined Spaces section of this manual).

Conductive materials and equipment

Conductive materials and equipment that are in contact with any part of an employee's body shall be handled in a manner that will prevent them from contacting exposed energized conductors or circuit parts.

For instance, an employee should measure the length of a sledge hammer and the expected radius of his swing prior to using the hammer near an energized circuit. If such a circuit is present, a sign must be posted to warn the employees. The job supervisor must inform the employees of the location of the lines, the hazards involved, and the protective measures to be taken.

Portable ladders

Portable ladders shall have nonconductive siderails if they are used where the employee or the ladder could contact exposed energized parts (reference Ladder section of this manual).

Conductive apparel

Conductive articles of jewelry and clothing (such as watch bands, bracelets, rings, key chains, necklaces, metalized aprons, cloth with conductive thread, or metal headgear) shall not be worn if they might contact exposed energized parts. However, such articles may be worn if they are rendered nonconductive by covering, wrapping, or other insulating means.

Housekeeping duties

Where live parts present an electrical contact hazard, employees shall not perform housekeeping duties at such close distances to the parts that there is a possibility of contact, unless adequate safeguards (such as insulating equipment or barriers) are provided.

Electrically conductive cleaning materials (including conductive solids such as steel wool, metalized cloth, and silicon carbide, as well as conductive liquid solutions) shall not be used in proximity to energized parts unless procedures are followed which will prevent electrical contact.

Interlocks

Only a qualified person following the requirements of this section may defeat an electrical safety interlock, and then only temporarily while working on the equipment. The interlock system shall be returned to its operable condition when this work is completed.

Grounding, GFCIs and Assured Grounding Procedures

Equipment, tools and cord sets shall be provided and utilized so as to protect employees from electrical shock and to prevent fire.

Equipment and tools

Note: Portable equipment which is "double insulated" and endorsed by a nationally recognized testing facility need not have a grounding conductor, but is subject to the inspection requirements of this section.

Tools and equipment subject to inspection and testing include:

- Portable Electrical Tools such as grinders, drills and stapling guns
- Stationary tools such as table saws, drill presses, and jig saws
- Portable electrical extension cords
- Portable and Temporary lighting systems and cords

Receptacles shall be of the grounding type and their contacts shall be grounded by connection to the equipment grounding conductor of the circuit supplying that receptacle in accordance with the NEC.

Visual inspections

Visual inspection of tools and equipment are required prior to each use and shall include:

- General condition
- Plugs and caps, and presence of ground prong
- Electrical cord sets
- External defects, and missing parts

Defective tools shall be tagged, taken out of service and placed in a secured location until they are repaired or destroyed.

Testing

The following tests shall be performed on all applicable equipment:

- Equipment grounding conductors shall be tested for continuity and shall be electrically continuous

- Receptacle and attachment cap or plug shall be tested for correct attachment of the equipment-grounding conductor. The equipment-grounding conductor shall be connected to its terminal

Removal from service

Any equipment failing any test shall be taken out of service, shall be tagged with a "Danger, Do Not Use" tag, secured and repaired or destroyed.

Ground Fault Circuit Interrupters (GFCI's)

Ground Fault Circuit Interrupters (GFCI's) shall be used on receptacles >15 amps up to and including 30 amps for tool and equipment used in construction applications and potentially wet environments (either indoors or outdoors). Receptacles of temporary wiring systems and portable generators shall be protected with a GFCI.

The minimum requirements relative to the use of Ground Fault Circuit Interruptors are:

- Prior to use, and periodically thereafter, verify that the GFCI is in good working order. (e.g., Plug the GFCI in to an outlet, plug a power tool or light in to the GFCI, hit the "test" button and verify that it interrupts current flow). Periodically re-test the GFCI to ensure continued effectiveness.

- Remove from service any GFCI that has insufficient load capacity, is damaged or is ineffective for any reason. Affix a "Danger, Do Not Use" tag and store the GFCI in a secure location until it can be replaced or repaired. Destroy and discard any GFCI that cannot be repaired or re-used.

- Train employees in the provisions of this section as related to safe us of GFCIs. This training should include:
  - Double insulated tools
  - Defective cords and plugs
  - Heavy moisture, and wet conditions
  - Operation, selection, and use of GFCI's

Assured Grounding Program

When this is not possible (feasible) to use GFCI's, the Assured Grounding procedures in this section shall apply and the Branch Office shall include as the Addendum to this policy section an Assured Grounding Program. It is best to avoid situations where an Assured Grounding Program is required because it is very labor intensive to comply. If unavoidable, the elements of this program shall include as a minimum:

- Written description of program
- Program coordinator
- Inspections
- Documented Testing
- Availability of Equipment
- Integrity of testing equipment (repairs/testing of test equipment)
- Handling of defective tools and equipment
- Who will perform tests, and repairs
- Recordkeeping
- How receptacles will be provided with GFCI's

Only qualified persons shall perform inspection and "color code" labeling of tools and equipment.

The color code scheme for labeling tools and equipment, as indicated in the following table, shall be used in the Addendum color scheme. This color code scheme is consistent with guidance from the Association of General Contractors. Tools and equipment shall be color coded on a quarterly basis when inspected and marked according to the Quarterly Code. If inspections are conducted monthly, the Monthly Code should be used.

For example "Red & Blue" means the inspection was conducted in the first quarter during February

Tape Color Coding System		
Month	**Monthly Color Code**	**Quarterly Code**
January	Red	Red
February	Red & Blue	
March	Red & White	
April	Blue	Blue
May	Blue & White	
June	Blue & Green	
July	White	White
August	White & Green	
September	White & Red	
October	Green	Green
November	Green & Red	
December	Green & Blue	

Temporary Wiring

This section applies to temporary electrical power and lighting wiring methods that may be of a class less than would be required for a permanent installation.

Temporary wiring shall be removed immediately upon completion of work and when the purpose for which the wiring was installed no longer applies.

General requirements for temporary wiring

Feeders shall originate in a distribution center. The conductors shall be run as multi- conductor cord or cable assemblies or within raceways.

Branch circuits shall originate in a power outlet or panel board. Conductors shall be run as multi-conductor cord or cable assemblies or open conductors, or shall be run in raceways. Conductors shall be protected by over current devices at their ampacity.

Receptacles shall be of the grounding type. Unless installed in a complete metallic raceway, each branch circuit shall contain a separate equipment-grounding conductor, and receptacles shall be connected to the grounding system. Receptacles shall not be
connected to the same ungrounded conductor of multi-wire circuits that supply temporary lighting.

Disconnecting switches or plug connectors shall be installed to permit the disconnection of ungrounded conductors of each temporary circuit.

Lamps for general illumination shall be protected from accidental contact or breakage. Metal-case sockets shall be grounded.

The electric cords shall not be used to suspend temporary lights unless cords and lights are designed for this means of suspension. Temporary lighting shall be properly supported.

Portable electric lighting used in wet and/or other conductive locations, as for example, drums, tanks, and vessels, shall be operated at 12 volts or less. However, 120-volt lights may be used if protected by a ground-fault circuit interrupter.

A mounted box (with a cover) shall be used wherever a change is made to a raceway system or a cable system that is metal clad or metal sheathed. Non-metallic wiring system joints below seven foot (7') shall have mounted boxes and be covered. Exposed temporary joints shall have the wire nuts or other mechanical devices taped with black (electrical) tape to prevent them from falling off. Temporary joints including the ground wire shall have a mechanical connection.

Flexible cords and cables shall be protected from damage. Sharp corners and projections shall be avoided. Flexible cords and cables may pass through doorways or other pinch points, if protection is provided to avoid damage. Cords and temporary wiring passing through walls shall be properly protected (e.g. sleeved).

Extension cord sets used with portable electric tools and appliances shall be of three-wire type and shall be designed for hard or extra-hard usage. Flexible cords used with temporary and portable lights shall be designed for hard or extra-hard usage. See the NEC, ANSI/NFPA 70, in Article 400, Table 400-4 that lists various types of flexible cords, some of which are noted as being designed for hard or extra-hard usage. Note: SEU, SER or other similar cables cannot be laid on the floor despite their rating.

For temporary wiring over 600 volts, nominal, fencing, barriers, or other effective means shall be provided to prevent access of other than authorized and qualified personnel.

Required tests should be performed as indicated below:

- Before first use
- Before being returned to service following any repairs
- Before being used, after any incident that can be reasonably suspected to have caused damage (for example, when a cord set is run over)
- At intervals not to exceed 3 months

Test equipment must be evaluated for proper operation immediately before and after tests are conducted.

Batteries

General

Batteries of the unsealed type shall be located in enclosures with outside vents or in well ventilated rooms and shall be arranged so as to prevent the escape of fumes, gases, or electrolyte spray into other areas.

Ventilation shall be provided to ensure diffusion of the gases from the battery and to prevent the accumulation of an explosive mixture.

Appropriate face shields, aprons, goggles and rubber gloves shall be provided for workers handling acids or batteries. Contact lenses are prohibited while working with batteries, unless using a type of goggle that will not allow the transference of gases.

Facilities for quick drenching of the eyes and body shall be provided within 25 feet of battery handling areas. Facilities shall be provided for flushing and neutralizing spilled electrolyte and for fire protection in the areas of battery use.

Battery charging installations shall be located in areas designated for that purpose. When batteries are being charged, the vent caps shall be kept in place to avoid electrolyte spray. Vent caps shall be maintained in a functioning condition.

Battery manufacturer guideline specifics covering Handling and transporation through
Disposal of this policy section shall be met.

Smoking, eating or drinking in areas where batteries are being stored, charged or worked with is prohibited.

Handling and Transportation

Packaging, markings and transportation of batteries shall be in accordance with Federal, State and local laws, regulations and standards.

After the packaging is removed, batteries shall be inspected for defect, including, but not limited to:

- Bulging
- Cracking
- Leaking

Batteries shall not be forced into equipment/locations. Where feasible, old and new batteries shall not be intermixed

Storage

Batteries shall be kept in their original packaging until they are ready to be used. New and used batteries shall be kept separate to distinguish them.

Batteries should be stored separate from combustibles and flammables and protected from being crushed, punctured or exposed to incompatible environmental conditions.

Used batteries, not intended for re-use, shall be properly disposed.

Disposal

Batteries being disposed of shall be done so in accordance with Federal, State and local laws, regulations and standards. When possible, batteries should be recycled.

Clearances in the Work Place

Employees shall not be permitted to work in such proximity to any part of an electric power circuit that the employee could contact the electric power circuit in the course of work, unless the employee is protected against electric shock by deenergizing the circuit and grounding it (if appropriate) or by guarding it effectively by insulation or other means.

Supervisors and/or Competent Person(s) shall ascertain by inquiry, direct observation, or by instruments, whether any part of an energized electric power circuit, exposed or concealed, is so located that the performance of the work may bring any person, tool, or machine into physical or electrical contact with the electric power circuit. The supervisor/Competent Person shall post and maintain proper warning signs where such a circuit exists. The supervisor/Competent Person shall advise employees of the location of such lines, the hazards involved, and the protective measures to be taken.

Barriers or other means of guarding shall be provided to ensure that workspace for electrical equipment will not be used as a passageway during periods when energized parts of electrical equipment are exposed.

Fuses

Installing or removing fuses shall be considered as work with live electrical energy and shall be covered in the Addendum to this policy section for operations conducting such activities.

Persons who perform work on high voltage fuses (over 600 volts) shall wear appropriate head, face, body flash suits, protective footwear and insulated gloves.

Insulating electrical gloves, sleeves, aprons, and other protective electrical clothing shall be tested for leaks and integrity prior to initial use and periodically.

Protector gloves shall be worn over insulating gloves, except as defined in the above referenced standard.

Only manufacturer-qualified personnel shall inspect and make repairs to electrical insulating protective clothing.

Work Space Clearances - 600 Volts, nominal, or less

Working space about electric equipment

Sufficient access and working space shall be provided and maintained about electric equipment to permit ready and safe operation and maintenance of such equipment.

Working clearances

Except as required or permitted elsewhere in this section, the dimension of the working space in the direction of access to live parts operating at 600 volts or less and likely to require examination, adjustment, servicing, or maintenance while live shall not be less than indicated in the table below.

In addition to the dimensions shown in the following table, workspace shall not be less than 30 inches wide in front of the electric equipment. Distances shall be measured from the live parts if they are exposed or from the enclosure front or opening if the live parts are enclosed. Walls constructed of concrete, brick, or tiles are considered to be grounded.

Working space is not required in back of assemblies such as dead-front switchboards or motor control centers where there are no renewable or adjustable parts such as fuses or switches on the back and where connections are accessible from locations other than the back.

Minimum Depth of Clear Working Space in Front of Electric Equipment
(feet)

Nominal voltage to ground conditions*	(a)*	(b)*	(c)*
0-150	3	3	3
151-600	3	3 1/2	4

*Conditions (a), (b), and (c) are as follows: (a) Exposed live parts on one side and no live or grounded parts on the other side of the working space, or exposed live parts on both sides effectively guarded by insulating material. Insulated wire or insulated bus bars operating at not over 300 volts are not considered live parts. (b) Exposed live parts on one side and grounded parts on the other side. (c) Exposed live parts on both sides of the workspace [not guarded as provided in Condition (a)] with the operator between.

Note: For International System of Units (SI): one foot=0.3048m.

Working space required by this in this section shall not be used for storage. When normally enclosed live parts are exposed for inspection or servicing, the working space, if in a passageway or general open space shall be guarded.

At least one entrance shall be provided to give access to the working space about electric equipment.

Where there are live parts normally exposed on the front of switchboards or motor control centers, the working space in front of such equipment shall not be less than 3 feet.

The minimum headroom of working spaces about service equipment, switchboards, panel boards, or motor control centers shall be 6 feet 3 inches.

Guarding of live parts

Except as required or permitted live parts of electrical equipment operating at 50 volts or more shall be guarded against accidental contact by cabinets or other forms of enclosures, or by any of the following means:

- By location in a room, vault, or similar enclosure that is accessible only to qualified persons
- By partitions or screens so arranged that only qualified persons will have access to the space within reach of the live parts. Any openings in such partitions or screens shall be so sized and located that persons are not likely to come into accidental contact with the live parts or to bring conducting objects into contact with them
- By location on a balcony, gallery, or platform so elevated and arranged as to exclude unqualified persons

In locations where electric equipment could be exposed to physical damage, enclosures or guards shall be so arranged and of such strength to prevent damage.

Entrances to rooms and other guarded locations containing exposed live parts shall be marked with conspicuous warning signs forbidding unqualified persons to enter.

Work Space Clearances - over 600 volts, nominal
Conductors and equipment used on circuits exceeding 600 volts, nominal, shall comply with all applicable provisions of this section and with the following provisions that supplement or modify those requirements. The provisions of paragraphs listed paragraphs of this section do not apply to equipment on the supply side of the service conductors.

- Installations accessible to qualified persons only
- Installations accessible to unqualified person(s)

- Workspace about equipment

Enclosure for electrical installations

Electrical installations in a vault, room, closet or in an area surrounded by a wall, screen, or fence, access to which is controlled by lock and key or other equivalent means, are considered to be accessible to qualified persons only.

A wall, screen, or fence less than 8 feet in height is not considered adequate to prevent access unless it has other features that provide a degree of isolation equivalent to an 8- foot fence. The entrances to buildings, rooms or enclosures containing exposed live parts or exposed conductors operating at over 600 volts, nominal, shall be kept locked or shall be under the observation of a qualified person at all times.

Installations accessible to qualified persons only

Electrical installations having exposed live parts shall be accessible to qualified persons only and shall comply with requirements of this standard and applicable regulatory standards.

Installations accessible to unqualified person(s)

Electrical installations that are open to unqualified persons shall be made with metal- enclosed equipment or shall be enclosed in a vault or in an area, access to which is controlled by a lock. Metal-enclosed switchgear, unit substations, transformers, pull boxes, connection boxes, and other similar associated equipment shall be marked with appropriate caution signs. If equipment is exposed to physical damage from vehicular traffic, guards shall be provided to prevent such damage. Ventilating or similar openings in metal-enclosed equipment shall be designed so that foreign objects inserted through these openings will be deflected from energized parts.

Workspace about equipment

Sufficient space shall be provided and maintained about electric equipment to permit ready and safe operation and maintenance of such equipment. Where energized parts are exposed, the minimum clear workspace shall not be less than 6 feet 6 inches high (measured vertically from the floor or platform), or less than 3 feet wide (measured parallel to the equipment). The depth shall be as required in the table below. The workspace shall be adequate to permit at least a 90-degree opening of doors or hinged panels.

The minimum clear working space in front of electric equipment such as switchboards, control panels, switches, circuit breakers, motor controllers, relays, and similar equipment shall not be less than specified in the following table, unless otherwise specified. Distances shall be measured from the live parts if they are exposed, or from the enclosure front or opening if the live parts are enclosed.

However, working space is not required in back of equipment such as dead front switchboards or control assemblies where there are no renewable or adjustable parts (such as fuses or switches) on the back and where connections are accessible from locations other than the back. Where rear access is required to work on de-energized parts on the back of enclosed equipment, a minimum working space of thirty (30) inches horizontally shall be provided.

Minimum Depth of Clear Working Space in Front of Electric Equipment (feet)			
Nominal voltage to ground conditions*	(a)*	(b)*	(c)*
601 to 2,500	3	4	5
2,501 to 9,000	4	5	6
9,001 to 25,000	5	6	9
25,001 to 75 kV	6	8	10
Above 75kV	8	10	12
*Conditions (a), (b), and (c) are as follows: (a) Exposed live parts on one side and no live or grounded parts on the other side of the working space, or exposed live parts on both sides effectively guarded by insulating materials. Insulated wire or insulated bus bars operating at not over 300 volts are not considered live parts. (b) Exposed live parts on one side and grounded parts on the other side. Walls constructed of concrete, brick, or tiles are considered to be grounded surfaces. (c) Exposed live parts on both sides of the workspace [not guarded as provided in Condition (a)] with the operator between.			
Note: For International System of Units (SI): one foot=0.3048m.			

Lighting outlets and points of control

The lighting outlets shall be so arranged that persons changing lamps or making repairs on the lighting system will not be endangered by live parts or other equipment. The points of control shall be so located that persons are not likely to come in contact with any live part or moving part of the equipment while turning on the lights.

Elevation of unguarded live parts

Unguarded live parts above working spaces shall be maintained at elevations not less than specified in the following table.

Elevation of Unguarded Energized Parts Above Working Space	
Nominal voltage between phases	Minimum elevation
601-7,500	8 feet 6 inches
7,501-35,000	9 feet.
Over 35kV	9 feet+0.37 inches per kV above 35kV
Note: For SI units: one inch=25.4 mm; one foot=0.3048 m.	

Entrance and access to workspace

At least one entrance not less than 24 inches wide and 6 feet 6 inches high shall be provided to give access to the working space about electric equipment. On switchboard and control panels exceeding 48 inches in width, there shall be one entrance at each end of such board where practicable. Where bare energized parts at any voltage or insulated energized parts above 600 volts are located adjacent to such entrance, they shall be guarded.

References

OSHA 29 CFR 1910 Subpart R OSHA 29 CFR 1910 Subpart S OSHA 29 CFR 1926 Subpart K OSHA 29 CFR 1926 Subpart V National Electric Code
American National Standards Institute, Z89.2-1971

Forklift Operation

Policy

Forklifts (powered industrial trucks) shall be operated, maintained, and controlled in a safe manner.

This policy covers minimum performance standards applicable to all TCI Companies, Inc.Associates employees and locations. Local practices requiring more detailed or stringent rules, or local, state or other federal requirements regarding this subject can and should be added as an addendum to this procedure as applicable.

Purpose

To define the procedures and standards that apply to the care, control, maintenance, inspection, and operation of forklifts (powered industrial trucks).

Scope

TCI Companies, Inc. associates work sites, i.e., TCI Companies, Inc. offices, client job sites, etc. requiring the use of forklifts (powered industrial trucks).

Definitions

Forklift means a mobile, power-propelled truck used to carry, push, pull, lift, stack, or tier materials. Powered industrial trucks (forklifts) are also commonly known as pallet trucks, rider trucks, fork trucks, or lift trucks.

Requirements

Training

Only trained and authorized persons are permitted to operate a forklift. No employees are allowed to operate a forklift without the proper training. The Branch Safety Officer or designee will administer the forklift operator certification program and maintain training records.

Training shall occur prior to employee operation of any TCI Companies, Inc. forklift, and at least every three years thereafter unless observed performance by the operator dictates the need for more frequent retraining. The following requirements shall be met to become a "Qualified Forklift Operator":

- Perform the demonstrated capability requirement satisfactorily. Each trainee, who satisfactorily completes the qualifications as outlined above, shall be issued a written document as evidence of being a Qualified Forklift Operator.

Inspection and Maintenance

Prior to placing a forklift truck into service, the truck operator shall inspect their vehicle and document this inspection. This inspection is not necessary on days when the forklift will not be placed into service.

Forklifts that are defective, in need of repair or are unsafe shall be tagged "Danger - Do Not Operate." and taken out of service until restored to safe operating condition.

A maintenance log shall be maintained for each forklift to determine when required maintenance is due. Only qualified personnel shall perform maintenance and repair. Maintenance records for each forklift shall be kept on file by the assigned department manager.

General Safe Operating Rules

The following safe operating rules apply to TCI Companies, Inc. associates employees who operate a forklift. Violations of safe operating rules can and will result in retraining and/or disciplinary action.

1) Only TCI Companies, Inc. employees trained as per the requirements of this manual section and authorized by the department manager shall be allowed to operate forklifts

2) TCI Companies, Inc. forklifts shall not be loaned or rented to others for use.

3) Stunt driving and horseplay shall not be permitted.

~~3)~~4) Personnel are not permitted to ride on forklifts except in designated seats that are part of the equipment design.

~~4)~~5) Forklifts shall be equipped with a portable fire extinguisher.

~~5)~~6) Under travel conditions, the forklift shall be operated at a speed that will permit it to be brought to a stop in a safe manner.

~~6)~~7) Traffic regulations shall be observed, including authorized work site speed limits. A safe distance shall be maintained approximately three forklift lengths from the forklift truck ahead.

~~7)~~8) The driver shall be required to slow down and sound the horn at cross aisles and other areas where vision is obstructed. If the load being carried obstructs forward view, the driver shall be required to travel with the load trailing.

~~8)~~9) The driver shall be required to look in the direction of, and keep a clear view of the path of travel.

~~9)~~10) Copies of the manufacturer's operating instructions for each type of forklift shall be readily available for review by operators and supervisory personnel.

~~10)~~11) Lift trucks, stackers, etc., shall have the rated capacity clearly posted on the vehicle so as to be clearly visible to the operator. When the manufacturer provides auxiliary removable counterweights, corresponding alternate rated capacities also shall be clearly shown on the vehicle. These ratings shall not be exceeded.

~~11)~~12) No modifications or additions, which affect the capacity or safe operation of the equipment, shall be made without the manufacturer's written approval. If such modifications or changes are made, the capacity, operation, and maintenance instruction plates, tags, or decals shall be changed accordingly. In no case shall the original safety factor of the equipment be reduced.

~~12)~~13) Steering or spinner knobs shall not be attached to the steering wheel unless the steering mechanism is of a type that prevents road reactions from causing the steering hand wheel to spin. The steering knob shall be mounted within the periphery of the wheel.

~~13) .~~
~~14)~~
~~15)~~14) Forklifts shall have the manufacturer's nameplate showing its weight with attachments, lifting capacity, lift height maximum and other pertinent data. Nameplates or markings shall be maintained in a legible condition and remain in place.
~~16) .~~
~~17)~~
~~18)~~15) Railroad tracks shall be crossed diagonally wherever possible. Parking closer than 8 feet from the center of railroad tracks is prohibited.

~~19)~~16) Grades shall be ascended or descended slowly.

~~20)~~17) When ascending or descending grades in excess of 10 percent, loaded forklifts shall be driven with the load upgrade.

~~21)~~18) Unloaded forklifts should be operated on all grades with the load engaging means downgrade.

~~22)~~19) On grades, the load and load engaging means shall be tilted back if applicable and raised only as far as necessary tee clear the road surface.

~~23)~~

~~24)~~20) No person shall be allowed to stand or pass under the elevated portion of any forklift, whether loaded or empty.

~~25)~~21) There shall be sufficient headroom under overhead installations, lights, pipes, sprinkler system, etc.

~~26)~~

~~27)~~22) Arms or legs are prohibited from being placed between the uprights of the mast or outside the running lines of the forklift.

~~28)~~23) When a forklift is left unattended, ~~,~~ load engaging means shall be fully lowered, controls shall be neutralized, power shall be shut off, and brakes set.

~~29)~~24) Wheels shall be blocked if parked on an incline.

~~30)~~25) A safe distance shall be maintained from the edge of ramps or platforms while on any elevated dock, or platform, or freight car. Forklifts shall not be used for opening or closing freight doors.

~~31)~~26) Dock board or bridge plates shall be properly secured before they are driven over. Dock board or bridge plates shall be driven over carefully and slowly and their rated capacity never exceeded. Portable dock boards shall be secured in position, by being anchored or equipped with devices that will prevent their slipping.

~~32)~~27) An overhead guard shall be used as protection against falling objects. It should be noted that an overhead guard is intended to offer protection from the impact of small packages, boxes, bagged material. etc. representative of the job application, but not to withstand the impact of a falling capacity load.

~~33)~~28) Additional counter weighting of forklifts shall not be allowed unless approved by the manufacturer.

~~34)~~29) Employees shall not jump off a forklift.

~~35)~~30) Forklift operators shall yield to pedestrians.

~~36)~~31) Loads carried shall be secured on the forks to prevent upset / overturn.

Fire Prevention/Protection Policy

PURPOSE

Fire Prevention/Protection Policy is intended to provide compliance with all related regulation and standard safe work practice. The purpose of the policy is to prevent fires and to provide guidelines for action in the event that a fire does occur.

Fire prevention program combines the following policies:

- PPE Policy
- Electrical Safety Policy
- Emergency Action Plan

These policies encompass methods used for incidence avoidance, incident response and specialized training required in the event of a fire.

Issues addressed in the above policies include, but are not limited to:

- Evacuation Procedure
- Extinguisher Training
- Basic Process Safety Training (if applicable)
- Hot Work Safety Training (if applicable)
- Confined Space Entry Safety Training (if applicable)
- Emergency Life Support Training
- Respiratory Protective Devices Training (if applicable)
- Assured Grounding Programs

POLICY

Employees shall be informed of the proper actions to take in the event of a fire. This includes, but is not limited to; notification and evacuation procedures. It is STRESSED that at no time does the task of fighting fire supersede an employee's primary duties of:

- Ensuring their own personal safety and the safety of others.
- Reporting the incident to the proper authority and ensuring personnel accountability for yourself and all subordinates at the jobsite, in accordance with company and client policy.

PROCEDURE

- All employees are responsible for good housekeeping practices to enhance fire prevention methods. Supervisors will be held accountable for the housekeeping of their job sites.
- If applicable, welding machine mufflers will be equipped with an approved spark arresting muffler.
- Only approved containers will be used during fueling operations. These shall be of the self-closing type.
- Flammable material shall be kept under the control. It shall be stored in compliance with applicable OSHA and client regulations. The quantity of flammable/combustible material shall be kept to a minimum on the job site.
- Welding, cutting and grinding sparks shall be contained.
- Hot work areas shall be kept wetted down, and a fire extinguisher and hose maintained on each jobsite.
- Oily rags shall be immediately disposed of in designated hazardous waste containers.
- No hot work is to be performed without a Hot Work Permit.
- All vehicle entry into process areas requires a permit or permission from the operator.
- Use bonding straps to discharge and prevent static charges during transfer of flammable liquids from one container to another.
- Report all spills or suspicious odors immediately.

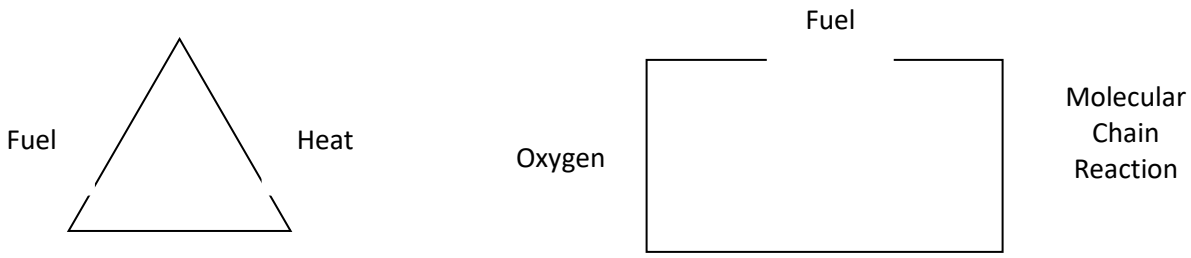
- Fire extinguishers are to be kept in areas easily accessible to employees. Only approved fire extinguishers are to be used. They must have an inspection tag attached. Extinguishers are to be maintained in a fully charged, ready to operate state. Extinguishers are to be inspected before each use and documented annually. Training is provided to all employees who use or may use fire extinguishers.
- **NEVER** put yourself or others a risk while attempting to extinguish an incipient fire.
- **DO NOT USE** any fire hoses larger than 1-3/4", unless fully trained as an industrial firefighter.
- **NEVER** attempt to extinguish a pressurized-fuel fed fire.
- **DO NOT** direct a fire nozzle with a straight stream at any type of LPG fire. This action could extinguish the fire, producing an LPG vapor cloud capable of detonation.
- **DO NOT USE** fire monitors as the force can damage small equipment and certain high chrome alloy equipment cannot have water applied as cracking could occur.
- **DO NOT APPLY** water to any acid or caustic release as it can cause a violent reaction. Additionally, low concentration acids or caustics become extremely corrosive, causing an increasing leak condition.

IN THE EVENT OF A FIRE

- Remain calm
- Only extinguish a fire when it is clearly within your abilities and the equipment available
- Know the location of the nearest alarm and how to activate the emergency system
- Know the evacuation routes and collection points
- If the fire cannot be extinguished, leave the area immediately and report to your evacuation area
- Await further instructions from the Incident Commander, or designated responsible personnel

BASIC FIRE SCIENCE

- The combination of fuel, heat, oxygen equals the well-know fire triangle. To understand fire better, a fourth factor is added, a molecular chain reaction. This is due to the fact that fire results from a series of reactions in which complicated molecules "crack" into easily oxidized fragments. Disruption of this chain, along with the removal of fuel, heat or oxygen, is recognized as a method of fire extinguishment through the use of dry chemical extinguishers.



- **Heat E** produced by building up molecules (compositi ing apart (decomposition) by heat or a solutic ls are dissolved in a liquid, or by combustion.
- **Heat Transfer** - A law of physics states that heat tends to flow up from a hot substance or place to a cold substance or place. This is through conduction (transfer of heat through a medium such as metals) or through convection (transfer of heat with a medium-usually circulatory).
- **Fuels** - Those substances that will burn when heat is applied. The most common fuels are not pure elements such as carbon, but compounds and mixtures such as paper and wood.

- **Oxygen** - Makes up a major portion of the oceans and earth's crust and one-fifth of our atmosphere. Atmospheric oxygen is the major source of oxygen that supports combustion. Oxygen itself does not burn, however, without it, combustion is impossible. Normal burning is the combination of fuels with oxygen under the influence of heat.
- **Combustion** - A rapid oxidation or chemical combination accompanied by heat.
- **Oxidation** - The ability of materials to produce oxygen during a chemical reaction.
- **Spontaneous Combustion** - When oxidation is allowed to occur, enough oxygen is available, heat is produced, molecules become more energetic and combine with oxygen at an increasing rate, temperatures rise and visible heat (flames) are produced.
-

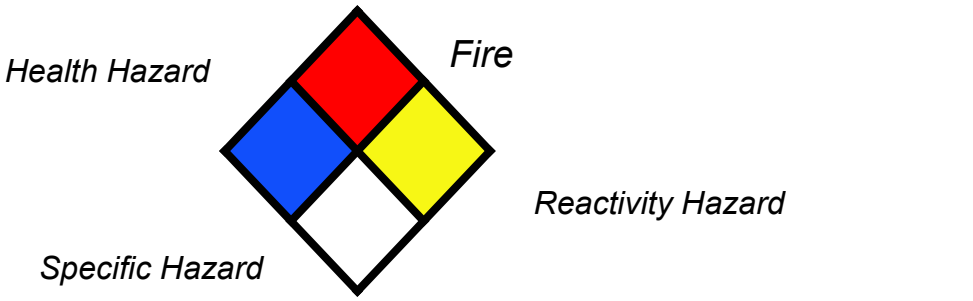
CLASSES OF FIRES

- Class A - **Ordinary combustibles (wood/paper/textiles)**
- Class B - **Flammable liquids (gasoline/oils/grease)**
- Class C - **Live electric (wiring/generators/motors)**
- Class D - **Combustible metals (finely divided form/chips, turnings)**

TYPES OF FIRE EXTINGUISHERS

- **Water** - extinguisher for ordinary combustible fires
- **Dry Chemical or CO2** - extinguisher for electrical equipment fires and for flammable liquid fires
- **Multipurpose Dry Chemical** - extinguisher for ordinary combustible fires, liquid fires, and electrical equipment fires
- **Foam** - extinguishing agent for hydrocarbon fires

NFPA Diamond



Scale ranges from 0 (lowest hazard) to 4 (highest hazard)

Fire Hazard (Red)	Health Hazard (Blue)	Reactivity (Yellow)	Specific Hazards (White)
Flash Points	4 Deadly	4 may detonate	Oxidizer = OX
4 below 73^0 F	3 Extreme Danger	3 shock and heat, may detonate	Acid = ACID
3 below 100^0 F	2 Hazardous	2 violent chemical change	Corrosive = COR
2 from 100 - 200^0 F	1 Slight Hazard	1 unstable if heated	Use no ~~water~~ = W
1 above 200^0 F	0 Normal Material	0 stable	Radioactive =
0 will not burn			

Preventing Heat-Related Illnesses (Heat Stress)

When the body heats up faster than it can cool itself, mild to severe illnesses may develop. It's important to recognize the symptoms of heat-related illnesses and understand how to prevent, control and respond to their effects.

Air temperature, humidity and clothing can increase the risk of developing heat- related illnesses. So can age, sex, weight, physical fitness, nutrition, alcohol or drug use, or pre- existing diseases like diabetes. How can you prevent or control heat-related illnesses?

Drink water - Drink small amounts of water frequently, about a cup every 15-20 minutes. (Alcohol increases the loss of body fluids.)

Limit exposure time and/or temperature - Try to schedule hot jobs for cooler times of the day or cooler seasons of the year. Take rest breaks in cool areas.

Add more workers to reduce workload or reduce the workday.

Acclimatization - Gradually adapting to heat will reduce the severity of heat stress.

Engineering controls - Mechanize heavy jobs or increase air movement with fans or coolers.

Wearing loose, lightweight clothing - Clothing can affect heat buildup.

Salt tablets should not be used - Taking salt tablets can raise blood pressure, cause stomach ulcers, and seriously affect workers with heart disease.

Someone with a mild reaction to heat may have a rash called "prickly heat" or painful muscle spasms, called heat cramps, during or after activity. A mild reaction may also include fatigue or dizziness. You may notice a change in physical or mental performance and an increase in accidents. A person with a moderate reaction or heat exhaustion will have some or all of the following symptoms: excessive sweating, cold, moist, pale or flushed skin, thirst, extreme weakness or fatigue, headache, nausea, lack of appetite, rapid weak pulse, or giddiness and if not properly treated, the victim may collapse.

Anyone with mild or moderate symptoms should be moved to a cool, shaded place with circulating air. They should lie down and, if conscious, be given small sips of cool water at frequent intervals. If symptoms continue, a doctor should be called.

In severe cases of heat illness, a heat stroke may result. The victim's face is flushed red and their skin is hot and dry with no sweating. They develop a severe headache with deep, rapid breathing. They have a very high fever and may become delirious. They may become unconscious, have convulsions, or lapse into a coma. This condition is fatal unless emergency medical treatment is obtained. Immediately call for medical help. In the meantime, get them out of the hot environment. Loosen clothing and pour water over the entire body. Get air circulating around the body.

Recognizing the warning signs and symptoms of heat-related illnesses and using preventive and control measures can reduce the frequency and severity of heat illness while increasing worker productivity.
The above evaluations and/or recommendations are for general guidance only and should not be relied upon for legal compliance purposes. They are based solely on the information provided to us and relate only to those conditions specifically discussed. We do not make any warranty, expressed or implied, that your workplace is safe or healthful or that it complies with all laws, regulations or standards.

Preventing Cold-Related Illnesses

Working in the cold for prolonged periods of time can cause many physical problems. You should take precautions to prevent cold stress in the workplace. There are several types of cold stress that a person can suffer.

Different Types of Cold Stress

Hypothermia is the most common type of cold stress. Hypothermia occurs when your body temperature drops from prolonged exposure in a cold environment. Your body stores energy and that keeps you warm at first but as you stay in the cold your body burns that energy and cannot replace it as quickly. That is how your temperature drops below normal.

Some of the Symptoms of Hypothermia are a slowed heart beat and irregular breathing. You could also become drowsy or feel extremely exhausted. Many people often suffer from memory lapse and difficulty speaking after hypothermia has set in. If you suspect a person is suffering from hypothermia call for medical attention immediately. While waiting for help you should keep the person in a warm room. Remove any wet clothing and wrap them in a blanket. Give them a warm drink such as hot tea. This will help raise their body temperature.

The second most popular form of cold stress is Frostbite. Is caused by the body literally beginning to freeze and usually starts in the toes or fingers which lose heat the fastest. In severe frostbite cases the tissue is permanently damaged and has to be amputated to stop the spread of dead tissue.

There are a few symptoms of frostbite the first is numbness of the area. Second is tingling or aching feelings and the third is a blue-ish waxy skin. If someone is showing symptoms of frost bite call for medical help as soon as possible. Try not to use the area of body that is suffering frostbite it is your hands try not to touch or pick up things. If your feet are frostbitten do not continue to walk on them it could cause more damage. Use warm water to help restart circulation; never rub the area it could cause the frostbite to spread. Never use a fireplace, stove or other heat source to warm up. Since the skin is numb you could get to close and cause burns.

How to Prevent Cold Stress

There are simple and easy ways to prevent cold stress in the workplace. It is really all about working safely and wearing the right protective gear this is the best way to prevent cold stress in the workplace.

Wear insulated work boots and wool socks.

Never wear tight clothing. You have to allow room for air to circulate.

Keep a change of socks and other clothing to switch into if anything you are wearing gets wet.

Wear gloves and a hat at all times

Keep warm be drinking hot liquids such as tea,coffee and hot chocolate. You can also eat soup at lunch to help warm up your core temperature.

If at all possible take your breaks in a warm area. If there is no building available you can sit in your truck with the heat on.

Preventing cold stress in the workplace is very important. Many people are unaware that the cold can seriously injury or in extreme cases kill if the proper safety precautions are not followed.

Responsibilities & Accountabilities

Policy

TCI Companies, Inc. management and supervisory personnel are responsible and accountable for the success of the safety process.

Purpose

To define responsibility and accountability related to the safety system that is meaningful and shall prove to be an asset for continuous improvement in safety, quality, and productivity.

Scope

Applies to all TCI Companies, Inc.work sites, i.e. offices, client job sites, etc.

Definitions

Competent Person means the person who is capable of identifying existing and predictable hazards in the surroundings or working conditions that are unsanitary or hazardous to the safety and health of the employee and has the authorization to take prompt corrective measures to eliminate the above conditions.

Corporate Director Health & Safety means the TCI Companies, Inc. Safety Executive.

Safety Coordinator means the senior safety person responsible for safety and health guidance, coordination and oversight activities the assigned Region

Safety Officer means the person assigned responsibility for safety and health activities at the branch.

Employee means individuals who work under the direct supervision and control of TCI Companies, Inc. including part-time, flextime and contract employees.

Subcontractor means a person or business, which has a standard subcontract agreement with TCI Companies, Inc., as an "independent contractor" (not an employee), to provide some portion of the fieldwork on a project for TCI Companies, Inc. associates.

Requirements

General

Everyone, beginning with the senior officer of the company, and spanning to each individual performing work, is responsible for safety. Management is responsible for providing resources and safe work environments.

Leaders or work activities are responsible for ensuring employees have the right tools, equipment, and are qualified to perform their work. Employees are accountable for using safe work practices and notifying those leaders of unsafe conditions or acts of others so corrections can be made.

The Health and Safety Program, with its related elements, is administered by the **Corporate Director of Health and Safety (CDHS)**. Safety and health related policies, procedures, equipment requirements, training, personnel and site monitoring, and program audits are subject to approval by the CDHS.

It is important to emphasize that the responsibility to **implement** the Health and Safety Program belongs to management and employees.

The following information more clearly defines each team member's role in the Health and Safety Program:

Corporate Director of Health and Safety (CDHS)

General

Responsibilities of the CDHS include:

1) Assesses health and safety program needs in consultation with management.

2) Provides guidance and technical support for new employee safety orientation and required training.

3) Administers the medical monitoring and surveillance program.

4) Administers an audit program to verify the implementation of health and safety programs.

5) Provides guidance for monitoring of ambient air and personnel exposures.

6) Interprets and promotes compliance with OSHA and other health and safety regulations.

7) Develops and maintains health and safety standard operating procedures and policies.

8) Advises personnel on the selection of proper safety equipment and clothing.

9) Provides guidance on site-specific health and safety plans and issues.

10) Consults with management on accident prevention, accident investigation, and risk management issues.

11) Develops specialized health and safety plans for unique project requirements.

12) Consults with other specialists to stay abreast of new safety issues and methods.

13) Provides leadership and serves as a resource for Regional Safety Coordinators and Safety Officers.

Safety Officer

General

One employee at each branch location shall be designated as the Safety Officer. Specifically the Safety Officer:

1) Assists with accident investigation and injury/illness record keeping in the event of an occupational accident.

2) Conducts or arranges for others to conduct safety inspections within their facility and at job sites as required by Health & Safety Program requirements.

3) Coordinates and administers their office's Hazard Communication Program and new employee orientation programs.

4) Conducts, or arranges for others to conduct, monthly Branch safety meetings and periodic job site safety meetings.

5) Assists with the preparation and review of site safety plans.

6) Identifies state and/or local safety and health regulations which require compliance above and beyond Federal OSHA Standards. Notifies the Regional Safety Coordinator and Corporate Director of Health and Safety of such regulations. Prepares addenda to company safety programs and takes other actions as necessary to ensure compliance with state/local requirements.

7) Prepares and posts facility emergency evacuation plans as required.

8) Provides ideas and feedback to the Regional Safety Coordinator and CDHS.

9) Verifies that written procedures found in the Employee Health and Safety Policy Manual are being implemented.

10) Identifies, assigns responsibilities and maintains a list of competent persons for the Branch as per the requirements defined within applicable sections of this program.

Employees

General

Ultimately, the responsibility of safety at TCI Companies, Inc rests with the employees themselves. They are responsible for:

1) Following safety policies, programs, procedures and postings.

2) Utilizing safety equipment in the proper manner.

3) Promptly reporting unsafe situations to their supervisor.

4) Immediately reporting (prior to the end of the work shift) work-related accidents, injuries, illnesses, and near-misses to their supervisor.

5) Promptly seeking appropriate medical attention when injured on the job.

Competent Person Designation

General

Administering the Competent Person Designation

A list of Competent Persons shall be compiled and kept accurate at the Branch level. This document shall identify the designees and the competent person designation for specialized activities.

The documentation to support the qualifications of the competent person(s) shall be kept in the employee's personnel file.

Competent Person Evaluation

Evaluation of each competent person designation shall be conducted initially, and reviewed annually, by the Branch Safety Officer. During the evaluation, the following shall be assessed:

The education, training, and experience of the designated employee

The designated employee's knowledge of the job/activity

The authority vested in the designated employee to take prompt corrective measures to eliminate existing and predictable hazards

The documentation to support the qualification of the designated employee

Inspection records or other documents generated by the competent person

Disciplinary Action Policy

Managers and supervisors are directed to utilize both positive reinforcement and appropriate disciplinary action to promote compliance to policies and procedures related to employee safety & health, property conservation and fleet management.

Managers, supervisors and employees who are identified as being either partially or directly responsible for violation of the Health and Safety Policy Manual, are subject to appropriate disciplinary action.

Appropriate disciplinary action can and should be instructional, utilizing progressive steps of severity up to, and including, termination depending on the severity of the violation.

Progressive discipline steps typically include:

1. Verbal Warning
2. Written Warning
3. Suspension (40 hours without pay)
4. Termination

Some violations of policy may warrant bypassing the typical progressive discipline steps, and in some instances, may warrant immediate termination as defined by the policy (i.e. – violations of substance abuse policies, deliberate injury of another employee, etc.). In accordance with company disciplinary policy, and as appropriate to the circumstances, Branch Managers shall consult with senior managers, legal and human resources managers, and others to determine the severity level of a violation and implement appropriate disciplinary action.

Employee counseling, whether positive reinforcement or progressive discipline should be documented in the employee's personnel file.

Employee Acknowledgement Form

TCI Companies, Inc. is firmly committed to your safety. We will do everything possible to prevent workplace accidents and are committed to providing a safe working environment. We value you not only as an employee but also as a human being critical to the success of your family, the local community and TCI. You are encouraged to report any unsafe work practices or safety hazards encountered on the job. All accidents/incidents (no matter how slight) are to be immediately reported to the supervisor on duty.

A key factor in implementing this policy will be the strict compliance to all applicable federal, state, local, and TCI policies and procedures. Failure to comply with these policies may result in disciplinary actions. Respecting this, TCI will make every reasonable effort to provide a safe and healthful workplace that is free from any recognized or known potential hazards. Additionally, TCI subscribes to these principles:

1. All accidents are preventable through implementation of effective Safety and Health Control policies and programs

2. Safety and Health controls are a major part of our work every day.
3. Accident prevention is good business. It minimizes human suffering, promotes better working conditions for everyone, holds TCI in higher regard with customers, and increases productivity. This is why TCI will comply with all safety and health regulations which apply to the course and scope of operations.

4. Management is responsible for providing the safest possible workplace for employees. Consequently, management of TCI is committed to allocating and providing all of the resources needed to promote and effectively implement this safety policy.

5. Employees are responsible for following safe work practices, company rules, and for preventing accidents and injuries. Management will establish lines of communication to solicit and receive comments, information, suggestions, and assistance from employees where safety and health are concerned.

6. Management and supervisors of TCI will set an exemplary example with good attitudes and strong commitment to safety and health in the workplace. Toward this end, management must monitor the company's safety and health performance, working environment, and conditions to ensure that program objectives are achieved.

7. Our safety program applies to all employees and persons affected or associated in any way by the scope of this business. Everyone's goal must be to constantly improve safety awareness and to prevent accidents and injuries.

Everyone at TCI must be involved and committed to safety. This must be a team effort. Together, we can prevent accidents and injuries and keep each other safe and healthy in the work that provides our livelihood.

By signing this document, I confirm the receipt of TCI employee safety handbook. I have read and understand all policies, programs, and actions as described, and agree to comply with these set policies.

_____ _____

Employee Signature Date